

**FACTORS DETERMINING GROWTH OF MOTORCYCLE TRANSPORT IN
KAJIADO COUNTY, KENYA**

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MASTER OF COMMERCE (ECONOMICS AND INVESTMENT)

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DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.

Sign: _____ Date: _____

I do hereby confirm that I have examined the master's dissertation of

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And have certified that all revisions that the dissertation panel and examiners recommended have been adequately addressed.

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Dissertation Supervisor

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Thank you

DEDICATION

I dedicate this work to Bodaboda operators of Kajiado County

ABSTRACT

A vast majority of people living in East and Central Africa suffer inadequate transport services and a poor road network that strains their economic growth. Intermediate modes of transport that are cheap and affordable by the poor people living in the rural areas of sub-Saharan Africa have become a trend. This study therefore, sought to assess the factors determining growth of motorcycle transport a case of Kajiado Central Sub-County. The study sought to answer the following research questions: What is the influence of financing on the growth of motorcycle transport at Kajiado Central Sub-County? How does government policy affect the growth of motorcycle transport at Kajiado Central Sub-County? What is the influence of informality on the growth of motorcycle transport at Kajiado Central Sub-County? The target population is 3000 respondents; using formulae, the study had a sample size of 300 motorcycle riders from Kajiado Central Sub-County. Primary data was collected using structured questionnaires, and 6 research assistants were employed to help in data collection. The data was analyzed by the SPSS software and MS excels where descriptive statistics such as frequency counts, percentages, mean, mode and standard deviation were used. Multiple regression was used to determine the relationship between the independent and the dependent variable. The findings of the study were presented in charts, pie charts, figures, graphs and tables. The study found out that flexibility in loan repayment afforded to motorcycle riders, funds by the government, waiver on import duty, stringent traffic laws, transport sector regulation on compulsory training of riders, government policy in import duty exemption, little capital in starting or running and lack of entry behavior has made many Kenyans jump at opportunity to purchase motorcycle and join in the business. The study concludes that the motorcycle transport sector is growing at a faster rate as the main factors contributing to the growth of motorcycle business which is part of the informal transport sector are the unemployment rates especially amongst the youth, the flexibility of the operations, ease of operation and the ease of acquiring and maintaining motorcycles. The study recommends that motorcycle operators should go to riding schools to improve on their competency and form Sacco's to handle matters concerning motorcycle operations, regulatory framework should be put in place to ensure the operators pay taxes to the governments and insurance cover for compensation in cases of accidents and government should offer subsidies to those who want to start the business and put strict regulations to control the provision of these services.

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ACROYNMS AND ABBREVIATIONS

AEZ: Agricultural Ecological Zone

ASALS: Arid and Semi-Arid Lands

CVI: Content Validity Index

GOK: Government of Kenya

KNBS: Kenya National Bureau of Statistics

RBV: Resource Based View Theory

SPSS: Statistical Package for Social Sciences

DEFINITION OF TERMS

Motorcycle Transport

In this study “motorcycle” refers to a form of transport where a bicycle or a motor cycle is used as a unit of carriage. In this study “motorcycle” refers to a form of land transport where a motor cycle is used as a unit of carriage of goods and passengers from one place to another at a fee (Atubi & Ali, 2009).

Access to Finance

These are the finances that are acquired and used to operate the motorbikes which may be sourced from individual and group savings, merry-go-round groups, Saccos and affordable bank loans (Lin, Tan & Geng, 2013).

Government Policy

These are regulations set by the government to control the motorcycle transport business, in terms of taxes, safety measures, training of operators and registration of the motorcycles (Obeng-Odoom, 2015).

Informality of Operations

Operating motorcycles is categorized under the jua-kali sector which is in the informal sector. This is characterized with illiterate or semi-illiterate operators; there is lack of professionalism and minimum training (Yang et al, 2008).

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Transport is, according to a means or system of conveying goods or people from a place to another by means of a vehicle. Motorcycle transport, commonly called motorcycle taxi or cart-bike, is a licensed means of transport in many countries. It involves carrying one passenger who rides as the pillion behind the rider. Globally the growth in the use of intermediate modes of transport such as motorcycles for commercial purposes has also helped dispel one of the universally held illusions: fare controls in the public bus market are often justified to support affordability for a vast majority of low income populations (Gamberini, 2014). On the contrary, commercial motorcycles are in most cases expensive than the lowest bus fares, but the poor have increasingly continued to patronize their existence due to the inherent inadequacy of bus services (Porter, 2014).

In numerous other places, motorcycles are the main means of motor transport. The Taiwanese government for instance puts the number of automobiles per ten thousand people at around 2,500 while that of motorcycles is at about 5,000 (Chen & Lai, 2011). In Vietnam as noted by Lin, Tan and Geng (2013), the numbers are extremely high due to a lack of a sound public transport coupled by the prevalent low income levels that ordinarily put conventional automobiles out of reach for many. The other reason as stated by Lin, Tan and Geng (2013), is the easy and cheap sources of finances to acquire and operate the motorbikes. These sources include individual and group savings, merry-go-round groups, Saccos and affordable bank loans.

Yang, Jun, Liu, Zhou, Zhang, Wang, and Jiang (2008) in motorcycle accidents in China; the study noted that China as a country has the largest number of motorcycles in the world with

the production and sales volume being over 20million. The motorcycles play an important role in promoting economic development and facilitating transportation of people from one part to another part in China. One of the key reasons as noted by Yang et al (2008) is the fact that the sector is categorised as an informal one as characterised by illiteracy among the people who operate it. They have minimum training and lack professionalism in handling the operations of this sector. But the study noted that with the rapid increase of motorcycles; this has led to a high increase of incidences of road traffic crashes. While Hu, Chang, Li and Qin (2010) in energy for sustainable road transportation in China: challenges, initiatives and policy implications, state that the increase in motorcycles has been attributed to unemployment, ease in registration, cheap prices of the bikes, and ease in training the motorcyclist. In curbing the rapid cases of accidents, relevant departments are taking preventive measures to reduce the accidents through training the motorcyclists, improve traffic environment, strengthening traffic management, establishing damage monitoring system and promoting regulatory and safety education (Hu, et al., 2010).

The growth of motorcycles as a mode of transport in most parts of sub-Saharan Africa has largely been driven by the need to access remote areas with ease in an affordable manner. Kumar (2011) asserts that a decline in organized public transport systems has led to rapid growth in non-conventional means of public transport, initially provided by minibuses and shared tax or and vans, and more recently by commercial motorcycles. He goes further to say that unlike the South and East Asian cities, “ownership and use of motorized two-wheelers as a personalized vehicle is very small in Sub-Saharan cities”. Still, over the last decade there has been a tremendous increase in the use of motorcycles as a mode of commercial public transport, this is as noted by Porter (2014) in the paper on transport services and their impact on poverty and growth in rural sub-Saharan Africa: A review of recent research and future research needs.

Whereas the motorcycle mode of transport has offered certain advantages such as easy maneuverability, the ability to travel on poor roads and paths, and the ability to quickly respond to demand, the commercial motorcycle service exponential growth has also give rise to problems such as increase in road accidents. Other problems as noted by Olubomehin (2012) revolve around traffic management, pervasive noise and air pollution in the neighborhoods. An effort by Governments to regulate the commercial motorcycle industry has had the contrary impact, further compounding the problem due to the distortion market structures (Olubomehin, 2012).

In many developing countries, motorcycles are increasingly becoming the common means of transport especially among low-income urban dwellers and the poor. In the wake of the unsatisfactory state of affairs regarding public transport, private motorcycles have been a panacea to urban transport in Ghana. This was noted by Dinye and Ahmed (2016) in the investigative study on motorized transportation in the urban areas in Northern Ghana: the case of motorcycle Wa township; the study further revealed that the high incidence of motorcycle ownership presents both challenges as well as opportunities to improve livelihood, employment, transport innovation and investments. The increasing growth in the number of motorcycles has come to solve the mobility needs of many urban residents in the light of poor and inadequate public transport system. The phenomenon as seen by Obeng-Odoom (2015) in sustainable urban development in Africa; The case of urban transport in Sekondi-Takoradi, Ghana; has come with its accompanying challenges like motorcycle accidents involving fatalities, environmental and public health concerns from the emissions and non-compliance to motor traffic regulations. It is imperative for transport authorities to enforce compliance with motor traffic law, improve road designs, adopt exhaust emission regulation standards and implement fiscal policies for clean and efficient new motorcycles. The government must also set regulations that control motor cycle

transport business by stating the safety measures, taxes to be enforced, registration process and how training of operators should be conducted (Obeng-Odoom, 2015).

1.1.1 Growth of Motorcycle Transport in Kenya

The emergency of the motorcycle service is known to have originated in Eastern Uganda in the Busia county of Tororo District in the mid-1960s (Atubi & Ali, 2009). Interestingly both bicycles and motorcycles are often recognized by the same name, although motorcycle services are preferred in some areas such as Machala (Western Uganda) or Zabala (Mukono District) (Khanbhai & Lutomia, 2012). Their use in Kenya is also on the increase due of their scale, and the backward and forward linkages that they have been known to have with other sectors of Kenyan economy. It is estimated that over 300,000 motorcycles and 200,000 bicycles are currently plying the Kenyan roads carrying passengers and cargo (Khanbhai & Lutomia, 2012).

In this research it used the term motorcycle to refer to the motorcycle service since this mode of transport is the most common and any mention of the term is naturally understood to mean the motorcycle transport. Various associations or groups have emerged to represent the interests both the bicycles and motorcycles, also more often use the same name. In many areas of the county motorcycle are the dominant service on many routes, both rural and urban. At the same time during traffic congestion the motorcycles are the cherished means due to their ability to maneuver through heavy traffic thus shortening door-to-door journey time of the users (Atubi & Ali, 2009).

In most remote neighborhoods they may be the only alternative to walking and their absence from some villages may be explained by a possible lack of repair services and the capital and technical outlay and knowledge needed to set them up. Interestingly motorcycles also have a

significant goods carrying capacity especially in the industrial parts of the main cities. The same can be said of a majority of rural areas where they criss-cross the rough terrains carrying passengers and cargo (Matheka, Omar, Kipsaina & Witte, 2015).

It is evident that both the bicycle and motorcycle services fulfill important economic and social functions, yet little is known or documented about their operations, or those who provide and use them. Sisimwo, Mwaniki and Bii (2014) noted that hardly a day passes without Kenya's local newspapers having a story or letters related to the industry. Few seem to be captivated by them hence they have many detractors, but most would concede that the services are indispensable and are vital. "There are now thought to be about 35 firms, large and small, in the motorcycle import trade" (Sisimwo, et al, 2014). It is from this background that the researcher would like to investigate the factors determining rapid growth of motorcycle transport a case of Kajiado Central sub-county

1.1.2 Kajiado County

Kajiado County covers five constituencies; namely Kajiado East, Kajiado West, Kajiado Central, Kajiado North and Loitokitok (Kajiado South). The County is located in the vast Rift Valley region of Kenya in the South Rift and covers an area of 21, 902 km². It is bordered by the Republic of Tanzania to the South, Taita Taveta district to the East/South-East, Machakos and Makueni Districts to the east, Nairobi to the North/North East, Nakuru and Kiambu District to the north and Narok District to the West (Nyachio, 2013).

Agro-climatic Zones influence economic activities in Kajiado County. About 55% of the total population is under Agricultural Ecological Zone (AEZ) - V, 37% under AEZ-VI, and 8%

under AEZ-IV therefore making the County one of the Arid and Semi-Arid Districts (ASALS) in Kenya.

Keeping livestock is the main livelihood activity although rain-fed agriculture is practiced in some parts of the County. Most of the land is non-arable (92%), while 8% supports subsistence farming (Karema, Irandu & Moronge, 2017). The County has in the past few years experienced periods of prolonged droughts that have adversely affected people's livelihoods, both pastoralists and agro pastoralists. According to District Livestock Production Officer drought had affected livestock severely causing death of livestock and reducing number of livestock from 350,000 to 95,000 in 2009 in Kajiado County. The main source of income for households is livestock farming, with around 89% of households engaged in this particular activity. Crop farming is practiced by 46.4% of households during the rainy season but this figure reduces markedly in the dry season with only 4.2% of the households engaged in this activity during this part of the season (Neighbors Initiative Alliance 2012). Also crop farming is at the minimal simply because

According to sources from the county government the county has a population growth rate of 5.5 percent; total population was estimated at 807,070 with 401,785 being females and 405,245 males as at the statistics of 2012. The population is projected to grow to 1 million by the year 2017. Closely related to the population growth is increased Real Estate Development in the area especially in the districts bordering Nairobi County. The motorcycle mode of transport plays a pivotal role in the development of the county due to its proximity to Nairobi and other counties.

1.2 Statement of the Problem

There are many factors that deem to explain the popularity of the “motorcycle” transport sector and its growth; but few have been recorded, documented and conclusively analyzed. The stakeholders and general population fail to understand the real reason that accounts to the growth, there are some claims that the growth in the sector is due to growth in population numbers, poor road network, unemployment, and ease in starting the business among others. Thus this study wishes to clearly understand; what are the factors that determine the growth of the Motorcycle transport?

The Motorcycle transport is a very common form of transport in Kenya, East Africa and to a large extent the Sub-Sahara Africa. For instance between 2007 and 2015 the number of motorcycle has risen from 16,000 to 500,000 units (MAAK, 2015); thus enhancing both rural and urban transport for job creation for the youth which has lead to economic development (KNBS, 2010). However, recent years in commercial motorcycle service have decline by 4.5% (MAAK, 2016). This apparent may slowdown in the growth and undermine the sector overall contribution to national development and most likely to have negative effects on rural economy.

Local studies in the thematic area involves: Gamberini (2014) conducted a study on Motorcycle: The Impact of Motorbike Taxi Service in Rural Uganda. This study focused on Ugandan commercial motorcycles and the effect on government policies to its growth; the study was done in Uganda and its findings may not represent the true picture in Kajiado Central Sub-County in Kenya. Singoro, Wakhungu, Obiri and Were (2016) in the study on the causes and trends of public transport motorcycle accidents in Bungoma County, Kenya. The study concentrated on the causes and trends in motorcycle accidents and fails to look at the factors leading to growth of motorcycle transport sector.

None of these studies have explained in depth the factors that have led to growth of motorcycle transport, thus creating a research gap. This study wished to fill the knowledge gap by investigating the factors determining the growth of motorcycle transport in Kajiado Central Sub-County.

1.3 Research Objectives

The following are the specific objectives of the study:

- i. To establish the effect of assess the access to finance on growth of motorcycle transport at Kajiado County
- ii. To examine the effect of government policy on growth of motorcycle transport at Kajiado County
- iii. To determine the effect of informality of operations on growth of motorcycle transport at Kajiado County

1.4 Research Questions

The research was guided by the following questions:

- i. What is the influence of access to finance on growth of motorcycle transport at Kajiado County?
- ii. How does government policy on motorcycles affect growth of motorcycle transport at Kajiado County?
- iii. What is the effect of informality of operations on growth of motorcycle transport at Kajiado County?

1.5 Significance of the Study

The study would be of great of importance to various stakeholders in the motorcycle industry in Kenya.

First and foremost the findings would help various government agencies in coming up with strategies and policies that would regulate the industry with a view of strengthening the sector. This would have positive impact on the country's economy as it is tasked with tax collection. Other support services can also be planned for and provided to the operators and users such as provision of protective gear, construction of shades to protect operators from the hot sun and rain.

The study would help the stakeholders in the transport sector to streamline motorcycle form of transport to ensure that the motorcycle user gets value for their money. The study findings would add to the growth of knowledge on forms of transport.

1.5.3 Law Enforcers

It would be of great importance to the traffic police department in the country to provide enough police officers on various spots where motorcycles are known to operate. The traffic department would also be able to come up with regulations and policies that would reduce motorcycle accident s and ensure adherence with traffic rules.

The findings of the study may also bring out any inherent problems faced by the users of the mode of transport and therefore create an opportunity for the county government of the area to seek their remedies and policy formulation.

1.6 Scope of Study

The study focused in Kajiado County area and concentrated on the bodaboda operators, county officials in the ministry of transport and passengers who are ferried by the operators. The respondents answered questions on the study objective of establishing the factors determining growth of motorcycle mode of transport in Kajiado County with a view of drawing conclusions. The study was carried out in two months time from July-August 2017.

1.7 Basic Assumptions of the Study

The following assumptions were made and they include the fact that respondents gave accurate, truthful and honest responses to the items in the questionnaires and the information on the use of “motorcycle” transport was collected using items in the questionnaire.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses literature from other researchers that is relevant to the study. The literature has been organized according to; theoretical review and an empirical review in terms of the study objectives. The chapter also explores the gaps in literature and a conceptualization on the relationships between research variables.

2.2 Theoretical Preview

This study was anchored on three theories; the resource based view theory that was established by Edith Penrose (1959); the game theory that was developed by Brandenburger and Nalebuff (1995) and government regulation theory by Boyer & Aglieta (1976).

2.2.1 The Resource Based View Theory (RBV)

The Resource Based View of Strategy has links stretching back to Edith Penrose (1959). However, it commonly associated with the works of Wernerfelt (1984), and Peteraf (1993). This theory emphasizes on the internal capabilities of an organization in strategy formulation in order to achieve a sustainable competitive advantage in the market. Sustained competitive advantage occurs when an organization's resources are valuable, rare, difficult to imitate and when competitors are unable to duplicate the benefits of a strategic resource.

Peteraf (1993) mentions that resources are inputs that enable an organization to carry out its activities and can be classified as tangible and intangible. Tangible resources refer to the physical assets that an organization possesses and can be categorized as physical resources,

financial resources and human resources (Grant, 1991). In order to add value, these physical resources must be capable of responding flexibly to the changes in the market place and organizations with the most up to date technology and processes which possess the knowledge to exploit their potential will be at an advantage. On the other hand, intangible resources comprise of intellectual or technological resources and this can be seen in routines and practices that have developed over time within an organization. They also include knowledge created and transferred and used by people to gain success and perform better at organizational level (Rumelt, 1991).

This theory is relevant to the study as it can be linked to the first objective since finances is as resource which each organization needs as a source of capital to start to spur growth into the activities of the organization (Grant, 1991). Furthermore, the road infrastructure network is also a resource that can used to propel an organization to gaining competitive advantage. Therefore in this case, the lack of road network or inaccessibility to locations spurred the growth of motorcycle mode of transport.

2.2.2 Game Theory

This theory, also referred to as the zero-sum theory, has been a developing branch of economics in years. It spans games of static and dynamic nature under perfect or imperfect information. This theory is quite useful in analyzing sequential and highly dynamic decisions at the tactical level (Binmore, 1988). It puts much emphasis on the importance of being pro-active or thinking ahead, considering alternatives and anticipating the reaction of competitors and other players in the game, which is the industry or competitive environment (Brandenburger & Nalebuff, 1995).

The game theory has been applied in the way organizations compete in a particular industry, their relationship and interactions in situations of cut-throat competition, whereby one organisation gains while another one loses within an unchanging total of market share and characteristics (Selten, 1975). The choice of strategy depends highly on the information that each party has. This could either be perfect or imperfect information and the strategic actions are simultaneous for the players, in this case competing organizations in the same industry (Brandenburger & Nalebuff, 1995). The organizations cannot collude into a particular decision since they make choices simultaneously. The zero-sum game involves just two players in which one player can only be made better off by making the other worse off (Myerson, 2013).

The game theory's application areas in competitive strategy are in pricing, research and development, new product introduction, advertising, regulation and in choice of either to undertake licensing or produce. Understanding the game well can enable organizations to create a win-win situation to make the organization to be in a better position than other players. Understanding the game well will also make the organisation change the rules, players, tactics and scope of the game in the organization's favor ((Binmore, 1988). The applicability of the game theory in improving competitive advantage of organizations can be seen in organization's choice of adopting a new technology, and first-mover advantages, as well as cost leadership or pricing of its products and services. However, this theory has not been largely popular but it is applicable to oligopolistic businesses (Hamel & Prahalad, 1990).

This theory is important for this study because it helps explain the importance of being pro-active by the youths in seeking out opportunities whether they are literate or illiterate, since the sector is in the informal sector. Being pro-active by the unemployed youths to join hands and enter the motorcycle business has led to growth in this sector.

2.2.3 Government Regulation Theory

Boyer and Aglieta (1976) who were among the founders of regulation school, stated that broad theory is the study of the transformation of social relations, which creates new forms- both economic and non-economic organized structures and the producing a determinate structure, the mode of reproduction. This theory or approach looks at capitalist economies as a function of social institutional systems and not just as government's role in the regulation of the economy, although the latter is the major part of the approach. The above approach seeks to put into perspective that an economy would be more efficient if there is presence of regulations governing institutions such as transport sector. Indeed McCraw (2009), Prophets of regulation wrote about the railway system in the US in which it was evident that when the federal government was in control efficiencies were noted and the common citizens were not exploited.

Based on the above framework, it is notable perhaps that in the Kenyan context on transport industry if the government draws policies to regulate the sector and build capacity to enforce the rules in all its facets, more investors' would be attracted to invest in the industry thus driving quality in service provision and reducing the cost. The above theory relates to non-compliance with government regulations on performance of alternative public transport in Kenya

2.3 Empirical Review

This section looks at studies that were done on the different study variables, the section is divided into three according to the study variables. The sections show how each variable affects the growth of motorcycle transport.

2.3.1 Access to Finance and Growth of Motorcycle Transport

There are different ways that the motorcycle operators, seek for finances to acquire and operate motorcycles. The finances to acquire and operate the bikes, may be from savings, merry-go-round groups, Saccos and bank loans.

The low cost of acquisition of motorcycles especially through illegal tax evasion and government-initiated tax exemption strategies have greatly reduced the cost of acquiring motorcycles in developing countries. Goodfellow and Titeca (2012) in their study titled; Presidential intervention and the changing ‘politics of survival’ in Kampala’s informal economy explore the government’s strategies that influenced the growth in Uganda. The study reveals that in 2005, the Ugandan government, in its effort to address unemployment rates in the country, exempted tax on motorcycles.

In the study by Mwobobia (2013) on critical success factors in the motorcycle bodaboda business in Nairobi, Kenya; the findings showed that the bodaboda business has shown a high growth rate because of its convenience in using the motorbikes for transport at all times of the day; it is flexible as it can move over narrow paths and poor roads. Another reason for the growth rate is that it is accessible and reliable; furthermore it is a source of job creation for many people. Pucher, Korattyswaropam, Mittal and Ittyerah (2005) in the study on urban transport crisis in India; the study also concur with these findings and noted that motorbikes are considerable cheap to acquire hence aiding in solving the Indian transport crisis. Porter (2014) state that motorcycles are cheap leading to their growth, with a second hand motorcycle selling at ksh.60,000 and a new one goes for ksh.120, 000. On the hand bicycles go for a price of ksh.8, 000, this considerably cheap that many people can afford to purchase. Many are saving funds for the sole aim of getting the motorbike to operate and earn an income from it.

Ogunrinola's (2011) study on; Informal self-employment and poverty alleviation: empirical evidence from motorcycle taxi riders in Nigeria reveals the role of political agendas to use motorcycles (common among the poor civilians who are also the majority of the electorate) as a tool to fight poverty as useful and reasonable. The resulting situation led to availability of an uncontrollable number of illegal and unlicensed motorcycles in urban centers of Nigeria such as Lagos.

Anantadjaya, Pratama, Nawangwulan, Sibarani and Riwoe (2011) stated that due to the number of people earning an income from the motorcycle taxi business i.e. those who ride them, the people who repair them and owners of the motorcycle, the Kenyan government has set up posterity measures in an effort to support this business. Some of these measures include, a recent introduction of the zero rated import duty on motorcycles below 250cc, and this was included in the 2006 national budget in an effort to support and encouraged low income earners to get into the business. Furthermore the corporate news that Toyota Kenya, has launched a bike loan in an effort to get more youths into the business. With such financing schemes then the motorcycle mode of transport is bound to grow not only in Kajiado County but the whole country. Kisaalita and Sentongo-Kibalama (2007) in delivery of urban transport in developing countries: the case for the motorcycle taxi service (boda-boda) operators of Kampala, noted that another scheme included Yahama division giving motorcycles to the youths to support their quest of being self-reliant. And in addition, Nyachieo's (2013) stated with another scheme, the Tsucho Company in Kenya has partnered with Yahama division, the makers of Yahama type of motorcycle; the two have launched a pilot scheme in Kisumu County, where they gift motorcycle riders with a new motorcycle without seeking for collateral. This is in an effort to empower youths by enabling them gain a meaningful source of earning for their personal and family upkeep.

Anyika (2007) in the study on marketing strategies applied by the major motorcycle marketing firms in Kenya. The study forwards the actions by several motorcycle companies in trying to market their product, while empowering the youths. Gitonga (2014) in the study on the factors influencing growth of informal transport sector: a case of bodaboda transport in Central Division, Embu West District. The study mentions that with efforts by the companies for the motorbikes producer offering financing deals, then there is a high chance of the number of motorbikes increasing in the country. This offers and financing options have seen the growth of the motorcycle mode of transport in the country

In Nyachieo's (2013) study on Creating Employment through Transport; The Youth and Motorcycle (bodaboda) in Kitengela, Kajiado County-Kenya, the majority of unemployed youth were found to have benefited from easily acquirable motorbikes to make a living from commercial use. The study reveals that the initiative to promote motorcycle commercial use as the main mode of taxi became the local governments' focus. These programs were intended to reduce the gap between the rich and poor by empowering the poor with affordable self-employment. To ensure the success of the program to grant opportunity for all, the office of the president in Kenya enacted credit schemes and released funds for loans for Bodaboda associations to purchase as many motorcycles for members to create employment. This scheme failed due to corruption such that the funds never reached the target beneficiaries. Gitonga (2014) noted that the money intended for the poor unemployed was not accounted for. Since then the government has not succeeded in managing and controlling the industry.

Bachani, Koradia, Herbert, Mogere, Akungah, Nyamari, and Stevens (2012) conducted an investigative report on Motorcycle Road traffic injuries in Kenya. In their study, they found out that the high population in these cities has greatly increased the possession of motorcycles.

For one public transport in every household (with each household averagely comprising 5 people) there are over 2 million people (15% of the population) who receive their sustenance from the motorcycle sector. The economy is so dependent on the motorcycle commercial sector that any alteration such as strike action cripples the economy. Among the issues that influence strikes are complains of police harassment that, ironically are enforcing the law to ensure the security and regulate the business (Gitonga, 2014).

The literature reveals that there are several ways of getting finances to start and run a motorcycle transport business, including soft loans, tax free imports for motorcycles; making daily payments for the motorcycle hence this study was guided by the hypothesis:

H01: Access to finance has no significant effect in the growth of motorcycle transport in Kajiado central sub-county.

2.3.2 Government Policy on Motorcycles Transport and Growth of Motorcycle Transport

Transport policies according to Olubomehin (2012) in his study; the development and impact of motorcycles as means of commercial transportation in Nigeria, are government rules and regulations that govern and control both commercial and private use of intermediate modes of transport. Urban transport policies demands that all commercial motorcycles must be registered under the road traffic rules and regulations. Requirements include a driving license, road worthiness certificates, as well as certificates of good conduct. They must also provide their customers with protective gear that includes a helmet and reflective vests. A large proportion of operators, however, are not compliant with these regulations. In fact, an estimated 50% of the motorcycles in the city of Lagos operate without valid licenses (Olubomehin, 2012). It has continually become hectic to control and regulate the increasing number of motorcycles.

The study by Singoro, Wakhungu, Obiri and Were (2016) in causes and trends of public transport motorcycle accidents in Bungoma County, Kenya. The paper posits that the number of motorcycles in the country ranges in its millions, creating many people to earn an income from it. But as the number of motorcycles and motorists increases so does the challenges it brings. These challenges include a lot of motorcycle accidents leading to death and injuries to thousands of people every year, this fact was also noted by Sisimwo, Mwaniki and Bii (2014) in the investigative study on the crash characteristics and injury patterns among commercial motorcycle users attending Kitale level IV district hospital, Kenya. It is true that motorcycle accidents constitute a major cause of death and injuries to thousands of people every year. In spite of this, motorcycle accidents remain a neglected problem in Kenya, thus the study mentions there is need for both the government and relevant stakeholders to find ways to regulate and prevent such scenarios from occurring (Sisimwo, et al, 2014).

Kumar (2011) conducted a study on; Understanding the Emerging Role of Motorcycles in African cities: A Political Economy Perspective; a Sub-Saharan Africa Transport Policy Program. In this study, Kumar determined that most municipalities do not directly regulate motorcycles as the national government controls the issuing of operating licenses in Africa. Valid motorcycles have to be above 125 cubic centimeters to secure registration. Since only 18% of the motorcycles in the country qualified for registration, there is a rising provision of forged certificates available (Kumar, 2011). Rose (2009, September) in motorcycles: a growing dot on the transport policy radar; the study also found out that forged certificates are cheaper to obtained but allow operation of un-road worthy motorcycles. As a consequence, both riders and customers are not secure on the roads due to the fraudulent documents. Restrictions, therefore, do not reduce the number of motorcycles instead; it creates an increase in insecure operators. The

control and implementation of such laws and regulations is yet to take effect. Police enforcement of the laws has also proven difficult especially in situation when the problem attracts political attention (Rose, 2009).

Odero (2009) in the paper on ‘Motorcycle Injuries in East Africa: Magnitude, Risk Factors and Prevention’. The paper avers that there has been an upsurge in the number of motorcycle accidents worldwide that have raised safety concerns. The governments have therefore come up with restrictions, policies and regulations to aide in ensuring this sector is safe. Some of these measures include; the rider and passenger to wear safety gear (helmet and reflective jackets); all motorcycles must be insured; riders to carry only one passenger; all motorcycle riders to undergo training before getting an operating license, which is compulsory for every rider. Odero (2009) further reveals that motorcycle accidents account for nearly half (46%) of all the 1.3 million global fatal accidents annual occurred among vulnerable road users that comprise pedestrians, pedal cyclists and motorcycle riders. And the trend in East Africa is worse, with Kenya recording more than four times the death number in 2010 as it were in 2002 that are solely caused by motorists. The sustained increase in the number of motorcycle crashes is a cause for concern (Sisimwo, et al, 2014). With this background, the study recommends that the government should come up with regulations, laws and policies in an effort to reduce the number of accidents, the frequencies of this accidents and loss of lives as a result of the accidents.

Gamberini, (2014) conducted a study on Motorcycle: The Impact of Motorbike Taxi Service in Rural Uganda. This study focused on Ugandan commercial motorcycles revealing that the Government policies to disengage from provision of public transport had contributed majorly to the growth of motorcycles especially in urban centers. For example, lessening restrictions such

as on motorcycles over five old increased the number of motorcycles greatly in Uganda. Matheka, Omar, Kipsaina, and Witte, (2015) study on; Road traffic injuries in Kenya: a survey of commercial motorcycle drivers reveals an extensive form of liberation measures among counties to allow self-employment have eventually led to in an increase in both new and used motorcycles. The importation of used motorcycles has paved way for motorcycles that are in poor conditions. These importations occur mainly from Asian countries (particularly China and India) which offer low costs of less than \$1,000.

In Congo, for instance, there is an influx of Chinese imported motorcycles due to evasion of import taxes. As a result, the motorcycles are cheap and affordable by more people seeking to take advantage of the tax-less imports (Olubomehin, 2012). As noted by Muguku (2010) in a survey on the 'Patterns of Injuries in Hospitalized Motorcyclists in Nakuru, Kenya'. The survey was featured in the newsletter of the Road Traffic Injuries Research Network. The survey states that Nakuru Provision Hospital has a specific ward assigned for victims that suffer injuries from the motorists. The number has increased causing a concern that stakeholders and the transport department has come up with measures to curb this menace. The transport sector further came up with measures, regulations and rules to ensure that accidents caused by motorists are reduced. Muguku (2010) further state that some of the recommendations by the taskforce included, wearing of safety gears like reflector jackets, helmets for both the motorists' rider and the passenger. Other regulations included that motorcycle riders need to undergo training and in the end acquire an operating license from the regulating authority. Law, Noland and Evans (2009) on the factors associated with the relationship between motorcycle deaths and economic growth. The paper stated that another regulation is that each motorbike should carry only one passenger so as to reduce on incidences of accidents. The insurance industry has also embarked in giving

insurance policies to all motorcycles operators, this is a directive of the government regulation. All these measures are put in place in an effort to reduce the number of accidents caused by motorists' and cut down on fatalities.

On government policy, the study reveals that there are a lot of accidents caused by motorcycles; tax invasion has also led to increase of number of motorcycles and urban policies demand that all motorcycles be registered. Based on the above literature, the study was guided by the following hypothesis:

H02: Government policy has no significant effect on the growth of motorcycle transport.

2.3.3 Informality of Operations and Growth of Motorcycle Transport

The transport sector in Africa and more so in Kenya is generally underdeveloped facing many challenges. This is made worse since most investments that are made in sector are done to promote motorized transport. According to Foster and Briceño-Garmendia (2010) in the study on Africa's infrastructure: a time for transformation; the study mentions that less than 1% of the households in Africa have access to private motorized transport which has enormous costs. This is despite the increased need for transportation from one location to another.

Christie, Fernandes, Messerli and Twining-Ward (2013) in the investigative study on tourism in Africa: Harnessing Tourism for Growth and Improved Livelihoods. The study reveals that majority of Africans have to work and the common traffic jams every day, wastes a lot of time and severely limits their opportunities to participate in economic activities. The transport services available are not sufficient to cater for all the demand. This has created a gap which has been filled by informal transport business and especially the motorcycle business which has become very common.

The informality of the motorcycle transport sector has grown due to the fact that young people all over Africa join in with the aim of uplifting their economic lifestyle. Many of the youths earn their living from the informal sector; in Kenya as noted by Gadzala (2009) in the study on survival of the fittest? Kenya's Jua kali and Chinese businesses. The study noted that the jua kali sector is a source of employment for millions of young people, who maybe illiterate or semi-illiterate; with little or no capital, skilled or unskilled; who venture into the business to be able to afford basic needs. Further, Hidalgo and Huizenga (2013) in implementation of sustainable urban transport in Latin America; the paper revealed that the motorcycle sector has shown high growth levels through the entry of young people in the industry. Some of the reasons cited for this growth include readily accepted by the customers; affordability of the motorcycles; ease in registration process to access validation to operate and the fact that the training is short and cheaper.

Kinyua (2014) on the factors affecting the performance of Small and Medium Enterprises in the Jua kali sector in Nakuru Town, Kenya; the study reveals that the informal sector commonly referred to as the jua kali sector, has grown due to certain factors. One, the lack of length registration processes, two the sector doesn't need professional training, three, the little capital needed to start and run the business. In essences then the informality in the motorcycle industry is worrying and through both the Kenyan national and county governments have come up with policies like safety measures; the perception of the bodaboda operators is poor among users. The men complain of reckless inexperienced driving and disdain for traffic rules dishonesty in over charging not having changed and actively thieving, poor appearance and personal hygiene and abusive and arrogant treatment of clients, and course behavior towards women. Furthermore, Ojong (2011) in the study on the livelihood strategies in African cities:

The case of residents in Bamenda, Cameroon; echoes that informality in operations of the motorcycle business and the lack of professionalism in the motorcycle sector has seen to its growth, in terms of the number of operators and in the number of motorcycles. But with this growth, Ojong (2011) noted that there have been a lot of accidents, lost lives and destruction of properties.

Bodaboda which includes bicycles and motorbikes are low cost mode of transport which can drastically improve people's mobility and have realistically been made accessible to most Africans Otuya et al (2011). He further argues that for the enterprise to make positive contribution to the transport sector there is need for proper operational and management skills in such aspects of motorcycle proficiency, enterprise management, traffic rules and first Aid. However, Empirical evidence suggests that due to lack of entry behavior, many Kenyans jump at opportunity to purchase a bodaboda with view to start a bodaboda tax business irrespective of skill status. And furthermore, the motor cycle market in Kenya is expanding rapidly. Motor cycles registered rose from 2084 units in 2003 to 16293 in 2007 then to 51412 in 2008. In 2009, an average of 7000 motor cycles was being registered every month according to the government economic survey 2009 (GOK 2009). The study therefore focused on the factors influencing the growth of informal transport sector with reference to bodaboda transport in the country. Some of the factors that have led to its growth include unemployment, cost of acquisition and maintenance of bodabodas, versatility of bodabodas, ease of operations of bodabodas and easy registration process and cheaper to comply regulations.

Nandwoli (2014) in the study on the factors influencing motorcycle transport on creation of employment opportunities in Kenya; revealed that the inability of access into the rural as well as the congested city suburbs influence growth of motorcycles. The study highlighted congestion

as the main issue that significantly influenced the increase in the purchase of motorbikes and the choice of passengers to use them. Since the motorcycles had the ability to navigate through congested areas, they have rapidly become the preferred choice as the main mode of transport within suburbs and rural areas.

On informality of the sector, the study reveals that the poor state of road network, unemployment of the youths, ease in accessing capital to buy and operate a motorcycle have led to the growth of the sector. Thus the hypothesis of the study being:

Ho3: Informality of the sector has no significant effect on the growth of motorcycle transport.

2.5 Conceptual Framework

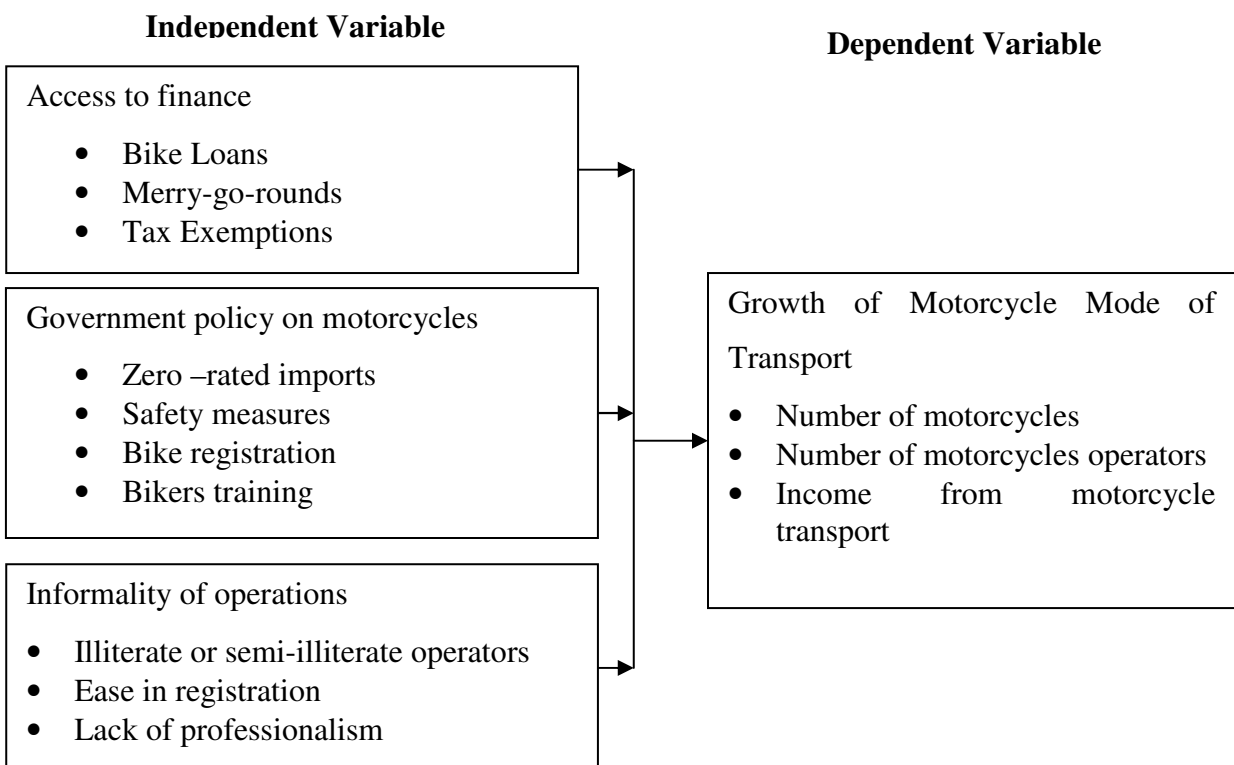


Figure 2.1: Conceptual Framework

2.6 Operationalization of Variables

Objective	Variable Type	Indicators	Type of data
To assess the influence of access to finance on growth of motorcycle transport at Kajiado Central Sub-County	Independent Financing	• Bank Loans • Merry-go-rounds • Tax Exemptions	Descriptive Regression
To determine the influence of government policy on motorcycle on the growth of motorcycle transport at Kajiado Central Sub-County	Independent Rules and regulations	• Zero-rated imports • Safety measures • Bike registration • Biker trainings	Descriptive Regression
To establish the influence of informality of operations on the growth of motorcycle transport at Kajiado Central Sub-County	Independent Regulations and policies	• Illiterate and semi-illiterate operators • Ease in registration • Lack of professionalism	Descriptive Regression
Growth of motorcycle transport in Kajiado County	Dependent	• Number of bikes • Number of operators • Income from the trade	Descriptive Regression

2.7 Summary of Research

This chapter has reviewed the literature from different scholars that covered the three study variables (access to finance, government policy and informality of operations) as it pertains to the growth of the motorcycle transport sectors. Scholars like Pucher, Korattyswaropam, Mittal and Ittyerah (2005) in the study on urban transport crisis in India; the study noted that motorbikes are considerable cheap to acquire hence aiding in solving the Indian transport crisis thus leading to its growth. Mwobobia (2013) in critical success factors in the motorcycle bodaboda business in Nairobi, Kenya. Noting that the bodaboda business has shown a high

growth rate because of its convenience in using the motorbikes for transport at all times of the day; it is flexible as it can move over narrow paths and poor roads.

Sisimwo, et al, (2014) state that with increasing number of fatalities due to motorbike accidents, the study recommends that the government should come up with regulations, laws and policies in an effort to reduce the number of accidents, the frequencies of this accidents and loss of lives as a result of the accidents. On the hand Otero (2009) in the paper on 'Motorcycle Injuries in East Africa: Magnitude, Risk Factors and Prevention'. The paper avers that there has been an upsurge in the number of motorcycle accidents worldwide that have raised safety concerns. The governments have therefore come up with restrictions, policies and regulations to aide in ensuring this sector is safe. Some of these measures include; the rider and passenger to wear safety gear (helmet and reflective jackets); all motorcycles must be insured; riders to carry only one passenger; all motorcycle riders to undergo training before getting an operating license, which is compulsory for every rider

Gadzala (2009) in the study on survival of the fittest? Kenya's Jua kali and Chinese businesses; noting that the jua kali sector has grown since it is a source of employment for millions of young people, who maybe illiterate or semi-illiterate; with little or no capital, skilled or unskilled; who venture into the sector to be able to afford basic needs. Further, Hidalgo and Huizenga (2013) in implementation of sustainable urban transport in Latin America; the paper revealed that the motorcycle sector has shown high growth levels through the entry of young people in the industry, ease in registration process to access validation to operate and the fact that the training is for a short period of time and cheaper. Some of the reasons cited for this growth include readily accepted by the customers; affordability of the motorcycles and its ability to reach any locality even where there is no road network

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology focusing on how the data was collected and the analyses. It consists; the research design, target population, sampling procedures and sample size, data collection instruments and their validity and reliability of the research methods of data collection and data analysis.

3.2 Research Design

Research design represents the main strategy the study utilizes in order to address the question. Mugenda and Mugenda (2003) define a research design as a structure by which a researcher carries out his study, giving a systematic order and direction to the design. Descriptive design is appropriate as the study seeks to create a profile on the dependent variable. This study used descriptive research design to establish the factors determining the growth of motorcycle transport in Kajiado County. The respondents therefore, were required to give a description of the factors with regards to where, what, how and when they happened in the sector.

The respondents of this study described their everyday experiences with the use of motorcycles and what reasons lead to their choice of transportation. The operators also stated the policies and finances needed to run these venture hence explaining in their own understanding how the growth occurs in the sector.

3.3 Target Population

According to Maxwell (2012), a target population is a large population of interest to the researcher from which the sample respondents was drawn. This study targets a population consisting of all motorcycle operators in Kajiado County. Kajiado County has approximately 3000 registered motorcycle operators (Kajiado County, Ministry of Transport office, 2016).

According to the IEBC records (2017), the Kajiado County is divided into 5 constituencies namely Kajiado East, Kajiado West, Kajiado Central, Kajiado North and Loitokitok (Kajiado South). Bodaboda riders from each of the five constituencies were included in the study. All constituencies of Kajiado County were included, such that the findings form a representative section of the entire county. This means that the findings were more accurate and valid as all members of Kajiado County are included in the study.

For purpose of this study the target population was stratified as location of operation and according to Creswell (2012) who explained that the target population should have some observable characteristics, to which the study intends to generalize the results of the study and as such the assumes that the population is not homogeneous. The target population is as shown in the table below:

Table 3.1: Target Population

Category	Population
Kajiado East	588
Kajiado West	408
Kajiado Central	645
Kajiado North	792
Loitokitok (Kajiado South)	567
Total	3000

Source: Kajiado County, Ministry of Transport office, 2016

3.4 Sampling Procedure and Sample Size

This section highlights the sample size and sampling procedure to be used for this study. According to Mugenda and Mugenda (2003), a sample is a smaller group that is derived from the contactable population. The Sampling is the process of selecting a smaller number of individuals for a study in such a way that the individuals selected represent the large group from which they were selected. According to Yin (2013) for the results of a survey to be plausible a representative sample should be selected from the accessible population.

For this study two sampling methods were applied the target population so as to get the sample size of the study. The first sampling method was stratified sampling method; according to Cooper and Schindler (2003), random sampling frequently minimizes the sampling error in the population. This in turn increases the precision of any estimation methods used. The population was stratified into five groups as per the location in which the motorcycle rider operates in. From the records at Kajiado County headquarters, there are five constituencies, namely: Kajiado East, Kajiado West, Kajiado Central, Kajiado North and Loitokitok (Kajiado South).

The second sampling method that was applied for this study is simple random sampling; simple random sampling enables the generalization of study findings to a much larger population with a low margin of error. According to Borg and Gall (2003), at least 30% of the total population is representative. Yin (2013), simple random sampling allows each member of the population an equal and fair chance of being selected to form part of the sample size. And according to Mugenda and Mygenda (2003), a representative sample is one that represents at least 10% - 30% of the population of interest. The sample size for this study was 10% of each strata of the target population, thus making a total of 300 respondents for the study. This is as shown in Table 3.2

Table 3.2: Sample Size

Category	Population	Sample Proportion	Sample size
Kajiado East	588	10%	59
Kajiado West	408	10%	41
Kajiado Central	645	10%	64
Kajiado North	792	10%	79
Loitokitok (Kajiado South)	567	10%	57
Total	3000		300

Source: Author (2017)

3.5 Instrumentation and Data Collection

This study utilized primary data that was collected using questionnaires. The questionnaires were designed in line with the research objectives and contained closed ended questions. The research instrument-the questionnaire had four sections that covers the demographic information of the respondents and the three research objectives. The closed ended questions will make use of a five point likert scale ranging from: 1= Not at all; 2 = Little Extent; 3= Moderate Extent; 4= Large Extent and 5= Very Large Extent.

Data collection refers to the process of gathering raw and unprocessed information that can be processed into meaningful information, following the scientific process of data analysis (Gall, Gall & Borg, 2007). The researcher used 5 research assistants (RA) who helped in collecting data from the respondents. The researcher trained the RA in how to collect useful data that responded to the research questions. The data was collected in a span of two weeks, and at the end of each day, the researcher together with research assistants go through the filled questionnaires to edit them and ensure they are filled correctly.

3.6 Validity and Reliability

A pilot study is, according to O'Connor and Kleyner (2011), a small-scale version of the complete study used to determine procedures, parameters and materials to be used in final study.

Cooper and Schindler (2010) explain that; a pilot test is essential for detecting design weaknesses in instrumentation so as to provide proxy data for selection of a probability sample.

The pilot study involved pre-testing the questionnaire on 15 respondents of the sample population. According to Mugenda and Mugenda (2003), a pilot group is appropriate if it is between 1-10% of the sample size, thus this study adopted 5% of the sample size. The purpose of pilot test is to help refine the questionnaire so that respondents in the major study have no problem in answering the questions. The results of pilot test were not included in the actual study.

Validity of instruments is the degree to which an instrument used in the measurement process measures what it is supposed to (Kothari, 2004). In this study a content validity test was used to determine instrument validity. This type of validity measures the degree to which data collected using a particular instrument represents a specific domain of indicators or content of a particular concept (Mugenda & Mugenda, 2003). To attain this, the researcher will engage his supervisor and other experts to ensure that the questions will test or measure what they are supposed to.

The research adopted content validity that refers to the level to which a measuring instrument provides sufficient coverage of the subject under consideration. The content validity formula by Amin (2005) was applied. The formula for Content Validity Index (CVI) is as below.

The reliability of instruments refers to the degree to which a research instrument yields findings that are consistent every time it is administered to the same subjects (Mugenda and Mugenda, 2003). According to Mugenda and Mugenda (2003) the measurement of reliability offers consistency in the measurement variables. The most commonly used psychometric measure is internal consistency reliability which assesses survey instruments and scales.

Cronbach alpha is the basic formula for determining the reliability based on internal consistency. An internal consistency technique was applied using Cronbach's Alpha in order to test the reliability of the instruments. The alpha value ranges from 0 to 1 with reliability increasing with the increase in value. A Coefficient ranging above 0.7 is recommended and indicated that the research instrument to good and reliable (Tavakol & Dennick, 2011).

3.7 Data Analysis and Presentation

Data analysis comprises the process of editing, coding and tabulation of the collected data into simpler summaries (Yin, 2013). Data coding was conducted to facilitate its entry in the computer for analysis. The Statistical Package for Social Sciences (SPSS) version 21 and MS. excel was used to analyze the data and generate descriptive statistics such as frequency counts, percentages, mean, mode and standard deviation. In order to determine the relationship between predictor variables (determinant factors –Access to Finance, Government Policy on Motorcycles and Informality of Operations) and the dependent variables (growth of motorcycle mode of transport), multiple regression analysis and t-test statistics will be used.

The study used the F Statistic to determine the validity of the regression model adopted. This statistic was compared to the F Critical value where the regression model was referred to as valid if F Statistic is greater than F Critical. Otherwise, the conclusion made was that the model is invalid. This shall be based from the results in the ANOVA Table. The regression model was used to determine if the regression assumptions used in the study are valid before performing the inference. Since if there any violations, subsequent inferential procedures may be invalid resulting in faulty conclusions. And in constructing our regression models assumed that the

responses Y to the explanatory variables were linear in the parameters and that the errors were independent and identically distributed.

The Multiple Regression Model followed this format:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where Y= Growth of Motorcycle Mode of Transport

β_0 = Constant

β_1 , β_2 , and β_3 are Coefficients of the determining factors of growth of motorcycle mode of transport in Kajiado County

ε = error term

X_1 = Access to Finance

X_2 = Government Policy on Motorcycles

X_3 = Informality of Operations

The finding from the analysis was presented in form of charts, pie charts, figures, graphs, tables and narrations.

3.7.1 Diagnostic Tests

Before carrying a regression analysis, the researcher conducted diagnostic tests to determine the suitability of dataset for regressing. These diagnostic tests included Multicollinearity, Normality, and Heteroscedasticity. Normality test was done using Kurtosis and Skewness. Data analysis proceeds if the kurtosis and skewness is between +2 and -2 as this will be an indicator that the data has a normal distribution (Kothari, 2004). Multicollinearity was detected using the Variance Inflation Factor VIF. Heteroscedasticity is useful in examining whether there is

difference in residual variance of the observation period to another period of observation (Godfrey, 2008), and it was done using Test Glejser.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the research findings and discussions based on data collected from the field. The purpose of the study was to assess the factors determining growth of motorcycle transport a case of Kajiado County. Data was collected using questionnaires and summarized by use of descriptive statistics which involves the use of frequency, percentages, mean and standard deviation and presented in form of tables and graphs.

4.1.1 Response Rate

A total of 300 questionnaires were distributed out of which 219 questionnaires were fully filled and return giving a response rate of 73%. This response was good enough and representative of the population and conforms to Mugenda and Mugenda (2003) stipulation that a response rate of 70% and above is excellent.

4.1.2 Reliability Analysis

Pilot study was conducted to determine the reliability of the questionnaires used in the data collection. The pilot study sampled 15 motorcycle operators. This was to ensure that the instrument collects reliable and valid data. Reliability analysis was subsequently done using Cronbach's Alpha which measures the internal consistency by establishing if an item within a scale measures the same construct. Cronbach Alpha was established for every objective in the study which formed a scale.

Table 4.1: Reliability Analysis

Scale	Cronbach's Alpha	Number of Items
Access to credit	0.750	10
Government Policy	0.758	10
Informality of Operations	0.789	9

According to Cronbach (1951) in coefficient alpha and the internal structure of tests; a cut off value of 0.7 and above indicates that there are internal consistencies of the research instrument. From the findings in Table 4.1, all the Cronbach's Alpha coefficients range from 0.750 – 0.789 thus they are all above the recommended threshold.

Access to credit had ($\alpha=0.750$), government policy had ($\alpha=0.758$) and informality of operations ($\alpha=0.789$). This illustrates that all the four scales were reliable as their reliability values exceeded the prescribed threshold of 0.7 as is also recommended by Tavakol and Dennick (2011) thus we conclude that the requirements of internal consistency in the research instrument have been met.

4.2 Background Information

The study sought to determine the background information of the respondents in order to ascertain their suitability to undertake the study. The findings are shown in the subsequent sections.

4.2.1 Gender Distribution

The respondents were asked to indicate their gender. From the finding, 9% of the respondents were females while 91% were males. This shows that all gender were included thus provide a good representation for the study.

4.2.2 Period in Motorcycle Operation

The respondents were asked to indicate the period they had been in motorcycle operation. The finding is shown in Figure 4.1.

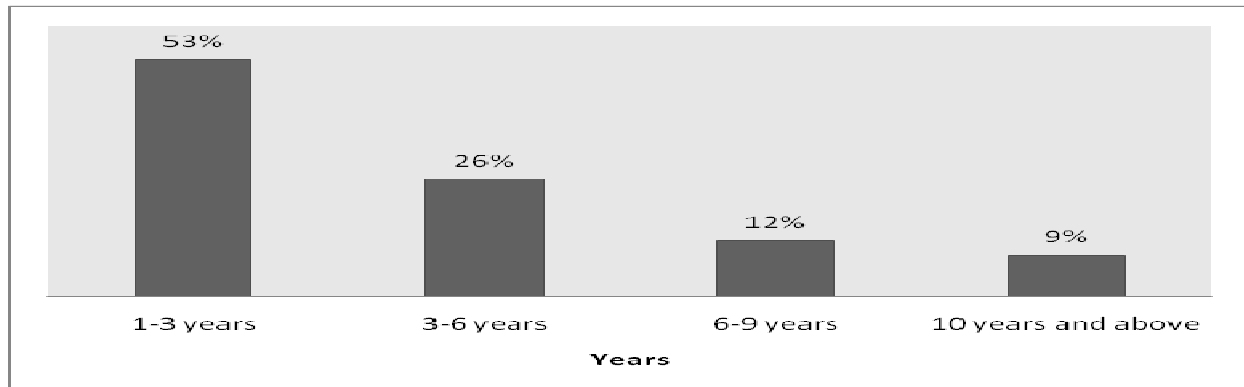


Figure 4. 1: Period in Motorcycle Operation

From the responses, 115 (53%) of the respondents had been in motorcycle operation for a period between 1-3 years, 57 (26%) indicated between 3-6 years, 27 (12%) indicated between 6-9 years and 20 (9%) for 10 years and above. This shows that the respondents had been operating motorcycle long enough thus provided relevant information for the study.

4.2.3 Period Operating Motorcycle in Kajiado Central Sub-County

The respondents were required to indicate the period they have been in motorcycle operation in Kajiado central Sub-County. The finding is presented in Figure 4.2.

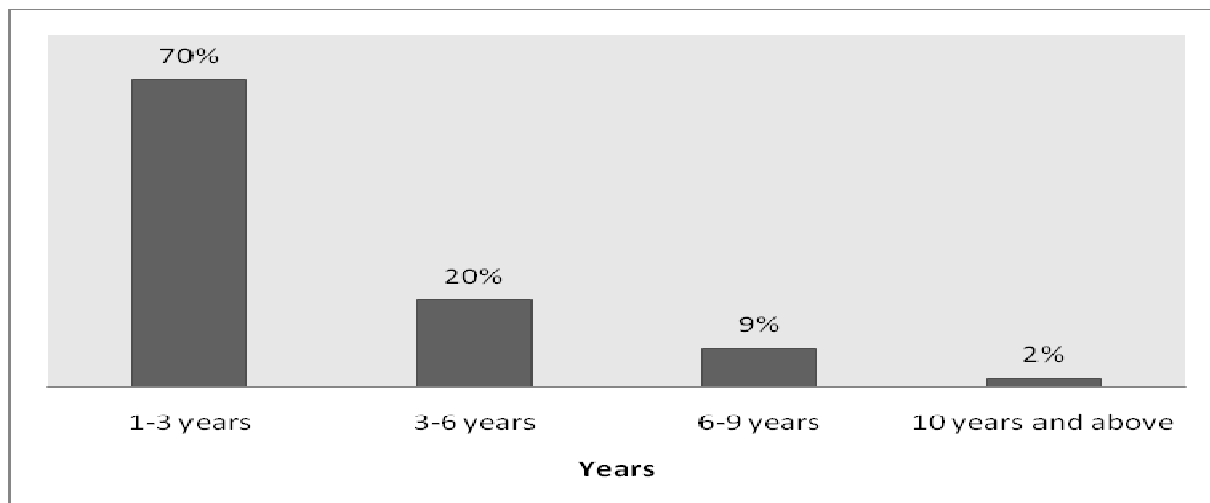


Figure 4.2: Period Operating Motorcycle in Kajiado Central Sub-County

From the finding, 153 (70%) of the respondents had been in motorcycle operation for a period between 1-3 years, 43 (20%) for between 3-6 years, 19 (9%) for between 6-9 years and 4 (2%) for 10 years and above. This shows that the respondents had been in motorcycle operation long enough thus provide reliable and relevant information on the factors determining growth of motorcycle transport in the area.

4.3 Financing on Growth of Motorcycle Mode of Transport

The study sought to establish the influence of access to finance on the growth of motorcycle transport at Kajiado County. The respondents were asked to indicate the extent to which they agree with each of the statement on access to credit. Mean and standard deviation were used for ease of interpretation and generalization of findings. The findings are shown in Table 4.2.

Table 4.2: Financing on Growth of Motorcycle Mode of Transport

	Mean	Std. Deviation
Flexibility in Loan repayment afforded to motorcycle riders has led to its growth numbers	3.46	1.278
Youth groups are given funds by the government (Uwezo fund) that they invest in motorcycles leading to their growth in numbers	3.06	1.258
Lack of import duty makes motorcycle prices affordable hence easily acquired	3.05	1.050
Financial institutions give loans to youths on simple credit terms leading the growth of the sector	3.07	1.155
Youth groups get loans at a cheaper interest rate hence they are able to acquire and operate motorcycles	3.12	1.226
Motorcycle distributors sell bikes on higher purchase allowing initial deposit and installment payments	2.52	.987
Motorcycle companies gifting riders with bikes without any collateral led to its growth	2.45	1.149
Allowing operators to make daily loan repayment as low as Kshs. 350 has led to its growth	4.29	1.052
Youths have a wide range in accessing finances which they invest in motorcycle sector leading to its growth	3.08	1.271
The bodaboda riders pool resources to acquire had impacted in the growth of the industry	3.69	1.223

The respondents were in agreement to a moderate extent that flexibility in loan repayment afforded to motorcycle riders had led to its growth numbers as indicated by a mean of 3.46 with a standard deviation of 1.278. This implies that easy payment plans accorded to motorcycle riders enable them to purchase their own motorcycles. This is consistent with Porter (2014) that motorcycles are cheap leading to their growth.

On whether youth groups are given funds by the government (Uwezo fund) that they invest in motorcycles leading to their growth in numbers, the respondents indicated moderate extent as shown by a mean of 3.06 with a standard deviation of 1.258. This shows that those who had joined the youth groups invested the money receive from the government through Uwezo funds on motor cycles as their business. This concurs with Goodfellow and Titeca (2012) that

low cost of acquisition of motorcycles especially through illegal tax evasion and government-initiated tax exemption strategies have greatly reduced the cost of acquiring motorcycles in developing countries. The respondents were in agreement to a moderate extent that lack of import duty makes motorcycle prices affordable hence easily acquired as shown by a mean of 3.05 with a standard deviation of 1.050. This shows that waiver on the import duty on motorcycles had lowered the cost making it affordable.

Regarding to whether financial institutions give loans to youths on simple credit terms leading the growth of the sector, the respondents moderately agreed with a mean of 3.07 with a standard deviation of 1.155. This implies that financial institutions finance the youths with no or less requirement. The respondents agreed to a moderate extent that youth groups get loans at a cheaper interest rate hence they are able to acquire and operate motorcycles as indicated by a mean of 3.12 with a standard deviation of 1.226. This indicates that youth groups lend money to their members at lower interest rates which have seen the youths taking out loans to purchase motorcycles. To a little extent the respondents indicated that motorcycle distributors sell bikes on hire purchase allowing initial deposit and installment payments as shown by a mean of 2.52 with a standard deviation of 0.987. This indicated that hire purchase given by the motorcycle dealers was not a commonly mode of purchase.

On whether the motorcycle companies gifting riders with bikes without any collateral led to its growth the respondents agreed to a moderate extent as shown by a mean of 2.45 with a standard deviation of 1.149. This shows that the dealers who were giving motorcycles without any security attached was not common in the area. This is in agreement with Nyachieo's (2013) that this is in an effort to empower youths by enabling them gain a meaningful source of earning for their personal and family upkeep. This finding is in line with Gitonga (2014) that with efforts

by the companies for the motorbikes producer offering financing deals, then there is a high chance of the number of motorbikes increasing in the country. The respondents were in agreement to a large extent that allowing operators to make daily loan repayment as low as Kshs. 350 had led to its growth with a mean of 4.29 with a standard deviation of 1.052. This indicates that the operators had taken the daily loan repayment since they could pay daily from the proceeds and at the end of the day.

On whether the youths had a wide range in accessing finances which they invest in motorcycle sector leading to its growth the respondents agreed to a moderate extent with a mean of 3.08 with a standard deviation of 1.271. This shows that the operators had numerous sources of financing thus could access motorcycles. On whether the motorcycle rider's pool resources to acquire motorcycles had impacted in the growth of the industry the respondents agreed to a large extent as shown by a mean of 3.69 with a standard deviation of 1.223. This shows that the operators had used all means to acquire their motorcycles. This concurs with Nyachieo's (2013) that the majority of unemployed youth were found to have benefited from easily acquirable motorbikes to make a living from commercial use.

The respondents were also asked to indicate the extent to which availability of financial resources has impacted on the growth of motorcycle mode of transport in Kajiado Central Sub-County. The finding is presented in Table 4.3.

Table 4. 3: Influence of Access to Finance on the Growth of Motorcycle Transport

	Frequency	Percent
Not at all	12	5.5
Little extent	36	16.4
Moderate extent	111	50.7
Large extent	30	13.7
Very large extent	30	13.7

Total	219	100.0
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From the findings, majority of the respondents 111 (50.7%) agreed to a moderate extent, 12 (5.5%) indicated not at all, 36 (16.4%) indicated little extent, 30 (13.7%) indicated large extent and 30 (13.7%) indicated very large extent. This shows that access to finance impacted to a moderate extent on the growth of motorcycle mode of transport in Kajiado Central Sub-County.

H01: Access to finance has no significant effect in the growth of motorcycle transport in Kajiado central sub-county.

Table 4. 4: Regression Coefficients of Access to Finance

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.254	.644		17.478	.000
Access to Finance	.123	.020	.389	6.200	.000

This variable on access financing adopts alternate hypothesis such that access to finance significantly influences the growth of motorcycle mode of transport. A unit increase in access to finance would lead to a unit increase in growth of motorcycle transport by 0.114. In view of the p-value; 0.000 is less than 0.05 and therefore it is significant. This concurs with the study done by Anantadjaya, Pratama, Nawangwulan, Sibarani and Riwoe (2011) who established that Toyota Kenya has launched a bike loan in an effort to get more youths into the business. With such financing schemes then the motorcycle mode of transport is bound to grow

4.4 Government Policy and the Growth of Motorcycle Mode of Transport

The study sought to determine how the government policy affects the growth of motorcycle transport at Kajiado County. The respondents were asked to indicate the extent to which they agree with the statements as applies in their county. From the responses mean and standard deviation were used for ease of interpretation and generalization of findings. The findings are shown in Table 4.5.

Table 4.5: Government Policy and the Growth of Motorcycle Mode of Transport

	Mean	Std. Deviation
Government policies to prevent accidents has led to the growth of the sector	3.13	1.043
Stringent traffic laws make the sector safer for passengers leading to its growth	3.11	1.443
Traffic laws that ensure riders operate in a specific area increases safety of the sector hence growth	3.39	1.271
Transport regulations ensure that riders are in SACCOs which monitors their behavior had led to the growth of the sector	3.46	1.184
The transport sector regulation on compulsory training of riders has made the sector grow	3.17	1.162
Government policy in import duty exemption on bikes for youth groups has led to growth of the sector	3.05	1.100
All operators must have licensing which is a requirement as it helps regulate the sector thus making it grow	3.47	1.084
Insurance policies to all motorcycle operators as a safety measure leads to its growth	3.21	1.298
Wearing safety gear while riding the bikes ensures they are safe, making other youths join the sector	3.71	1.085
Safety regulation for each area and route has made the sector safe hence its growth	3.60	1.267

The respondents agreed to a moderate extent that government policies to prevent accidents had led to the growth of the sector as indicated by a mean of 3.13 with a standard deviation of 1.043. This implies that the government traffic regulation had brought order in the industry minimizing accident cases thus influencing growth. This is in agreement with Gamberini (2014) that the Government policies to disengage from provision of public transport had contributed majorly to the growth of motorcycles especially in urban centers.

On whether the stringent traffic laws make the sector safer for passengers leading to its growth the respondents indicated moderate extent as shown by a mean of 3.11 with a standard deviation of 1.443. This shows that the strict laws enforce by the traffic officers had brought safety on passengers hence using this mode of transport. This contradicts with Rose (2009) that both riders and customers are not secure on the roads due to the fraudulent documents. Regarding to traffic

laws that ensure riders operate in a specific area increases safety of the sector hence growth the respondents were in agreement to a moderate extent as shown by a mean of 3.39 with a standard deviation of 1.271. This implies that the riders had to follow established rules to operate in a specific area. This concurs with Rose (2009) that police enforcement of the laws has also proven difficult especially in situation when the problem attracts political attention. On whether transport regulations ensure that riders are in SACCOs which monitors their behavior had led to the growth of the sector the respondents indicated moderate extent with a mean of 3.46 with a standard deviation of 1.184. This shows that operators SACCOs monitor their members to observe good conduct. On whether the transport sector regulation on compulsory training of riders has made the sector grow the respondents agreed to a moderate extent with a mean of 3.17 with a standard deviation of 1.162. This implies that the riders had to undergo traffic test in order to operate their motorcycles.

The respondents were in agreement to a moderate extent that the government policy on import duty exemption on bikes for youth groups had led to growth of the sector as shown by a mean of 3.05 with a standard deviation of 1.100. This implies that waiving of import duty had reduced the cost of motorcycles. This finding is in line with Matheka, Omar, Kipsaina, and Witte, (2015) an extensive form of liberation measures among counties to allow self-employment have eventually led to in an increase in both new and used motorcycles. As to whether all operators must have licensing which is a requirement as it helps regulate the sector thus making it grow, the respondents agreed to a moderate extent with a mean of 3.47 with a standard deviation of 1.084. This implies that the operators were required to have license in order to be in operation.

Regarding to insurance policies to all motorcycle operators as a safety measure leads to its growth; the respondents indicated moderate extent with a mean of 3.21 with a standard deviation

of 1.298. This shows that having insured their motorcycles clients had confidence in them. m The respondents agreed to a large extent that wearing safety gear while riding the bikes ensures they are safe, making other youths join the sector as shown by a mean of 3.71 with a standard deviation of 1.085. This indicates that wearing safety gears by the operators was important for both the clients and the rider to minimize injuries in case of accidents. The respondents were in agreement to a great extent that safety regulation for each area and route had made the sector safe hence its growth as shown by a mean of 3.60 with a standard deviation of 1.267. This shows that the operators monitor each other on their specific routes of operation.

The respondents were also required to indicate the extent to which government policies affect the growth of motorcycle mode of transport in Kajiado Central Sub-County. The findings are shown in Table 4.6.

Table 4.6: Effect of Government Policy on the Growth of Motorcycle Transport

	Frequency	Percent
Not at all	4	1.8
Little extent	36	16.4
Moderate extent	70	32.0
Large extent	73	33.3
Very large extent	36	16.4
Total	219	100.0

The study established that majority of the respondents 73 (33%) agreed to a large extent, 4 (1.8%) indicated not at all, 36 (16.4%) indicated little extent, 70 (32%) indicated moderate extent and 36 (16.4%) indicated very large extent. This implies that had an effect on growth of motorcycle transport to a large extent.

H02: Government policy has no significant effect on the growth of motorcycle transport.

Table 4.7: Regression Coefficients of Government Policy

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8.874	.550		16.139	.000
Government Policy	.189	.016	.622	11.672	.000

The study rejects the null hypothesis and accepts the alternative hypothesis that government policy has significant effect on the growth of motorcycle transport $p=0.000 < 0.05$. This is shown by an unit increase in government policy leads to growth of the motorcycle mode of transport by 0.137. This concurs with the findings by Olubomehin (2012) who states that urban transport policies demand that all commercial motorcycles must be registered under the road traffic rules and regulations. Requirements include a driving license, road worthiness certificates, as well as certificates of good conduct. They must also provide their customers with protective gear that includes a helmet and reflective vests. And as the motorcycle transport industry becomes safer for both the rider and the passengers, it attracts more people to join in the industry leading to growth in the sector.

4.5 Informality and the Growth of Motorcycle Mode of Transport

The study sought to determine the influence of informality of operations on the growth of motorcycle transport at Kajiado County. The respondents were required to indicate the extent to which they agree with each of the statement as it applies to their mode of transport. The finding is presented in Table 4.8.

Table 4. 8: Informality and the Growth of Motorcycle Mode of Transport

	Mean	Std. Deviation
Poor regulation on entry into the sector has made the sector easy to join leading to its growth	4.28	.988

lack of formal education as to requirements to join the sector makes it grow	4.08	1.210
There are no cartels that bar people from joining the sector, this has led to growth in this sector	3.94	1.113
Youths who are illiterate or semi-literate are able to join the sector making it grow	3.97	1.400
Any person can easily operate the motorcycle hence its growth (youths or old, male/female)	4.40	.874
Motorcycle sector is easy to register, with few requirements making it attractive to many people	4.52	.743
Training period is short for operators, making this sector attractive for many people	4.34	.794
The sector requires little capital in starting or running it thus making it grow	4.44	.818
Lack of entry behavior has made many Kenyans jump at opportunity to purchase motorcycle and join in the business	4.25	1.039

The respondents agreed to a large extent that poor regulation on entry into the sector had made the sector easy to join leading to its growth as shown by a mean of 4.28 with a standard deviation of 0.988. This shows that the entry into the motorcycle mode of transport by the operators is not regulated which has led to massive entry by the youths. On whether lack of formal education as to requirements to join the sector makes it grow, the respondents were in agreement to a large extent shown by a mean of 4.08 with a standard deviation of 1.210. This implies that most of the youths joining the business are those who discontinue with further learning.

On whether there are no cartels that bar people from joining the sector, this has led to growth in this sector, the respondents agreed to a large extent as shown a mean of 3.94 with a standard deviation of 1.113. This implies that there was free entry into the sector which has seen many youths joining since there are no regulation.

Regarding to whether youths who are illiterate or semi-literate are able to join the sector making it grow, the respondents indicated large extent shown by a mean of 3.97 with a standard deviation of 1.400. This shows that the sector had no education requirement for entry thus

illiterate or semi-literate found their employment at this sector. The respondents were in agreement to a large extent that any person can easily operate the motorcycle hence its growth which is shown by a mean of 4.40 with a standard deviation of 0.874. This implies that entry into this sector was in disregard less to the age or gender thus high proportions of individuals were investing in this business.

On whether motorcycle sector was easy to register, with few requirements making it attractive to many people the respondents agreed to a very large extent as shown by a mean of 4.52 with a standard deviation of 0.743. This shows that only few and simple formalities were required for registration. Regarding to training period was short for operators, making this sector attractive for many people the respondents agreed to a large extent with a mean of 4.34 with a standard deviation of 0.794. This implies that individuals undergo short training on motorcycle riding.

The respondents agreed to a large extent that the sector requires little capital in starting or running it thus making it grow as indicated by a mean of 4.44 with a standard deviation of 0.818 since individuals only required capital to purchase their motorcycles. On the lack of entry behavior had made many Kenyans jump at opportunity to purchase motorcycle and join in the business the respondents were in agreement to a large extent shown by a mean of 4.25 with a standard deviation of 1.039. This shows that there were no rules and regulations in the country to govern the entry into the sector.

The study further sought to establish the extent to which informality of the operations affect the growth of motorcycle mode of transport in Kajiado Central Sub-County. The findings are shown in Table 4.9.

Table 4. 9: Effect of Informality of the Operations on the Growth of Motorcycle Mode of Transport

	Frequency	Percent
Little extent	10	4.6
Moderate extent	39	17.8
Large extent	44	20.1
Very large extent	126	57.5
Total	219	100.0

From the finding, 10 (4.6%) of the respondents agreed to little extent, 39 (17.8%) of the respondents agreed to a moderate extent, 44 (20.1%) of the respondents agreed to a large extent and majority 126 (57.5%) agreed to a very large extent. This implies that informality of the operations had effects on the growth of motorcycle mode of transport in Kajiado Central Sub-County to a very large extent.

H03: Informality of the sector has no effect on the growth of motorcycle transport.

Table 4.10: Regression Coefficients of Informality of Sector

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
(Constant)		10.128	.895		11.319	.000
Informality of Operations		.132	.023	.361	5.698	.000

The study adopts alternative hypothesis as it is indeed true that informality positive affects the growth of the motorcycle transport sector. This change is seen as a unit increase in informality of the operations lead to a unit increase in growth of motorcycle transport by 0.087. The finding is consistent with Gadzala (2009) who opined that many of the youths earn their living from the informal sector; in Kenya. Furthermore, the jua kali sector is a source of employment for millions of young people, who maybe illiterate or semi-illiterate; with little or no capital, skilled or unskilled; who venture into the business to be able to afford basic needs. These youths are

attracted to this sector which has little or no entry requirements and has little demands making the motorcycle industry grow.

4.6 Growth of Motorcycle Mode of Transport

The respondents were asked to indicate the extent to which statements on indicators for growth of the motorcycle mode of transport were applicable to them. The finding is shown in Table 4.11.

Table 4.11: Growth of Motorcycle Mode of Transport

	Mean	Std. Deviation
Increased in access to finances has increased the number of bikes in Kajiado county	3.42	1.070
Good government policy has led to increased number of motorcycles in the county	3.21	.892
Informality of the sector has led to high income earned by the country from the trade	4.18	.936
Kajiado county earns high incomes from the sector	4.33	.707

The respondents were in agreement to a moderate extent that increased in access to finances has increased the number of bikes in Kajiado County which is shown by a mean of 3.42 with a standard deviation of 1.070. This shows that availability of finances for the motorcycles had enabled many operators to own motorcycles.

On whether good government policy had led to increased number of motorcycles in the county the respondents agreed to a moderate extent as indicated by a mean of 3.21 with a standard deviation of 0.892. Presence of government policies to govern the motorcycle mode of transport had led to the growth.

The respondents agreed to a large extent that informality of the sector had led to high income earned by the county from the trade as shown by a mean of 4.18 with a standard deviation of 0.936. Lack of governing regulation in the sector had led to free entry by operators. As to whether Kajiado County earns high incomes from the sector, the respondents were in agreement to a large extent as indicated by a mean of 4.33 with a standard deviation of 0.707. The county government had benefited from the tax and duties paid directly and indirectly by the operators.

4.7 Regression Analysis

The study conducted regression analysis to assess the factors determining growth of motorcycle transport. The study results are shown in the subsequent sections.

4.7.1 Diagnostic Tests

Before conducting regression analysis, the researcher conducted multicollinearity and normality tests to determine the suitability of the regression model. The tests performed by the researcher were Multicollinearity, Normality Test and Heteroscedasticity Test. Multicollinearity was detected using the Variance Inflation Factor VIF while Normality was detected using Kurtosis and Skewness as the sample size n is small is less than 2000.

Table 4.12: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
Access to Finance	.857	1.167
Government Policy	.723	1.383
Informality of Operation	.712	1.404

Multicollinearity in statistics is a situation whereby the predictor variables in the multiple regression models are high correlated (Willis & Perlack, 1978). For this study the independent variables were tested using the Variance Inflation Factor (VIF) and Tolerance. Tolerance indicates the effect of collinearity among the study variables in the regression model. It is calculated by subtracting one from R squared. If the tolerance value is closer to 1 then there is little multicollinearity. While a value closer to zero is an indication of multicollinearity among the study variable (Belsley, Kuh & Welsch, 2004).

The VIF indicates an index that shows how much the variance of an estimated regression coefficient is increased because of collinearity (Wooldridge, 2000). According to Cohen, Cohen, West and Aiken (2013) where they provided a VIF of above 5 as an indicator of multicollinearity and should be removed from the regression model. From Table 4.9, the results show that access to finance had Variance Inflation Factor (VIF) of 1.167, government policy had 1.383 and informality of operations had 1.404. As all the VIF values lie between 1-10, this indicates that there was no multicollinearity symptoms in the data set.

4.7.2 Normality Test

Normality test was done using Kurtosis and Skewness. Data analysis proceeds if the kurtosis and skewness is between +2 and -2 as this will be an indicator that the data has a normal distribution (Kothari, 2004). The findings are represented in Table 4.13.

Table 4.13: Normality Test

	N	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Growth	219	15.1735	-.159	.164	-.576	.327
Access to Finance	217	31.8433	-.305	.165	-.006	.329
Government Policy	218	33.3349	.136	.165	-1.199	.328

Informality of Operation	219	38.2694	-.494	.164	-.953	.327
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From Table 4.13, access to finance had Skewness of -0.305 and Kurtosis of 0.329, government policy Skewness of 0.136 with Kurtosis of -1.199, informality of operations had Skewness of -0.494 with Kurtosis of -0.953 while growth of motorcycles had Skewness of -0.159 and Kurtosis of 0.327. Since all the values of Skewness and Kurtosis are between -2 to 2; this is an indicator that data had a normal distribution (Kothari, 2004). In conclusion therefore, the data followed the normal distribution and this was consistent with Rocha, Farazi, Khouri and Pearce (2011) in their test on normality using Kurtosis and Skewness.

4.7.3 Heteroscedasticity Using Test Glejser

Heteroscedasticity is useful in examining whether there is difference in residual variance of the observation period to another period of observation (Godfrey, 2008). The researcher conducted Test Glejser by regressing absolute residual value of the independent variable with the regression equation (Godfrey, 1996).

Table 4.14: Test Glejser

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.600	.935		3.850	.000
Access to Finance	.114	.016	.363	6.999	.000
Government Policy	.137	.017	.452	8.010	.000
Informality of Operation	.087	.021	.238	4.188	.000

Kwatemba (2016) tested Heteroscedasticity in the impact of tax amnesty on tax revenues in Kenya and established presence of heteroscedasticity since the p-value of 0.0460 was significant which led to rejection of the null hypothesis. From the findings in Table 4.12, the significance level of the independent variables (Access to finance, government policy and informality of operation) are indicated as 0.000, 0.000 and 0.000 respectively which are all less than 0.05. According to White (1980), significance of independent variables play an important role while conducting Test Glejser in that if significance is greater than 0.05, then there is no Heteroscedasticity otherwise the converse is true.

4.7.4 Model of Fitness

Table 4.15: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.715 ^a	.511	.504	1.44597

For any R particular construct to be deemed adequate, Falk and Miller (1992) recommend that R^2 values to be equal or greater than 0.10. In such a manner that R shows the effect of correlation while R^2 shows the amount of variance of the dependent variable attributed to a singular independent variable as explained for the case of our study by access to finance, government policy and informality of operations.

The finding in Table 4.12; R is 0.715 indicating a positive relationship between the factors determining growth of motorcycle transport. R^2 is 0.511 implying that 51.1% variation in the growth of motorcycle transport was explained by access to finance, government policy and informality of the operations.

Table 4.16: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	463.394	3	154.465	73.877	.000 ^b
Residual	443.255	212	2.091		
Total	906.648	215			

ANOVA is the test used to analyse the differences in group means and the associated procedures; according to Cohen (1973) to be able to make multiple comparisons using ANOVA is ideal as you are able to test the parameters of several population once. In this study, several procedures are compared using ANOVA; the sum of squares, differences, mean of squares, F critical and significance in one test.

From the finding in Table 4.13, the significance value is 0.000 which is less than 0.05 as recommended by Cohen (1973); thus the model is statistically significant in predicting the independent variables influence on dependent variable. The F critical at 5% level of significance is 2.70. Since F calculated (value = 73.877) is greater than the F critical (2.70), this shows that the overall model was significant. This was further noted by Hoaglin and Welsch (1978) using a projection matrix known as the hat matrix; noting that a model is significant in giving accurate data if the value of F calculated is greater than the F critical.

Table 4.17: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

(Constant)	3.600	.935		3.850	.000
Access to Finance	.114	.016	.363	6.999	.000
Government Policy	.137	.017	.452	8.010	.000
Informality of Operation	.087	.021	.238	4.188	.000

The established regression equation becomes;

$$Y = 3.6 + 0.114X_1 + 0.137X_2 + 0.087X_3$$

Y= Growth of motorcycle mode of transport

ε = Error Term

β = Coefficient factor

X_1 = Access to Finance, X_2 = Government Policy and X_3 = Informality of Operation

From the findings of the regression analysis if all factors (access to finance, government policy and informality of the operations) were held constant, growth of motorcycle transport would be at 3.60. A unit increase in access to finance would lead to a unit increase in growth of motorcycle transport by 0.114. A unit increase in government policy would lead to a unit increase in growth of motorcycle transport by 0.137. A unit increase in informality of the operations would lead to a unit increase in growth of motorcycle transport by 0.087. All factors were significant as p values were less than 0.05.

The study therefore rejects the all the null hypotheses and indicate that: access to finance has significant effect in the growth of motorcycle transport, government policy has significant effect on the growth of motorcycle transport and informality of the sector has significant effect on the growth of motorcycle transport.

4.8 Discussion

Based on the hypothesis of the study; the study accepts the alternative hypotheses that access to finance has significant effect in the growth of motorcycle transport $p=0.000<0.05$. In view of this finding, Anantadjaya, Pratama, Nawangwulan, Sibarani and Riwoe (2011) established that Toyota Kenya has launched a bike loan in an effort to get more youths into the business. With such financing schemes then the motorcycle mode of transport is bound to grow. The study further established that allowing operators to make daily loan repayment as low as Kshs. 350 has led to its growth. According to Porter (2014), many people are saving funds for the sole aim of getting the motorbike to operate and earn an income from it.

The study further rejects the null hypothesis and accepts the alternative hypothesis that government policy has significant effect on the growth of motorcycle transport $p=0.000<0.05$. According to Law, Noland and Evans (2009) government policies are put in place in an effort to reduce the number of accidents caused by motorists' and cut down on fatalities. Odero (2009) cites that governments have come up with restrictions, policies and regulations to aide in ensuring this sector is safe. Wearing safety gear while riding the bikes ensures they are safe, making other youths join the sector. According to Muguku (2010), some of the recommendations by the taskforce for safety included, wearing of safety gears like reflector jackets, helmets for both the motorists' rider and the passenger.

The study also rejects the null hypothesis and accepts that informality of the sector has significant effect on the growth of motorcycle transport $p=0.000<0.05$. The finding is in line with Nandwoli (2014) who highlighted congestion as the main issue that significantly influenced the increase in the purchase of motorbikes and the choice of passengers to use them. Motorcycle

sector is easy to register, with few requirements making it attractive to many people. According to Hidalgo and Huizenga (2013), the motorcycle sector has shown high growth levels through the entry of young people in the industry due to readily accepted by the customers; affordability of the motorcycles; ease in registration process to access validation to operate and the fact that the training is short and cheaper.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the findings, conclusion and recommendations of the study based on the purpose of the study which was to assess the factors determining growth of motorcycle transport a case of Kajiado County.

5.2 Summary of the Findings

This section presents a summary of the findings as per the research questions.

5.2.1 Financing on Growth of Motorcycle Mode of Transport

The study found out that flexibility in loan repayment afforded to motorcycle riders has led to growth of motorcycles. The finding concurs with Gitonga (2014) who factors influencing growth of informal transport sector and established that with efforts by the companies for the motorbikes producer offering financing deals, then there is a high chance of the number of motorbikes increasing in the country. This offers and financing options have seen the growth of the motorcycle mode of transport in the country.

The study established that funds by the government and waiver on import duty have resulted into rapid growth of motorcycles. In view of these finding, Anantadjaya, Pratama, Nawangwulan, Sibarani and Riwoe (2011) stated that the Kenyan government has set up posterity measures in an effort to support this business. Some of these measures include, a recent introduction of the zero rated import duty on motorcycles below 250cc, and this was included in

the 2006 national budget in an effort to support and encouraged low income earners to get into the business.

The study further established that simple credit terms leading and loans at a cheaper interest rate have resulted into growth of motorcycle industry. According to Nyachieo's (2013) to ensure the success of the program to grant opportunity for all, the office of the president in Kenya enacted credit schemes and released funds for loans for Bodaboda associations to purchase as many motorcycles for members to create employment. The study also established that motorcycle distributors sell bikes on higher purchase; motorcycle companies gifting riders with bikes, daily loan repayment and investing in motorcycle sector had lead to its growth.

5.2.2 Government Policy and the Growth of Motorcycle Mode of Transport

The study revealed that government policies to prevent accidents and stringent traffic laws have brought safety in the motorcycle industry and therefore making it attractive. According to Olubomehin (2012), urban transport policies demands that all commercial motorcycles must be registered under the road traffic rules and regulations. Requirements include a driving license, road worthiness certificates, as well as certificates of good conduct. They must also provide their customers with protective gear that includes a helmet and reflective vests.

The study further established that transport sector regulation on compulsory training of riders has enhanced growth of motorcycle industry. The finding is in line with Odero (2009) who established that governments have therefore come up with restrictions, policies and regulations to aide in ensuring this sector is safe. Some of these measures include; the rider and passenger to wear safety gear (helmet and reflective jackets); all motorcycles must be insured; riders to carry

only one passenger; all motorcycle riders to undergo training before getting an operating license, which is compulsory for every rider.

Government policy in import duty exemption and licensing, insurance policies to all motorcycle operators have brought about growth of motorcycle industry. The finding is in line with Law, Noland and Evans (2009) who examined factors associated with the relationship between motorcycle deaths and economic growth and established that insurance industry has embarked in giving insurance policies to all motorcycles operators; this is a directive of the government regulation. The findings of the study further established that wearing safety gear and safety regulation for each area and route had made the sector safe hence its growth. According to Muguku (2010), the transport sector further came up with measures, regulations and rules to ensure that accidents caused by motorists are reduced

5.2.3 Informality and the Growth of Motorcycle Mode of Transport

The study established that poor regulation on entry into the sector and lack of formal education has enhanced growth of motorcycle industry in Kenya. The finding is consistent with Gadzala (2009) who opined that many of the youths earn their living from the informal sector; in Kenya. Furthermore, the jua kali sector is a source of employment for millions of young people, who maybe illiterate or semi-illiterate; with little or no capital, skilled or unskilled; who venture into the business to be able to afford basic needs.

The study established that there no cartels that bar people from joining the sector and it requires little capital in starting or running and this has brought about growth of the sector. In view of these findings, Hidalgo and Huizenga (2013) in implementation of sustainable urban transport in Latin America established that some of the reasons cited for growth of motorcycle

sector include readily accepted by the customers; affordability of the motorcycles; ease in registration process to access validation to operate and the fact that the training is short and cheaper.

Lack of entry behavior has made many Kenyans jump at opportunity to purchase motorcycle and join in the business. The finding concurs with GOK (2009) that due to lack of entry behavior, many Kenyans jump at opportunity to purchase a bodaboda with view to start a bodaboda tax business irrespective of skill status. And furthermore, the motor cycle market in Kenya is expanding rapidly. Motor cycles registered rose from 2084 units in 2003 to 16293 in 2007 then to 51412 in 2008. In 2009, an average of 7000 motor cycles was being registered every month according to the Government Economic Survey (2009).

5.4 Conclusions

The study concludes that access to finance has significant effect in the growth of motorcycle transport. Motorcycle transport sector is growing at a faster rate as the main factors contributing to the growth of motorcycle business which is part of the informal transport sector are the unemployment rates especially amongst the youth, the flexibility of the operations, ease of operation and the ease of acquiring and maintaining motorcycles.

The study further concludes that government policy has significant effect on the growth of motorcycle transport. Motorcycle growth has developed without adhering to safety prescriptions as contained in the traffic laws and decline in the organized public transport systems has led to a growth in largely unregulated, informally provided non conventional public transport, dominated by motorcycles. The distribution of motorcycles has been carried out without ensuring proper operator training and licensing.

The study also concludes that informality of the sector has significant effect on the growth of motorcycle transport. With high unemployment, no entry requirements and no technical expertise required, the incentives to get into the market are high. This is especially made more attractive because of high returns. Ease of entry, low capital requirement, employment potential, and ability to navigate congested and poor quality roads with relative ease are some of the factors contributing to the growth of motorcycles.

5.5 Recommendation

From finding, it is clear that access to finance significantly contributes towards growth of motorcycle mode of transport thus measures should be put in place to ensure that the growth impacts positively to those involved. Motorcycle operators should leverage on the gifting by motorcycle companies without any collateral to grow the industry.

The study recommends that motorcycle operators should go to riding schools to improve on their competency and form SACCO's to handle matters concerning motorcycle operations. To ascertain level of experience in riding, motorcyclists should be made to undertake tests and licenses issued before they can be permitted to ride on roads. Regulation on compulsory use of safety materials, such as protective head helmets, should be enforced and users (passengers) of the motorcycle should be sensitized and educated on the benefit of the usage of protective head helmets.

The study recommends that a regulatory framework should be put in place to ensure the operators pay taxes to the governments and insurance cover for compensation in cases of accidents. All motorcycle operators should go through some formal training before they start

riding so as to reduce the number of accidents. This would eventually lead to a systematic way of registering the operators and ensuring that they are regulated in their operations.

5.6 Area for Further Research

This study concentrated on the factors determining growth of motorcycle transport a case of Kajiado County. This study therefore recommends that a similar study be done on other Counties in Kenya for the purposes of comparison and generalization of findings. From regression analysis, the value of R square was 51.1% and indication that there are other factors not covered by the current study that have affected growth of motorcycle sector by 49% and therefore future scholars should attempt to cover these factors. The current study also only used primary data and therefore need for similar studies using secondary data or both.

REFERENCES

- Almselati, A. S. I., Rahmat, R. A. O. K., & Jaafar, O. (2011). An overview of urban transport in Malaysia. *Social Sci*, 6(1), 24-33.
- AlRasyid LUBis, H. (2009). Motorcycles growth and its impacts to urban transportation In *Proceedings of the Eastern Asia Society for Transportation Studies Vol. 7 (The 8th International Conference of Eastern Asia Society for Transportation Studies, 2009)* (pp. 329-329). Eastern Asia Society for Transportation Studies.
- White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica: Journal of the Econometric Society*, 817-838.
- Godfrey, L. G. (1996). Some results on the Glejser and Koenker tests for heteroskedasticity. *Journal of Econometrics*, 72(1), 275-299.
- Anantadjaya, S. P., Pratama, C., Nawangwulan, I. M., Sibarani, M., & Riwoe, J. C. (2011, July). Ratio Analysis on Entrepreneurial Service Quality: A Case Study in a Motorcycle Dealership in East Java. In *The 3rd Indonesia International Conference on Innovation, Entrepreneurship & Small Business (IICIES 2011)*, Center for Innovation, Entrepreneurship, and Leadership (CIEL), School of Business & Management, Institut Teknologi Bandung.
- Godfrey, L. G. (2008). Testing for heteroskedasticity and predictive failure in linear regression models. *Oxford Bulletin of Economics and Statistics*, 70(3), 415-429.
- Anyika, S. D. (2007). *Marketing strategies applied by the major motorcycle marketing firms in Kenya* (Doctoral dissertation).
- Atubi, A. O., & Ali, A. O. (2009). Motorcycle taxis in Enugu: Implications for development. *Sustainable Human Development Review*, 1(4), 133-148.
- Bachani, A. M., Koradia, P., Herbert, H. K., Mogere, S., Akungah, D., Nyamari, J., ... & Stevens, K. A. (2012). Road traffic injuries in Kenya: the health burden and risk factors in two districts. *Traffic injury prevention*, 13(sup1), 24-30.
- Binmore, K. (1988). *Game Theory and the Social Contract'*, Mimeo, London School of Economics.
- Broock, W. A., Scheinkman, J. A., Dechert, W. D., & LeBaron, B. (1996). A test for independence based on the correlation dimension. *Econometric reviews*, 15(3), 197-235.

- Chen, C. F., & Lai, W. T. (2011). The effects of rational and habitual factors on mode choice behaviors in a motorcycle-dependent region: Evidence from Taiwan. *Transport Policy*, 18(5), 711-718.
- Christie, I., Fernandes, E., Messerli, H., & Twining-Ward, L. (2013). Tourism in Africa: Harnessing Tourism for Growth and Improved Livelihoods.
- Cohen, J. (1973). Eta-squared and partial eta-squared in fixed factor ANOVA designs. *Educational and psychological measurement*, 33(1), 107-112.
- Creswell, J. W. (2012). Qualitative inquiry and research design: Choosing among five approaches. Sage.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*, 4.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, 16(3), 297-334.
- Dinye, R. D., & Ahmed, A. (2016). Motorized transportation in the urban areas in Northern Ghana: the case of motorcycle wa township.
- Forsgren, M., & Malmberg, A. (1994). The local embeddedness of the transnational corporations.
- Foster, V., & Briceño-Garmendia, C. (2010). Africa's infrastructure: a time for transformation. *World Bank Publications*.
- Gadzala, A. (2009). Survival of the fittest? Kenya's jua kali and Chinese businesses. *Journal of Eastern African Studies*, 3(2), 202-220
- Gamberini, G. L. (2014). Motorcycle: The Impact of Motorbike Taxi Service in Rural Uganda. *Student Pulse*, 6(11).
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International journal of endocrinology and metabolism*, 10(2), 486
- Gitonga, V. W. (2014). *Factors influencing growth of informal transport sector: a case of bodaboda transport In Central Division, Embu West District* (Doctoral dissertation, University of Nairobi).

- Gomez-Salvador, R., & Leiner-Killinger, N. (2008). *An analysis of youth unemployment in the euro area* (No. 89). European Central Bank.
- Goodfellow, T., & Titeca, K. (2012). Presidential intervention and the changing 'politics of survival' in Kampala's informal economy. *Cities*, 29(4), 264-270.
- Grant, R. M. (1991). The resource-based theory of competitive advantage: implications for strategy formulation. *California management review*, 33(3), 114-135.
- Hidalgo, D., & Huizenga, C. (2013). Implementation of sustainable urban transport in Latin America. *Research in transportation economics*, 40(1), 66-77.
- Hoaglin, D. C., & Welsch, R. E. (1978). The hat matrix in regression and ANOVA. *The American Statistician*, 32(1), 17-22.
- Hu, X., Chang, S., Li, J., & Qin, Y. (2010). Energy for sustainable road transportation in China: challenges, initiatives and policy implications. *Energy*, 35(11), 4289-4301.
- Husz, Z. L. (2008). *Articulated human tracking and behavioural analysis in video sequences* (Doctoral dissertation, Heriot-Watt University).
- Karau, P. B., Ogeng'o, J. A., Okoro, D., Muia, M., & Saumu, M. W. (2015). Risk factor profile of motorcycle crash victims in rural Kenya. *Annals of African surgery*, 12(1).
- Karema, F. M., Irandu, E. M., & Moronge, J. M. (2017). The role of commercial motorcycles in alleviating poverty in rural areas: a case study of Laikipia East Sub-County, Kenya. *World Review of Intermodal Transportation Research*, 6(2), 155-176.
- Kenya National Bureau of Statistics. (2010). *Economic Survey*. Government printers. Nairobi.
- Kenya National Bureau of Statistics. (2010). *Economic Survey*. Government printers. Nairobi.
- Khanbhai, M., & Lutomia, M. B. L. (2012). Motorcycle accident injuries seen at Kakamega Provincial Hospital in Kenya. *East and Central African Journal of Surgery*, 17(1), 43-46.
- Kinyua, A. N. (2014). Factors affecting the performance of Small and Medium Enterprises in the Jua kali sector in Nakuru Town, Kenya. *Journal of Business and Management*, 6(1), 5-10.
- Kisaalita, W. S., & Sentongo-Kibalama, J. (2007). Delivery of urban transport in developing countries: the case for the motorcycle taxi service (boda-boda) operators of Kampala. *Development Southern Africa*, 24(2), 345-357.

- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.
- Kumar, A. (2011). Understanding the emerging role of motorcycles in African cities. *Sub-Saharan Africa Transport Policy Program*.
- Lin, R. J., Tan, K. H., & Geng, Y. (2013). Market demand, green product innovation, and firm performance: evidence from Vietnam motorcycle industry. *Journal of Cleaner Production*, 40, 101-107.
- Mahlstein, M. (2009). Shaping and being shaped. The regulation of commercial motorcycle operation and social change in Calabar, Nigeria. *Unpublished MA Thesis submitted to the Institute of Social Anthropology, University of Basel*.
- Manyara, C. G. (2016). Combating road traffic accidents in Kenya: A challenge for an emerging economy. In *Kenya After 50* (pp. 101-122). Palgrave Macmillan US.
- Matheka, D. M., Omar, F. A., Kipsaina, C., & Witte, J. (2015). Road traffic injuries in Kenya: a survey of commercial motorcycle drivers. *Pan African medical journal*, 21(1).
- Maxwell, J. A. (2012). *Qualitative research design: An interactive approach: An interactive approach*. Sage.
- McCraw, T. K. (2009). *Prophets of regulation*. Harvard University Press.
- Mugenda, O., & Mugenda, A. (2003). *Research Methods: Quantitative and Qualitative methods*. Nairobi, Rev editions.
- Muguku, E. (2010). Patterns of Injuries in Hospitalized Motorcyclists in Nakuru, Kenya. *The newsletter of the Road Traffic Injuries Research Network*.
- Mutiso, W., & Behrens, R. (2011). 'Motorcycle' bicycle taxis and their role in urban transport systems: case studies of Kisumu and Nakura, Kenya. *SATC 2011*.
- Mwobobia, B. (2013). *Critical Success Factor S In The Motorcycle Motorcycle Business In Nairobi, Kenya* (Doctoral dissertation, Master's Thesis, University of Nairobi).
- Mwobobia, B. (2013). *Critical Success Factor S In The Motorcycle Motorcycle Business In Nairobi, Kenya* (Doctoral dissertation, Master's Thesis, University of Nairobi).
- Myerson, R. B. (2013). *Game theory*. Harvard university press.

- Nandwoli, F. W. (2014). *Factors influencing motorcycle transport on creation of employment opportunities in Kenya; a case of Bungoma south sub county, Bungoma county* (Doctoral dissertation, University of Nairobi).
- Nandwoli, F. W. (2014). *Factors influencing motorcycle transport on creation of employment opportunities in Kenya; a case of Bungoma south sub county, Bungoma county* (Doctoral dissertation, University of Nairobi).
- Nyachieo, G. M. M. (2013). Creating Employment through Transport; The Youth and Motorcycle (bodaboda) in Kitengela, Kajiado County-Kenya. *Research Journal in Organizational Psychology & Educational Studies*, 2(4), 154-157.
- Obeng-Odoom, F. (2015). Sustainable urban development in Africa? The case of urban transport in Sekondi-Takoradi, Ghana. *American Behavioral Scientist*, 59(3), 424-437.
- O'Connor, P., & Kleyner, A. (2011). Practical reliability engineering. John Wiley & Sons.
- Odero, W. (2009, December). Motorcycle Injuries in East Africa: Magnitude, Risk Factors and Prevention. In *A paper presented RTIRN Regional Workshop, Accra, Ghana in December* (Vol. 2, p. 2009).
- Ogunrinola, I. O. (2011). Informal self-employment and poverty alleviation: empirical evidence from motorcycle taxi riders in Nigeria. *International journal of economics and finance*, 3(2), 176.
- Ojong, N. (2011). Livelihood strategies in African cities: The case of residents in Bamenda, Cameroon. *African Review of Economics and Finance*, 3(1), 8-25.
- Olubomehin, O. O. (2012). The development and impact of motorcycles as means of commercial transportation in Nigeria. *Development*, 2(6).
- Osoro, M. E., Ng, Z., Oundo, J., Omolo, J., & Luman, E. (2011). Factors associated with severity of road traffic injuries, Thika, Kenya. *Pan African medical journal*, 8(1).
- Penrose, E. (1959). The theory of the firm. NY: John Wiley & Sons.
- Porter, G. (2014). Transport services and their impact on poverty and growth in rural sub-Saharan Africa: A review of recent research and future research needs. *Transport reviews*, 34(1), 25-45.
- Pucher, J., Korattyswaropam, N., Mittal, N., & Ittyerah, N. (2005). Urban transport crisis in India. *Transport Policy*, 12(3), 185-198.

- Rose, G. (2009, September). Motorcycles: a growing dot on the transport policy radar. In *32nd Australasian Transport Research Forum, Auckland, New Zealand*.
- Selten, R. (1975). A Reexamination of the Perfectness Concept for Equilibrium Points in Extensive Games', *International Journal of Game Theory* 4: 25-55
- Singoro, B. W., Wakhungu, J., Obiri, J., & Were, E. (2016). Causes and trends of public transport motorcycle accidents in Bungoma County, Kenya.
- Sisimwo, P. K., Mwaniki, P. K., & Bii, C. (2014). Crash characteristics and injury patterns among commercial motorcycle users attending Kitale level IV district hospital, Kenya. *The Pan African medical journal*, 19.
- Soehodho, S. (2007). Motorization in Indonesia and its impact to traffic accidents. *IATSS research*, 31(2), 27-33.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education*, 2, 53.
- Too, Z. K. (2015). *Influence of the motorcycle enterprise on youth empowerment in Kericho town, Kericho county, Kenya* (Doctoral dissertation, University of Nairobi).
- Willis, C. E., & Perlack, R. D. (1978). Multicollinearity: effects, symptoms, and remedies. *Journal of the Northeastern Agricultural Economics Council*, 7, 55-61.
- Yang, L. I., Jun, Q. I. U., Liu, G. D., Zhou, J. H., Zhang, L., Wang, Z. G., ... & Jiang, Z. Q. (2008). Motorcycle accidents in China. *Chinese Journal of Traumatology (English Edition)*, 11(4), 243-246.
- Yin, R. K. (2013). *Case study research: Design and methods*. Sage publications.

APPENDICES

Appendix I: Questionnaire

I am a post graduate student in the K.C.A University undergoing a Master of Science in commerce majoring in economics and investment. Currently I am carrying out a research, on the above named topic. Your assistance in responding honestly to all the items in the questionnaire is likely to generate data that will improve bodaboda transport in Kajiado County and in Kenya as a whole.

Your response will be treated as confidential. Therefore **DO NOT** write your name on the questionnaire. Please complete all the items in the questionnaire.

Thank you for your cooperation

Yours sincerely, Timothy Kores

Please fill out the questionnaire on:

FACTORS DETERMINING GROWTH OF MOTORCYCLE MODE OF TRANSPORT IN KAJIADO COUNTY

Kindly tick only one response that best represents your opinion

PART A: BACKGROUND INFORMATION

1. What is your gender

Male ☐ Female ☐

2. How long have you been a motorcycle (bodaboda) operator?

1- 3years ☐ 3-6 years ☐ 6- 9 years ☐
10 years and above ☐

3. How long have you operated a motorcycle in Kajiado Central Sub-County?

1- 3years ☐ 3-6 years ☐ 6- 9 years ☐

10 years and above []

SECTION B: FINANCING ON GROWTH OF MOTORCYCLE MODE OF TRANSPORT

4. Kindly indicate the extent of agreement on the availability of financing and its impact on the growth of motorcycle mode of transport in Kajiado Central Sub-County. Use a Likert scale which ranges from 1 -5 where 1= Not at all; 2 = Little Extent; 3= Moderate Extent; 4= Large Extent and 5= Very Large Extent to rate the extent of your agreement with each statement.

Statement	1	2	3	4	5
Flexibility in loan repayment afforded to motorcycle riders has led to its growth numbers					
Youth groups are given funds by the government (Uwezo fund) that they invest in motorcycles leading to their growing numbers					
Lack of import duty makes the motorcycle prices affordable hence easily acquired					
Financial institutions give loans to youths with simply credit terms leading to the growth of the sector					
Youth groups get loans at a cheaper interest rate hence they are able to acquire and operate motorcycles					
Motorcycle distributors sale bikes on higher purchase allowing initial deposit and instalment payments					
Motorcycle companies gifting riders with bikes without any collateral led to its growth					
Allowing operators to make daily loan repayments as low as sh350 has led to its growth					
Youths have a wide range in accessing finances which they invest in the motorcycle sector leading to its growth					
The bodaboda riders pool resources to acquire bikes has impacted in the growth of the industry					

5. To what extent do you agree that availability of financial resources has impacted on the growth of motorcycle mode of transport in Kajiado Central Sub-County

Not at all []

Little Extent []

Moderate Extent []

Large Extent []

Very Large Extent []

SECTION C: GOVERNMENT POLICY AND THE GROWTH OF MOTORCYCLE MODE OF TRANSPORT

6. Kindly indicate the extent of agreement on government policies and the growth of motorcycle mode of transport in Kajiado Central Sub-County. Use a Likert scale which ranges from 1 -5 where 1= Not at all; 2 = Little Extent; 3= Moderate Extent; 4= Large Extent and 5= Very Large Extent to rate the extent of your agreement with each statement.

Statement	1	2	3	4	5
Government policies to prevent accidents has led to the growth of the sector					
Stringent traffic laws make the sector safer for passengers leading to its growth					
Traffic laws that ensure riders operate in a specific area increases safety of the sector hence its growth					
Transport regulations ensure that riders are in SACCOs which monitors their behaviour has led to the growth of the sector					
The transport sector regulation on compulsory training of riders has made the sector grow					
Government policy on import duty exemption on bikes for youth groups has led to growth of the sector					
All operators must have licensing which is a requirement as it helps regulate the sector thus making it grow					
Insurance policies to all motorcycles operators as a safety measures leads to its growth					
Wearing safety gear while riding the bikes ensures they are safe, making other youths join the sector					
Self regulation for each area and route has made the sector safe hence its growth					

7. To what extent do government policies affect the growth of motorcycle mode of transport in Kajiado Central Sub-County?

Not at all []
 Little Extent []
 Moderate Extent []
 Large Extent []
 Very Large Extent []

SECTION D: INFORMALITY AND THE GROWTH OF MOTORCYCLE MODE OF TRANSPORT

8. Kindly indicate the extent of agreement on statements on informality and its effect on the growth of motorcycle mode of transport in Kajiado Central Sub-County. Use a Likert scale which ranges from 1 -5 where 1= Not at all; 2 = Little Extent; 3= Moderate Extent; 4= Large Extent and 5= Very Large Extent to rate the extent of your agreement with each statement.

Statement	1	2	3	4	5
Poor regulation on entry into the sector has made the sector easy to join leading to its growth					
The lack of formal education as to requirement to join the sector makes it grow					
There are no cartels that bar people from joining the sector, this has led to the growth in this sector					
Youths who are illiterate or semi-literate are able to join the sector making it grow					
Any person can easily operate the motorcycles hence its growth, (i.e. youths or old, male/females)					
Motorcycle sector is easy to register, with few requirements making it attractive to many people					
Training period is short for operators, making this sector attractive for many people					

The sector requires little capital in starting or running it thus making it grow					
Lack of entry behavior has made many Kenyans jump at opportunity to purchase a bodaboda and join in the business					

9. To what extent do informality of the sector affect the growth of motorcycle mode of transport in Kajiado Central Sub-County?

Not at all []

Little Extent []

Moderate Extent []

Large Extent []

Very Large Extent []

SECTION E: GROWTH OF MOTORCYCLE MODE OF TRANSPORT

10. The following are statements on indicators for growth of the motorcycle mode of transport; please rate the extent of your agreement on each of these statements. Use a Likert scale which ranges from 1 -5 where 1= Not at all; 2 = Little Extent; 3= Moderate Extent; 4= Large Extent and 5= Very Large Extent to rate the extent of your agreement with each statement.

Statement	1	2	3	4	5
Increased in access to finances has increased the number of bikes in Kajiado county					
Good government policy has led to increased number of motorcycle operators in the county					
Informality of the sector has led to high income earned by the county from the trade					
The Kajiado county earns high incomes from the sector					

THE END

