

**FACTORS AFFECTING THE PERFORMANCE OF THE PUBLIC
SERVICE VEHICLES (PSV) SECTOR IN THE NAIROBI COUNTY**

BY

ANTHONY OKWAKO

UNITED STATES INTERNATIONAL UNIVERSITY –AFRICA

SPRING 2017

**FACTORS AFFECTING THE PERFORMANCE OF THE PUBLIC
SERVICE VEHICLES (PSV) SECTOR IN THE NAIROBI COUNTY**

BY

ANTHONY OKWAKO

**A Research Project Report Submitted to the Chandaria School of
Business in Partial Fulfilment of the Requirement for the Degree of
Global Executive Masters in Business Administration (GeMBA)**

UNITED STATES INTERNATIONAL UNIVERSITY –AFRICA

SPRING 2017

DECLARATION

I the undersigned do declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University -Africa for academic credit.

Signed: _____

Date: _____

Anthony Okwako

Student ID: 650054

This project has been presented for examination with my approval as the appointed supervisor.

Signed: _____

Date: _____

Supervisor: Dr. Peter Kiriri

Signed: _____

Date: _____

Dean, Chandaria School of Business

COPYRIGHT

© Copyright by **Anthony Okwako**, 2017

All rights reserved. Compliance with copyright restrictions necessitate that no part of this project may be produced or transmitted in any form or by any means, electronic, mechanical, including photocopying, recording or any information storage without prior written permission from the researcher except for brief citations in further researches, critical reviews and articles.

ABSTRACT

The Public Service Vehicles (PSVs), commonly referred to as “matatu” is the commonly used form of public transport in Kenya, estimated to be used by 80% of the daily commuters. It is also estimated to have an annual turnover of over Ksh. 73 billion. The purpose of the study is to determine the factors affecting the performance of the PSVs sector in the Nairobi County. The study aims at answering the following research questions: How does transport infrastructure management affect performance of the PSV sector in the Nairobi County? What are the effects of alternative transport means on the performance of PSVs sector in the Nairobi County? How does professionalism affect the performance of the PSVs sector in the Nairobi County?

The study applied an explanatory research design which aided in the study while collecting qualitative and quantitative data. The study’s target population included drivers and the management teams of PSVs SACCOs whose vehicles ply the Nairobi-Ngong route number 111. The study employed simple random sampling so as to get 5 management staff and 5 drivers from each of the four SACCOs that operated on that route, therefore making a sample size of 40 respondents. Structured questionnaires were used in collecting primary data. The study used the aide of research assistants to administer the questionnaires to the respondents. The filled questionnaires were analyzed qualitatively and quantitatively. Statistical Package for Social Sciences (SPSS) version 21 was used for analysis where means, frequencies and percentages were derived for each variable. Results of the study were then presented in tables and figures.

The study found out that there was better PSVs SACCOs coordination on the Ngong – Nairobi route with a prescribed code of conduct for their staff, engaged qualified members in its management, persons entrusted with managing the SACCOs had wide experience in public transport management, well educated, always informed of key changes affecting the business, motivate staff and always strive to train the crew on customer service, SACCO encourages drivers not to work for more than eight hours, had measures of monitoring the behaviour of its crew on the roads and managers had a wide network with key stakeholders in the industry. The study also found out that the managers of the SACCOs always ensures that all its vehicles have the necessary

licenses before being allowed to join the road, pays for licenses on behalf of its members, had a way of reaching to all its members whenever it has important information, had adequate employees to run its office affairs, had mechanisms of training its crews on basic customer service, had a well stipulated pricing list for their services, had clearly outlines on the condition of vehicles to be registered under it.

The study established that business had been affected by private personal cars on the Ngong – Nairobi route, other SACCOs operating along the Ngong- Nairobi Route, the motor cycles business and innovative online taxi operations. The study revealed that SACCO had a clear outline on the qualifications of drivers to be engaged, clear criterion on qualifications of conductors to be employed in the SACCO, clear stipulation on remuneration of the driver and conductor, had capacity to train matatu crews on basic customer service skills, gave refresher courses to drivers to ensure they remain competent, had well qualified route inspectors to ensure that the crew observe laid down rules, dealt with other stakeholders in the industry in a professional manner, had a professional legal advisors to deal with all legal issues in the SACCO and ensures that only road worthy vehicles are allowed on the road.

From the findings, the study concluded that transport infrastructure management is a crucial field within the environment of the PSV business thus presents numerous potential obstacles. Management competence is often determined by the availability of management and financial information. Managerial skills are important in running any business. Managerial skills assist managers to solve issues that are directly relevant to the current, fast shifting business environment. The study concludes that competition from Taxi cabs was identified as the biggest threat from alternative transport followed by competition posed from motor cycles. Competition from taxi cabs was also cited as a source of consumers bargaining power and private personal cars least seen as a threat. Competition from other alternative non-motorized transport had the lowest threat. The study concludes that there was involvement of management of the SACCOs and crew through their discussions and decisions relating to their industry as well as strengthening their capacity to manage the industry and to self-regulate. Some of the SACCOs were effectively managing their routes and deals with other stakeholders in the industry in a professional manner.

The study recommends that there is need to charge all the staff with the responsibility of ensuring right operations strategies are put in place. Management in PSVs SACCOs need to hire qualified personnel, develop rewarding system for productive operations strategies and give necessary support as the best way of attainment of performance in PSVs Sector. The study recommends that there is need to charge all the staff with the responsibility of ensuring right operations strategies are put in place. Management in PSVs SACCOs need to hire qualified personnel, develop rewarding system for productive operations strategies and give necessary support as the best way of attainment of performance in PSVs Sector. The study recommends the study recommends that policy makers should impose policies to govern the transport sector. The key focus should be on formulating policies that will improve public transport safety for the citizens. The policies formed should also be friendly to ensure that both service provider and passengers appreciate the transport industry. This study concentrated on the factors affecting the performance of PSVs sector in Nairobi County. The study concentrated on PSVs SACCOs and their staff operating PSVs on the Nairobi – Ngong route (Route 111), and thus, the same study can be conducted on other PSVs SACCOs in other routes in Nairobi County for comparison purposes. The study also recommends that transport regulatory body should be included.

ACKNOWLEDGEMENT

I am grateful to the management of USIU and the school of business faculty and staff for their assistance.

My deepest appreciation goes to my supervisor, Dr. Kiriri, for his guidance during the course of my preparation of this proposal.

DEDICATION

I dedicate this research project to my parents.

LIST OF ACRONYMS

AFV:	Alternative Fuel Vehicle
CBD:	Central Business District
GDP:	Gross Domestic Product
NTSA:	National Transport and Safety Authority
PSV:	Public Service Vehicles
SACCO:	Savings and Credit Cooperative Organization
SPSS:	Statistical Package for Social Sciences

LIST OF TABLES

Table 3. 1: Population.....	24
Table 3. 2: Sample Size	25
Table 4. 1: Management Competence	34
Table 4. 2: Strategic Responses.....	36
Table 4. 3: Effect of Transport Infrastructure Management on Performance of PSVs Sector	36
Table 4. 4: Alternative Transport Means.....	37
Table 4. 5: Effects of Alternative Transport Means affect the Performance of the PSVs Sector.....	37
Table 4. 6: Professionalism.....	39
Table 4. 7: Effects of Professionalism on the Performance of the PSVs sector	39

LIST OF FIGURES

Figure 4. 1: Response Rate	29
Figure 4. 2: Age Distributions.....	30
Figure 4.3: PSV Sacco.....	31
Figure 4. 4: Period Operating in PSVs SACCO	32
Figure 4. 5: Period in PSVs Transport Sector.....	32
Figure 4. 6: Highest Level of Education.....	33

TABLE OF CONTENTS

DECLARATION	iii
COPYRIGHT	iv
ABSTRACT	v
DEDICATION	ix
LIST OF ACRONYMS	x
LIST OF TABLES	xi
LIST OF FIGURES	xii
TABLE OF CONTENTS	xiii
CHAPTER ONE	1
1.0 INTRODUCTION	1
1.1 Background of the Study	1
1.2 Statement of the Problem	5
1.3 Purpose of the Study	6
1.4 Research Questions	6
1.5 Significance of the Study.....	6
1.6 Scope of the Study	7
1.7 Definition of Terms.....	8
1.8 Chapter Summary.....	9
CHAPTER TWO	10
2.0 LITERATURE REVIEW	10
2.1. Introduction.....	10
2.2. Transport Infrastructure Management and Performance of PSVs	10
2.3. Alternative Transport Means and Performance of PSVs	14
2.4. Professionalism and Performance of PSVs	18

2.5. Chapter Summary.....	22
CHAPTER THREE	23
3.0 RESEARCH METHODOLOGY	23
3.1. Introduction.....	23
3.2. Research Design.....	23
3.3. Population and Sampling Design.....	24
3.4. Data Collection Methods.....	26
3.5 Research Procedures	26
3.6 Data Analysis Methods	27
3.7 Chapter Summary.....	28
CHAPTER FOUR.....	28
4.0 RESULTS AND FINDINGS	29
4.1 Introduction.....	29
4.2 Demographic Information	30
4.3 Transport Infrastructure Management.....	33
4.4 Alternative Transport Means	37
4.5 Professionalism	38
4.6 Chapter Summary.....	40
CHAPTER FIVE	41
5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS	41
5.1 Introduction.....	41
5.2 Summary.....	41
5.3 Discussion.....	43
5.4 Conclusion	47
5.5 Recommendations	48

REFERENCES.....	50
APPENDICES.....	55
Appendix I: Questionnaire	55

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

The transport industry is one of the industries that has significant effect on the economic growth and development of a nation (Weisbrod & Reno, 2009). The Kenyan transport sector contributes between 5 to 15% of the GDP of the country. However, the impact of the transport sector is not limited to the economic growth of the country but is of great importance that the sector provides the society with adequate, effective and efficient services (Alistreri, Rutherford & Tarr, 2009). Kenya's transport system integrates the various production and population centres and facilitates mobility in both rural and urban areas. The sector facilitates the export of goods, promotes trade with the neighbouring countries and provides these countries with transit facilities. Kenya's transport sector comprises of five major modes, namely railway, marine, air, pipeline and roads (Republic of Kenya, 2002).

The Public Service Vehicles (PSVs) commonly referred to as “matatu” is the commonly used form of public transport in Kenya, estimated to be used by 80% of the commuting public. It is also estimated to have an annual turnover of Ksh 73 billion. The sector has been undergoing re-organization in the past 10 to 15 years which saw among other things: the defacing of the 14-sitter matatus in most routes in the Country’s capital City, Nairobi; the introduction of the Transport Licensing Board (TLB) and the National Transport and Safety Authority which check compliance with regulatory requirements; and more recently the introduction of TV screens and WiFi internet access in some of the matatus.

In addition to the critical role of transporting the public, the sector also plays an important role in creating incomes for the owners and creating employment to many in the informal sector (for example the bus conductors, drivers, bus cleaners) and the formal sector (the employees of the insurance companies that underwrite insurance cover for the PSVs, employees of the fuel stations where these vehicles fuel).In addition, the PSVs businesses as well as the other associated businesses also pay taxes to the government and are an

important source of revenue for the government for purposes of the overall macro-economic development. The sector is organized in Savings and Credit Cooperative Organizations (SACCOs) to facilitate orderly operations and accountability of the PSVs owners.

Globally, several studies have been conducted on the factors affecting performance of PSVs. For instance, Singh (2005) reviewed urban transportation in India by looking at the role played, challenges and ways in which the sector could improve efficiency. The focus of the study included key areas from policy perspective on how efficiency in the sector could be realized. It is recognized that the establishment of State Transport Undertakings in the country in the years 1960s and 1970s helped in linking towns and villages especially in the western and southern parts. This followed the increase in demand for PSVs as the population in India increased with time. Statistics indicate that the total number of vehicles increased from 306 in the year 1951 to 443,266 by the year 2002. The study established that the transport system greatly affected the quality of life and safety in the cities in India.

Friman and Felleson (2009) sought to determine the performance of PSVs, understand the levels of satisfaction among public transport users in respect to interest or societal expectations, establish how level of satisfaction in public transport services affected the performance of PSVs sector. The findings indicated that the performance of PSVs remained low in providing Para-transit (special transportation services for people with disabilities, often provided as a supplement to fixed-route bus and rail systems by public transit agencies) services to the users of public transport. Key factors affecting customer demand and performance of the PSVs included: accessibility, convenience, capacity, smooth and fast integration, safety, timeliness, orderliness, and efficiency.

Jinca (2014) identified quality of service as a key determinant in the performance of PSVs. The PSVs users have expectations about the service they are supposed to get from the operators. During the travel, they compare the service with the expectations which brings about dissonance if the service fails to match the expectations.

Lai and Chen (2011) argue that the ability to understand PSVs users' satisfaction provides optimal results for improved satisfaction with public transport services beyond expectation. Satisfied customers will be loyal and will be willing to pay a premium to travel.

Singh (2012) examined urban transport in India by looking at the issues, challenges, and the way forward. As the country continued urbanizing following witnessed urban population growth rate of 3% per year, the need for PSVs increased. This led to increased demand for PSVs as India recorded 115 million vehicles on the roads. The study identified a number of factors affecting performance of the PSVs industry as including: increase in commercial and industrial activities, increase in household income, constrained public transport system, and availability of motorized transport. There were long waiting periods especially during peak hours as passengers were overcrowded.

Monzon, Alonso and Lopez-Lambas (2013) sought to establish key factors affecting the efficiency of transport interchanges through a meta-analysis of long/short distance passenger interconnectivity within the European context. The study identified a number of barriers to efficiency such as: lack of internal coordination among operators, poor decision making by managers and decision makers and poor signage especially among connecting services.

Rajeshwari and Tamilchelvi (2014) examined factors influencing the passengers to prefer rail transport: a study in Coimbatore region of the state of Tamil Nadu in India. The study identified growth in infrastructure as an important factor in the performance of PSVs. Further, key factors such as demand for PSVs determine the income of the business. The quality of the transport service influences the preferences of customers. In cases where customers have other alternatives, the level of professionalism and acumen among the crew will influence the performance of PSVs. Key factors identified to influence customers' preference for one mode of transport to another included: occupation, age, purpose of travel, security, punctuality and travelling distance among others. The study notes that customers preferred using rail transport because of economy, search for comfort, punctuality, security, reservation facilities, concessions and free pass among

others. The findings indicate that the performance of Indian railways was not up to the desired mark because passengers' preferences and needs were not fully met.

In Africa, a number of studies have examined the factors affecting performance of PSVs, Remi, Adegoke and Olaogun (2009) examined a study of the performance of public transport company in Niger State, Nigeria. The case study was on a government owned Transport Company and the findings identified cost of maintenance, organization structure and high urban population. Aworemi (2009) studied the factors militating against public transport operations in Nigeria and identified a significant relationship inverse between prohibitive prices of petroleum products and spare-parts and PSVs vehicle performance. There needs to be an appropriate policy framework for public transport planning, management and operation to improve the performance of PSVs. Agunloye and Oduwaye (2011) examined factors influencing the quality of rail transport services in metropolitan Lagos. The key factors identified included management, observed arrival time of trains at stations, observed smoothness of ride, observed level of cleanliness in the trains and weekly trip frequency.

Locally, Owino (2015) assessed the effect of management competence, competition and working environment on performance of PSVs SACCOs in Nairobi County. The findings indicated that there existed a positive relationship between management competence and working environment and SACCO performance such that as management competence rises, SACCO performance rises and falls when management competence falls. As a favourable working environment led to better SACCO performance while unfavourable working environment caused poor SACCO performance. Muriungi (2013) identified business management and entrepreneurial skills, policy framework, working conditions and SACCO security issues to affect the performance of SACCOs.

Koimur, Kangogo and Nyaoga (2014) conducted an assessment of commuter preferences of 14-seater public service vehicles versus alternative modes of public service transport in Nairobi City. The 14-seater public service vehicles are commonly referred to as Matatus. The findings indicate that travel time from house to workplace, the existence of alternative routes and the fare charged, influenced choice of 14-seater PSVs over the other alternative PSVs modes. Chumba (2015) assessed factors affecting performance of

family owned matatu businesses in Nairobi, Kenya, and established a significant relationship between management style, entrepreneurship culture, financial access and technology adoption.

1.2 Statement of the Problem

Whereas the public transport sector (specifically the buses and mini-vans [“matatus”]) is critical for the Kenyan economy, the sector does face fundamental challenges that impact on the ability of the operators in the sector to perform optimally with regard to effectiveness, efficiency and profitability. Given its importance to the Kenyan economy, it is imperative that the matatu business be viable from the point of view of performance efficiency, effectiveness and profitability.

A number of studies have been conducted on factors affecting performance of PSVs across the world. Singh (2005) reviewed urban transportation in India by looking at the role played, challenges and ways in which the sector could improve efficiency. Friman and Felleson (2009) determined the performance of PSVs, sought to understand the levels of satisfaction among public transport users in respect to interest or societal expectations, establish how level of satisfaction of public transport services affected the performance of PSVs sector. Singh (2012) examined urban transport in India by looking at the issues, challenges, and the way forward. As the country continued urbanizing following witnessed urban population growth rate of 3% per year, the need for PSVs increased. Rajeshwari and Tamilchelvi (2014) examined factors influencing the passengers to prefer rail transport: a study in Coimbatore region. These studies were conducted in the more developed world which limits their application in the current case study setting.

Remi, Adegoke and Olaogun (2009) examined a study of the performance of public transport company in Niger State, Nigeria. The case study was on a government owned Transport Company. Owino (2015) assessed the effect of management competence, competition and working environment on performance of PSV SACCOs in Nairobi County. Koimur et al. (2014) conducted an assessment of commuter preferences of 14-seater public service vehicles versus alternative modes of public service transport in Nairobi City. The findings indicate that travel time from house to workplace and the

existence of alternative routes, and; fare charged, influenced choice of 14-seater PSV over the other alternative PSVs modes.

All of the above studies concentrated on other variables and contexts which limit their application in the current study settings. The studies also used different methodologies from the current case study.

1.3 Purpose of the Study

The purpose of the study was to determine the factors affecting the performance of the PSVs sector in the Nairobi County.

1.4 Research Questions

- 1.4.1 How does transport infrastructure management affect performance of PSVs sector in Nairobi County?
- 1.4.2 What are the effects of alternative transport means on performance of PSVs sector in Nairobi County?
- 1.4.3 How does professionalism affect the performance of PSVs sector in Nairobi County?

1.5 Significance of the Study

The study is valuable to the following stakeholders:

1.5.1 PSVs Investors

The findings of this study will be of great important to investors in the PSVs industry as it will inform them of the key factors affecting the performance of their businesses. This will inform their future investment decisions in order to ensure they reap optimal returns from their investment.

1.5.2 Government and Policy Makers

The findings of this study would inform government officials at the Ministry of Transport and other relevant policy and compliance organs (such as the Transport Licensing Board [TLB] and the National Transport and Safety Authority [NTSA]) with regard to the

formulation and enforcement of policies to ensure that this important PSV sector is guarded for future economic growth.

1.5.3 Management and employees in the PSVs sector

The findings of this study will create awareness among management (supervisors and managers of PSVs SACCOs) and employees (primarily matatu drivers and conductors) on some of the challenges that they face as a sector and the actions that they can take to over-come those challenges.

1.5.4 Passengers / the commuting public

The findings of this study will inform passengers / the commuting public on the challenges that the PSVs sector faces. And with this knowledge, the commuting public will understand the reasons why the PSVs sector operators make certain decisions such as fare revisions, choice of route etc.

1.5.5 Future Researchers and Academicians

The findings of this study will be important to future scholars and researchers in that it will act as a source to their studies in the area of PSVs performance. In addition, this study will suggest areas of further research on which they can extent knowledge.

1.6 Scope of the Study

The scope of this study was the management teams in PSVs SACCOs and their staff operating PSVs on the Nairobi – Ngong route (Route 111). The study was conducted in the Month of September, 2016. The study was limited to the three research objective variables: transport infrastructure management; alternative transport means; and professionalism.

The study also foresaw a number of limitations that were likely to affect the achievement of the research objectives. First, the target respondents were likely to fear or hold back key information - fearing that the information asked may be used against them. To

overcome this challenge, the researcher explained to them clearly the purpose of the study.

1.7 Definition of Terms

1.7.1 Matatu

This refers to privately owned minibuses and vans that are used to transport members of the public as shared transportation or shared taxis. The term “matatu” is commonly used in East Africa (Koimur, Kangogo & Nyaoga, 2014).

1.7.2 Bodaboda

This refers to motor-cycles and bicycles that are used to transport people and goods in Kenya at a fee (fare) – usually over relatively short distances (Nabende, 2010).

1.7.3 Touts

These are the bus conductors and other employees of the PSV SACCOs whose functions are to call up or attract passengers at bus stops and road sides. They also have the function of collecting fares from the passengers during the course of the trip. The term “tout” is commonly used in Kenya (Koimur, Kangogo & Nyaoga, 2014).

1.7.3 Infrastructure

The basic physical and organizational structures and facilities (e.g., buildings, roads, and power supplies) needed for the operation of a society or enterprise (Lee, Noh & Sung, 2014).

1.7.4 Professionalism

Professionalism is defined as the strict adherence to courtesy, honesty and responsibility when dealing with individuals or other companies in the business environment (Kelly, Mullan & Gruppen, 2016).

1.7.5 Alternative Transport Means

Refers to commuting in any way other than driving alone for examples include biking, walking, carpooling, and taking public transportation (Vasconcellos, 2014).

1.7.6 Performance

Fan, Wong and Zhang (2013) define performance as the outcome or the end results of activities of an entity of a business usually measured at the end of each financial period to determine how successful it has been.

1.8 Chapter Summary

This chapter has introduced the study from global, regional and local perspectives to help come up with the research gaps. It covered the background of the study, statement of the problem, purpose of the study, research questions, the significance and scope of the study. Chapter two covers literature review on the research questions from different sources including articles, books, journals and publications. Chapter three presents the research methodology while chapter four presents the results and findings of the study. Chapter five presents the discussion, conclusion, and recommendations for action and further research.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1. Introduction

This chapter reviews literature of various studies by different scholars. The studies and authors chosen for reviews is as based on the research questions: the effect of transport infrastructure management on the performance of PSVs sector in Nairobi County; the effects of alternative transport means on performance of PSVs sector in Nairobi County and the effect of professionalism and the performance of PSVs sector in Nairobi County. The chapter has sections on summary of literature and shows how this study fills the research gap.

2.2. Transport Infrastructure Management and Performance of PSVs

For the purpose of this research, “Transport Infrastructure Management” refers to the supervision, maintenance and development of the transport infrastructure which includes the PSVs SACCOs, the personnel working for the PSVs SACCOs, the vehicles (buses / matatus), the road network and the route choices.

2.2.1 Management Competence

Owino (2015) did a study on the effect of management competence, competition and working environment on performance of public service vehicle SACCOs in Nairobi County. The study targeted a population of 63 PSVs SACCOs that were registered and operating in Nairobi County plying the many routes within Nairobi County. The study aimed at analyzing data on the performance of PSVs SACCOs for a period of five years from 2010 to 2014. Descriptive research design was used to analyze the data, which was done using SPSS and multiple regression models. The study revealed that there existed a positive relationship between management competence and SACCO performance such that as management competence rises, SACCO performance rises – and falls when management competence falls. The study also showed a positive relationship between SACCO performance and the working environment such that a favourable working

environment commands better SACCO performance while unfavourable working environment caused poor SACCO performance. On competition, the study showed a negative relationship between SACCO performance and level of competition such that as the level of competition went up, SACCO performance was seen to drop and only increase when the level of competition went down. From this study it is clear that the performance of PSVs SACCOs is greatly affected by the cadre of management team the SACCO has.

McKernon (2009) in the study -A literature review on driver fatigue among drivers in the general public -Land Transport New Zealand; this study studies driver fatigue and its impact on traffic accidents. With this understanding, a government is able to formulate policies to facilitate the design, management and evaluation of programmes in an effort to reduce traffic accidents. This study differentiates between fatigue from weariness through driving and fatigue from prior sleep deprivation and how it impacts on traffic accident rates. It also distinguishes between interventions and countermeasures. With this information the management team at the driver group or the taxi group can create a work schedule that ensures that their drivers are not fatigued through lack of sleep or over working where they become weary and as their attention is comprised there are high chances of accidents occurring. A good and competent management team will be able to design measures and programmes to counter driver fatigue within the general public hence reduce rate of traffic accidents (McKernon, 2009).

Implementation of a strategy poses several challenges to an organization that seeks to improve its performance and productivity. Some of these challenges include insufficient leadership attention by the current management team in place. This could be exhibited by managers having a poor understanding of the broader picture of the organizational strategy and what it aims to achieve both in the short and long term. Njoroge (2015) in a study on quality management and safety in public transport SACCO's in Nairobi City County. This study further noted that managers who use brute force, harsh talking tones do not make their subordinates loyal and gain an attitude of working hard towards meeting the organizational goals. The study also mentions that a good management strategy can easily fail to be successful because of one or more of this reasons; an

incompatible management style to the strategy the organization wishes to achieve, poor coordination between one department to another and between the top management, the middle and the low management staff. Whenever an organization has a poor communication system, the strategic plans and goals are deemed to fail. Another issue is whenever the strategy isn't made clear and employees are made aware to the strategy in time. Some employees would perform well if they are both involved in formulating the strategy as well as participating in decision making (Njoroge, 2015).

The public transport business plays a crucial contributory role in the economic growth and also plays a key role in creating jobs for millions of people who earn an income from it. Due to the sectors crucial role to millions of people, there is need for the management of this sector to be competent, efficient and effective in making and implementing strategies that would improve the performance of this sector. According to Thompson, and Schofield (2007), the relationship between public transport performance and destination satisfaction, an organization has weak and inappropriate strategies, its implementation is doomed from the start to fail. And since the transport sector is important and affects many lives, professional care is needed in handling the sector.

And according to Githinji (2012), in the study on an investigation into the constraints affecting the growth and profitability of public transport business in Nairobi- A case of Langata/Rongai route, the study states that road transport is the leading sub-sector in the transport sector and it accounts for 2.9% of the gross domestic product (GDP). The study notes that public and private organizations, firms and companies require efficient and well-coordinated transport systems that are well managed and coordinated so as to enable them operate effectively. This is made possible as they are able to receive goods and services to help them run their operations. Therefore, an efficient and effective transport system not only impacts positively to the transport sector but also many other firms, companies and organizations. The study findings show that the nature of the infrastructure in and around Nairobi and the extent of the transport network. A well developed and managed infrastructure system greatly affects the growth and profitability of the public transport system. This can be done through costs reduction as vehicles do not get spoilt easily since the infrastructure is in good form. The training and ethical

conduct of PSV drivers and conductors would enable them to attract more customers into the business thus making more money and trips. If they also observe the traffic rules, there will be less congestion and traffic jams allowing them the ease of making more trips ferrying passengers and therefore making more money for the owners of the PSV vehicles. And last through a regulatory framework within which the public transport business operates. The regulations aide in ensuring that the public transport sector experiences some level of order and sanity; and helps in reducing the often seen chaos that mar the image of the public transport sector in Nairobi Kenya.

2.2.2 Strategic Responses

Njiru (2012) did a study on the strategies used by matatus in Nairobi to gain competitive advantage. Primary data and secondary data were collected using structured questionnaires and industry analysis reports. The study shows that although the matatu industry looks like a chaotic business in the country, it's a lucrative industry which if attended to and issues raised addressed can generate enormous income and employment for the country. Thus with proper management of the matatus using the individual PSVs SACCOs for each route, the matatus will overcome their competitive challenges that they experience in the environment that they operate in and thus gain competitive advantage and thus sustain its success in the market.

Mugondo (2012) in the study on strategic responses to changes in the external environment by the matatu sub-sector within Nairobi Central Business District (CBD) found out that Matatu SACCOs, just like other players, are affected to a varying degree by both micro and macro turbulent environment. The legal, economic and technological environments in descending order of importance were found rank highest. In determining the extent to which Matatu operators have adopted strategic responses to counter the changes in the external environment the study found out that the operators through the SACCOs have formulated response strategies for the macro turbulent environment and that seeking additional transport routes, unique customer service, carrying out other business related to the transport business, providing services at lowest possible price are the four leading strategies. The other strategic responses adopted

included developing organizational brand, developing services according to the needs of customers and developing different service quality levels that suit customers' pockets.

Traffic policing encompasses the area of enforcement activity aimed at moderating road users' (the public service drivers, personal car owners, pedestrians and passengers) behaviour by ensuring they adhere to the laws and regulations that govern the use of the road network. If all road users would follow traffic rules and regulations, the roads would be safe and with minimal accidents. The primary goal of having traffic policing is creating, maintaining and promoting a safe road environment for all users. According to Chitere, McCormick, Orero, Mitullah and Ommeh (2011) in Paratransit operations in Nairobi: development of their routes and termini, state that this can easily be accomplished by all roads implementing and strictly adhering to the traffic laws. The use of enforcement techniques is a fundamental aspect of traffic policing and this has resulted in numerous studies relating to the development and implementation of strategies designed to improve the effectiveness and efficiency of policing operations.

2.3. Alternative Transport Means and Performance of PSVs

For the purpose of this research, "Alternative Transport Means" refers to the other modes by which the commuting public travels other than the use of the traditional PSVs. Like all other industries, the transport sector has a number of alternative means that individuals can use to move from one point to another. The sector is witnessing transformations which are affecting the way the entire sector operates.

2.3.1 Innovative Transport Modes

Gwaro (2011) did a study on logistics innovations in the road transport sector in Kenya. This study mentions the fact that the growth of Kenya's economy hinges to a large extent on the road transport sector and its ability to operate more efficiently and effectively in moving people, freight and goods. This would enable the transport sector to reap benefits such as operational efficiency, cost reduction, improved customer services, and competitive advantage. The study found that logistics innovations when implemented by the road transport sector firms indeed increased the benefits of operational efficiency,

reduction in costs of operating, customers were satisfied and competitive advantage is gained. The government should encourage the adoption of innovations in the administration of regulatory mechanisms. It can also provide financial incentives, pilot projects, and tax breaks to stimulate logistics innovations for the road transport sector. Transporters too can take advantage of logistics innovations to enhance their service provisions.

Viegas, e Silva and Arriaga (2008) did a study on 'Innovation in transport modes and services in urban areas and their potential to fight congestion'. The study looks at ways to de-congest the urban areas and one of the ways is for personal car drivers to shift to public transport. This appeal has failed to ease on congestion in urban towns and cities. The study focus on two areas: one is new services and two new transport modes where the vehicles with different organization models are merged together through the use of real time information. This is could include collective taxis merged as one, real time dispatch of passengers and regular buses, one-way car rentals, park-and-ride systems with a tutored delivery of children to their schools, variable price to cater for congestion pricing. The study expectations is such that a combination of these new solutions, combined with the right price signals, could attract an interesting proportion of solo drivers into formulas of higher efficiency in the use of road space, so providing good congestion relief. The project is currently in the empirical research phase, with the preparation of stated choice experiments being administered through the Web and through interviewers, by phone and in person.

The entry of Uber-cabs is heralded as a way to innovate the transport system and the taxi sector, as it uses a web application where customers download the app and place the order to be picked and they are billed based on both time spent on the trip and the distance. This would ensure safety of both the taxi-driver as well as the passengers, as their movement can be tracked real-time online. Lewis and Travare (2011) in the study on Alternative Transportation Fuels Update: A Case Study of the Developing E85 Industry observes that as the United States imports more than half of its oil and overall consumption continues to climb, the 1992 Energy Policy Act established the goal of having "alternative fuels" replace at least ten percent of petroleum fuels used in the

transportation sector by 2000, and at least thirty percent by 2010. Currently, alternative fuels consumed in Alternative Fuel Vehicle (AFVs) account for less than one percent of total consumption of gasoline. This paper examines how alternative fuel E85 can be used to reverse that trend. In addition, this research paper took a look at some of the ongoing government decisions concerning the use of the alternative fuel E85, and discussed what policy makers might hold for the future in terms of the supply and demand of alternative fuels in the United States. This case study will be useful to all stakeholders involved in the transportation industry, including, but not limited to the government, policy makers, automakers, motorists and researchers, eager to find a just balance with both a better transportation system and a healthy and clean environment.

2.3.2 Taxi Transport Services

Taxi services have been one way of complementing the public service vehicles (i.e. matatus). The taxi services in Kenya come in so many forms, including: the registered taxi firms; “boda-bodas” (the motorcycle and bicycles); “tuk-tuks” (Tri-cycles powered by a small generator-type engine), freelance private car owners who occasionally use their cars as taxis; and online taxi platforms such as Uber. Several studies have been done in an effort to shed light on the taxi services and how they influence the performance of the transport sector.

Masai (2012) in the study on competitive strategies adopted by registered taxi firms in Mombasa County, Kenya, mentions that the choice of strategy greatly affects the competitive advantage that will be gained. This study attempted to establish the competitive strategies adopted by taxi firms in Mombasa County –which are cost advantage, differentiation and focus. This study finding revealed that cost advantage strategy had the highest impact on gaining competitive advantage and has a factor of increasing the number of passengers using taxis to commute from point A to point B. The second strategy is differentiations where each taxi firm tries to come with a different model of operational so as to attract customers and retain them to be loyal regular customers. And the last strategy which had the least impact and least adopted is focus strategy, this would imply that the taxis focus on a specific niche market and since the

public transport sector is very competitive this would be problematic especially to small taxi firms. One of the key challenges facing the taxi firms in the transport industry is reduced market and high competition. The study findings made the researcher to speculate that there will be an increase in taxi firms joining the transport sector to serve the public.

Another type of taxi common in Kenya are the tricycles and motorbikes which have become more common in urban areas. These are used to transport people and goods – usually over relatively short distances. They have become common due to the traffic snail-up and major traffic jams experienced in urban centres, towns and cities. Their growth has been propelled by several factors as Chepchieng (2011) in the ‘Factors influencing growth of motorcycle-propelled urban public transport: a case of tricycles and motorbikes in Kitui Town, Kenya’. Some of the factors mentioned include high transport costs especially in the case of use of taxis, high unemployment rate among the young people; road infrastructure, urban transport policy and convenient transportation have led to the growth in the numbers of motorcycle in urban public transport. This study concludes that low-income levels among people, high unemployment rate, lack of law enforcement and poor roads were some of the key factors influencing growth of motorcycle transport in Kitui town. The study goes ahead to recommend strong policies to be formulated to cover all sectors of the transport industry ensuring that the sector adheres to high safety measures, reduces chances of accidents and increase performance of players in this industry. With good policies that enhance safety precaution by motorcycle operators, the problematic areas can be addressed. This would provide affordable urban mobility especially to the poor who were the majority in most of the towns in Kenya.

Litman (2009) while studying the transportation cost and benefit analysis mentions that public transportation in general is safe and a secure transport mode for most passengers. The study further revealed that transit travel has 1/10 traffic casualties that may lead to death and again it has minimal crime rate in automobile-oriented communities. But even with this data there is need for improvement which can help reduce overall crime risk for resident communities and passengers. This can be done by improving surveillance so that

one can easily be monitored and those committing crimes can easily be tracked and apprehended. Furthermore, even with transit travel considered as relatively safe and secure, many people consider transit travel dangerous and are reluctant to use it or support service expansions in their communities. Some of the factors mentioned for causing them fear include; heavy media coverage of transit-related crashes, the very nature of transit travel and the many conventional traffic safety messages display to the public that emphasize danger rather than safety of transit travel. In another related study by Shi, Tao, Li, Xiao and Atchley (2014) in the study on transportation, safety and security journal on a survey of taxi drivers' aberrant driving behaviour in Beijing. The study mentioned that many advertisements should be made to encourage and project the safety of transport systems and encourage its usage rather than relay the problems associated with the transport system. In this case the taxi businesses should be projected as mostly safe and secure for passengers rather than expounding on one or two clients who face misfortunes like being attacked, robbed off their valuables, some are murdered, rape or kidnapped for ransom. While these cases may be true, the advertising and media coverage rarely mention the millions of taxi users who reached their destinations safely without any incidences.

2.4. Professionalism and Performance of PSVs

For the purpose of this research, "Professionalism" refers to the demonstration of a high level of competence or skill in executing duties and tasks in the PSV Sector. The level of competence among staff has been found to have a profound effect of the overall performance of a given industry. For instance, Osei and Ackah (2015) established that the performance of pharmaceutical firms in Ghana largely depended on the level of professionalism among its staff. Professionalism ensures that employees are efficient in whatever they engage in hence minimize possibilities of losses and liabilities being brought against an organization. Well qualified and experienced employees have been found to be a great asset in creating customer loyalty and satisfaction. It is argued that management needs to involve employees in the decision making process if they to develop high level of competence among them. The employees will understand from the

onset what they need to do to achieve suggested targets which they participated to develop.

The process of building a competitive workforce that would provide an organization with competitive position in a given industry starts from the recruitment and selection stage. An organization needs to clearly layout the qualification for the applicants and objectively vets the applicants with the aim of getting those that are most suited for the task at hand. It is not always easy to get applicants who may exactly benefit the job applicant but the most important thing is to assess their ability to learn. The employees need to be competent in all tasks they are entrusted with (Boyatzis, 2008).

2.4.1 Training and Educational Level

Nafukho and Hinton (2003) studied the relationship between drivers' level of education, training, working conditions and job performance in Kenya. One of the key issues in the development of human resource is looking at the factors that would predict the performance of employees. This study purpose is determining how level of education, training, and the working conditions of matatu (public service vehicle) drivers determined their job performance in terms of reducing road traffic accidents. The study showed that training levels and experience affected the performance of drivers in reducing the number of accidents. The experience and number of hours worked had a big significance to performance in terms of rate of accidents caused by each driver. But other factors like education level, training, salary earned, and average speed travelled had a small significance to performance in terms of number of accidents.

Nabende (2010) did a study on the factors contributing to Bodaboda taxi-related traffic accidents in Kakamega Municipality, Kenya. The study looked at areas like training and experience of the bodaboda taxi operators; the state of roads environment; the extent of safety awareness among bodaboda taxi operators. The study found out that accidents were majorly caused by the bodaboda operators as they were young and inexperienced, some lacking any formal education and had little training on how to operate the bodaboda. This greatly increased the chances of them causing bodaboda related traffic accident within the bodaboda Kakamega Municipality. Other factors that led to traffic

related accident included, poor roads infrastructure, they the bodaboda tried to rush so as to earn more money and with the poor roads full of potholes increased the chances of an accident occurring. Another cause is a lack of strict regulation of the bodaboda taxi industry – i.e. the failure to make it mandatory to have in place matters like: having headlights; wearing safety gear (i.e. helmets and elbow / knee protection); undergoing proper training and a robust licensing regime. Closely related is the issue that the traffic police officers take bribes for the mistakes and offenses that operators commit- and the results is accidents leading to deaths, disability and incapacitation of passengers and the pedestrians.

2.4.2 Compliance with Traffic rules

Mbugua (2009) did a sociological study on commuters' compliance to the new traffic regulations in matatu public transport: Nairobi province. The study mentions that matatu mode of public transport has experienced dramatic reforms geared towards addressing both the chaotic operations and the frequent involvement of matatu public transport in road traffic accidents. This is an attempt to restore order and safety in the matatu public transport by the national and municipal government. The national government of Kenya went as far as to introduce new traffic regulations in 2003. This is because many studies and scholars had singled out that drivers and conductors as the main perpetrators of traffic rules and they are the main engineers of the chaotic state of the public transport sector. This disregard of traffic rules has led to frequent involvement of matatus in road traffic accidents in Kenya. In the years 2003 and 2004 there was a high decline in the number of traffic accidents with the introduction and implementation of the traffic rules reforms. The study further noted that there was a decline in implementing the 2003 transport reforms since most traffic police officers were no longer keen to watch that traffic rules are adhered to and the high rate of corruption has been a hindrance to the enforcement of the traffic reforms. Another thing the study noted is that rarely are commuters arrested for not complying with the reforms and there is a general lack of collective responsibility in the enforcement of the reforms. The study also mentions a strong correlation between educational level and the use of safety belts in an effort to prevent accidents. This study recommends that all the police, the passengers, commuters,

drivers and touts should implement the traffic reforms as it the reforms have demonstrated results by a reduction in the of rate of traffic accidents.

Kyalo (2011) in the study on an analysis of factors affecting performance of the matatu enterprises' sector: a case study of selected routes in Nairobi noted that the public transport industry in Kenya is used by millions of people on a daily basis. Many people in Nairobi access the Central Business District (CBD) daily to carry out their business either learning, working or running their business activities. The most common means in the public sector is the use of Matatus –either the mini-buses or caravans. The matatus are notorious for their poor safety records, reckless driving, uncouth behavior and lack of professionalism by the matatu drivers and crew members. Some state that the matatu drivers are normally under a lot pressure by the owners of the matatu to make as much money as possible and thus in order to meet the daily target, they have to make as many round trips as possible to maximize profits for their operators and get a cut for themselves. This is because more round trips with more customers effectively translates to more money for the workers and the owners.

Yahia, Ismail, Albrka, Almselati and Ladin (2014) in a journal on the attitudes and awareness of traffic safety among drivers in Tripoli-Libya Road notes that accidents are one of the major challenges faced by most countries worldwide. It has been recognized as one of the major causes for human and economic losses both in developed and developing countries. Road accidents cause social and economic problems. The study findings reveal that age and gender of the drivers has a significant influence on the attitude and knowledge of traffic rules and their ability and willingness to comply by them. The study mentions that female drivers are more cautious in their driver, though many of the women lack enough information on the traffic rules when compared to the males. Implications and explanations for knowledge of traffic laws as well as traffic safety campaigns are recommended for all drivers in a concerted effort to reduce traffic accidents.

Wood, Lacherez, Marszalek and King (2009) in the study “Drivers and cyclists’ experiences of sharing the road: Incidents, attitudes and perceptions of visibility”

mentions that one area of confusion is the ambiguity of responsibilities for causes of traffic accidents and weak management of organizations in the public transport sector. The lack of formulation and authorization of written policy and difficulty in formulating consensus for policy implementation has led to many accidents occurring - and consequently no legal actions are taken against perpetrators in an effort to deter the actions.

Ngui (2014) did a study on the strategies for the implementation of traffic regulations within the public transport sector in Nairobi city county, Kenya. This study focuses on the officers working for National Transport and Safety Authority (NTSA), the Matatu SACCO Officials, PSV drivers and passengers since these are the most appropriate agents that the government uses while implementing the traffic regulations in the transport sector. The study findings reveal National Transport and Safety Authority -NTSA Officers, Matatu Sacco officials, Public service vehicles PSV Drivers and passengers positively influences implementation of road traffic regulations in Nairobi City County. The study further noted that the implementation of the traffic regulations by the relevant government agencies would bring normalcy and regulate the runaway public transport services within Nairobi County. This would help in making the sector more efficient in handling its mandate in a safe way.

2.5. Chapter Summary

This chapter looked at the empirical literature from different scholars. It is guided by the three research questions (Transport Infrastructure Management; Alternative Transport Means and Professionalism) and their impact on performance of public sector vehicles (PSVs) sector in Nairobi County.

Chapter Three looks at the methods that the researcher used in achieving the objectives of the study. The chapter details the research design, population and sampling, data collection, research procedures and data analysis methods.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1. Introduction

This chapter covers the study's research design that the study employed. It has sections on the target population and the sampling technique that were applied to get the sample size for the study. It also looks at sections on data collection methods, the research procedure for collecting data from the field and the data analysis methods that was used.

3.2. Research Design

This study applied the explanatory research design which aided in the study while collecting qualitative and quantitative data. The respondents included the management teams in PSVs SACCOs and their staff plying PSVs on the Nairobi - Ngong transport route. The main aim of explanatory research is to identify any causal links between the factors or variables that pertain to the research problem. This study sought to specifically identify whether there was a causal link between transport infrastructure management, alternative transport means and professionalism on the performance of PSV SACCOs. It was designed in a way to gain information on the current event or situation and be able to draw conclusions from the collected information.

The investigation was done in a systematic manner so as to yield results where conclusions could be drawn from. The explanatory research studies are based on some previous understanding of the nature of the research problem and seek to capture both qualitative and quantitative aspects of the independent variables (transport infrastructure management; alternative transport means and professionalism) and its effects on the dependent variable (Performance of PSV SACCOs).

3.3. Population and Sampling Design

3.3.1 Population

A population refers to the entire collection of elements about which a researcher wishes to generalize study findings (Cooper and Schindler, 2000). They further define a population element as the subject on which the measurement is being taken. The study's target population included employees (drivers, conductors and inspectors) and management (managers and directors) of PSVs vehicles plying the Nairobi-Ngong route number 111. The target population of the study comprised of 198 employees and 35 management staff totalling to 233 persons as shown in Table below.

Table 3.1: Population

Category	Population
No of PSVs employees	198
No of management of PSVs	35
Total Respondents	233

Source: (NTSA, 2016).

3.3.2 Sampling Design

The study sampling design specifies the possibility of a particular sample being drawn from the entire study population elements. Any statements made about the sample should also be true of the population (Yin, 2013).

3.3.2.1 Sampling Frame

Sampling frame refers to a list of elements present in a population from which the sample is to be drawn from. According to Turner (2003), a sampling frame is a set of items where the sample size will be drawn from. The sample frame for this study included all the PSVs matatu SACCOs that ply the Nairobi –Ngong route 111. The specific source of this sampling frame was the NTSA list of PSVs matatu SACCOs that ply the route.

3.3.2.2 Sampling Technique

Jackson (2011) notes that stratified random sampling is a sampling technique designed to ensure that sub-groups or strata are fairly represented. It is obtained by dividing the

population into sub-samples or strata. Stratified random sampling is used for a population that is not homogeneous and whose members can be grouped into sub-groups that have similar characteristics and can provide information necessary to answer the research questions. A stratified random sample allows the researcher to take into account the different sub-groups of people in the population and helps guarantee that the sample accurately represents the population. In the case of this study, the population was stratified into employees of the PSV SACCO and the PSV SACCO management. The nature of the PSV transport industry is such that the background, qualifications, skills, knowledge, experience and day-to-day jobs of employees are very different from those of the management. It is these fundamental distinctions that informed the basis for the stratification.

3.3.2.3 Sample Size

Creswell (2013) defines sample size as an integral part of the total population of persons involved in a study that have been selected to participate in the study using different sampling techniques.

To get a representative sample from the target population of 233 persons, this study applied the stratified sampling method where the population was placed in two groups of strata: employees and management. Simple random sampling was then applied that allowed all respondents an equal chance of being selected to be part of the study. According to Mugenda and Mugenda (2003) a sample of between 10-30% is deemed sufficient enough for homogenous population. Thirty percent (30%) of respondents was selected from each stratum; thus totaling to a sample of 70 respondents out of the population of employees and management teams of PSVs vehicles plying the Nairobi-Ngong route number 111.

Table 3.2: Sample Size

Description	Population	Percent	Sample
Employees	198	30%	59
Management	35	30%	11
Total	233		70

3.4. Data Collection Methods

The study collected primary data using questionnaires. A questionnaire is a document for data collection, where individuals who are respondents answer the same set of question asked in a predetermined order. This study collected primary data by the use of structured questionnaires, which were designed by the researcher to include four sections - the demographic information and the three independent variables (Transport Infrastructure Management, Alternative Transport Means and Professionalism). The questionnaire was structured and closed ended in an effort to collect easily quantifiable information.

A five point Likert scale was used for closed ended questions using a scale which ranged from 1 - 5 where 1 = Not at all; 2 = Little Extent; 3 = Moderate Extent; 4 = Large Extent and 5 = Very Large Extent. The questionnaires contained two sections. The first section sought to establish the respondent demographic data while the second section sought to establish the respondents' opinions on the three research questions of the study.

Creswell (2013) defines data collection as a means by which information is obtained from the selected subjects of an investigation. The choice of a tool and instrument depends mainly on the attributes of the research topic, the research questions, the objectives of the study, design and expected data and results.

3.5 Research Procedures

The study instrument, the questionnaire was pre-tested to check for validity and reliability of it. To pre-test the instrument, 10 respondents drawn from matatu saccos operating on route 111, Nairobi –Ngong, were used to check for reliability using the Cronbach reliability coefficient to determine the extent of reliability. According to Orodho (2008) a Cronbach Alpha reliability coefficient of more than 0.70 shows the instrument is reliable for data collection. Validity is the accuracy and meaningfulness of inferences according to (Mugenda & Mugenda, 2003). The researcher read through the instruments and compared them with the set objectives guided by supervisor from United States International University – Africa.

The primary data was collected using the structured questionnaires. The questionnaires were delivered to the respondents at the Matatu stage in Ngong town. The researcher used the assistance of research assistants who were trained on asking the questions.

The research assistants wrote down the responses as the matatu touts and drivers explained them – as several of the matatu touts and drivers are unlearned and were therefore not be able to comprehensively read and write. Furthermore, this industry is a busy one, so the research assistants go hold of the touts and drivers who were not expected to drive off with passengers at that moment in time – so as to allow them enough time to answer to all the research questions. Upon completion, the research assistants collected the questionnaires and returned them immediately to the researcher – so as to ensure a high completion rate and return. The researcher used this method so as to ensure a high response rate.

3.6 Data Analysis Methods

According to Kothari (2004) data analysis and interpretation involves cleaning up the collected field research data before undertaking to deduce it so as to give meaningful interpretation, explanation and draw conclusions from it.

The filled questionnaires were checked for completeness and consistency then coded and analyzed qualitatively and quantitatively. The qualitative data was grouped into patterns, themes, and categories that would enable the researcher to make general statements from the observable attributes. Data from questionnaires was summarized, coded, tabulated and analyzed. Editing was done to improve the data quality for coding.

The coded data was then fed into the Statistical Package for Social Sciences (SPSS) Version 21 for analysis. This version of SPSS is more users friendly and can easily be linked with Microsoft office utility programs. The study derived the means, frequencies and percentages from the data analysis for each variable. Results of the study were then presented in bar graphs, tables and pie charts.

3.7 Chapter Summary

The chapter looked at the research design that was used for the study. The chapter also has explanations on the target population for the study, the sampling design that was applied which included the sampling technique to be used to get the sample size for the study. The chapter also looked at the data collection methods, its research procedures to be used, the method on how the research data was analysed and finally the interpretations of the data.

Chapter Four presents the results of the data analysis coming from the data that was collected in the field. The analysis of data was done using SPSS software and the findings are presented using Tables and Figures.

CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

The purpose of this study was to determine the factors affecting the performance of the PSV sector in the Nairobi County. The data was gathered using a questionnaire designed in line with the research questions and summarized by use of descriptive statistics which involves the use of frequency tables, graphs, charts, percentages, mean and standard deviation.

4.1.1 Response Rate

A total of 70 questionnaires were distributed out of which 51 questionnaires were returned 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. The finding is presented in Figure 4.1.

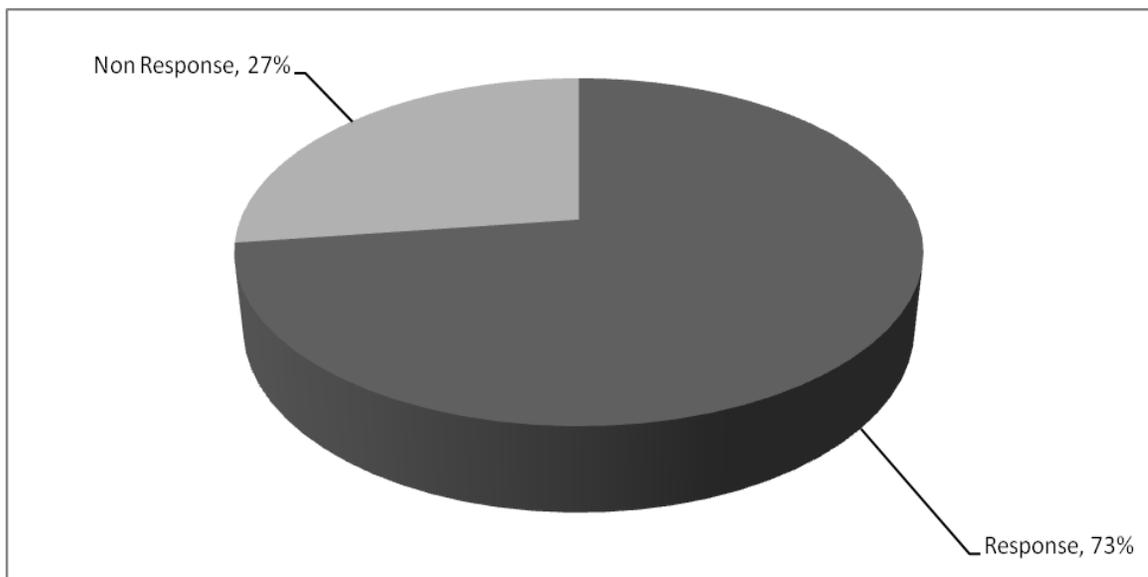


Figure 4. 1: Response Rate

4.2 Demographic Information

The study sought to determine the general 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 Age Distributions

The respondents were required to indicate their age group. From the responses in Figure 4.2, 35% of the respondents were between 18-28 years, 27% were between 28-38 years, 24% were between 39-48 years and 14% were above 48 years. This shows that all age brackets were covered thus relevant and reliable information for the study was obtained.

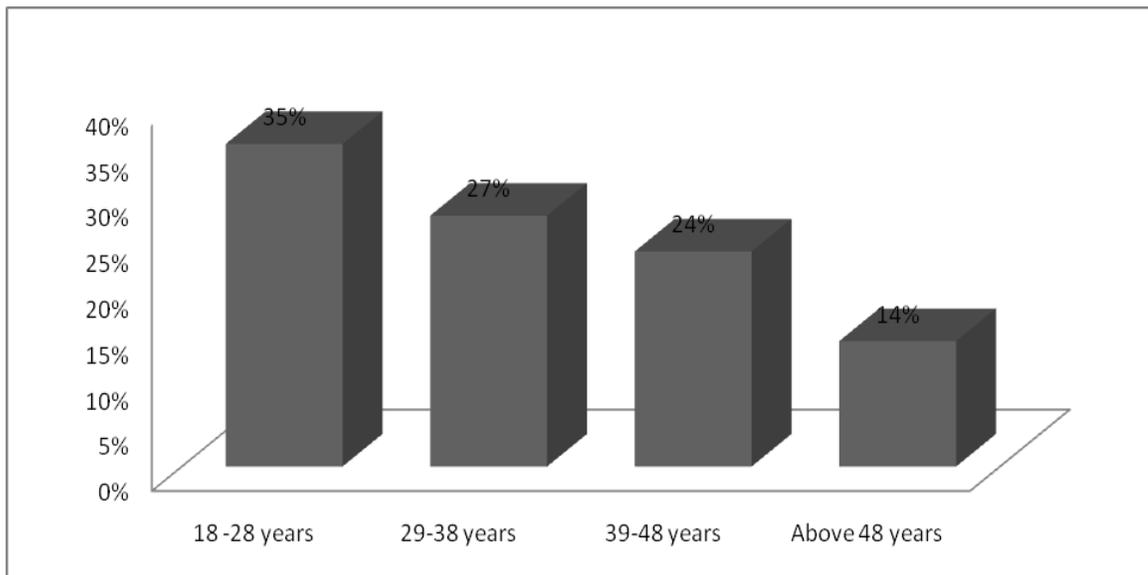


Figure 4. 2: Age Distributions

4.2.2 PSV Sacco

The respondents were asked to indicate the Sacco they work for. From the finding, 20% of the respondents indicated Compliant Management Company, 22% indicated Ngong Travelers Sacco, 25% indicated NMOA Sacco, 16% indicated Nangiks, 8% indicated NGOKANA and 10% indicated Shilishili SACCO. This shows that all the SACCOs operating Ngong were covered thus provided relevant and reliable information for the study.

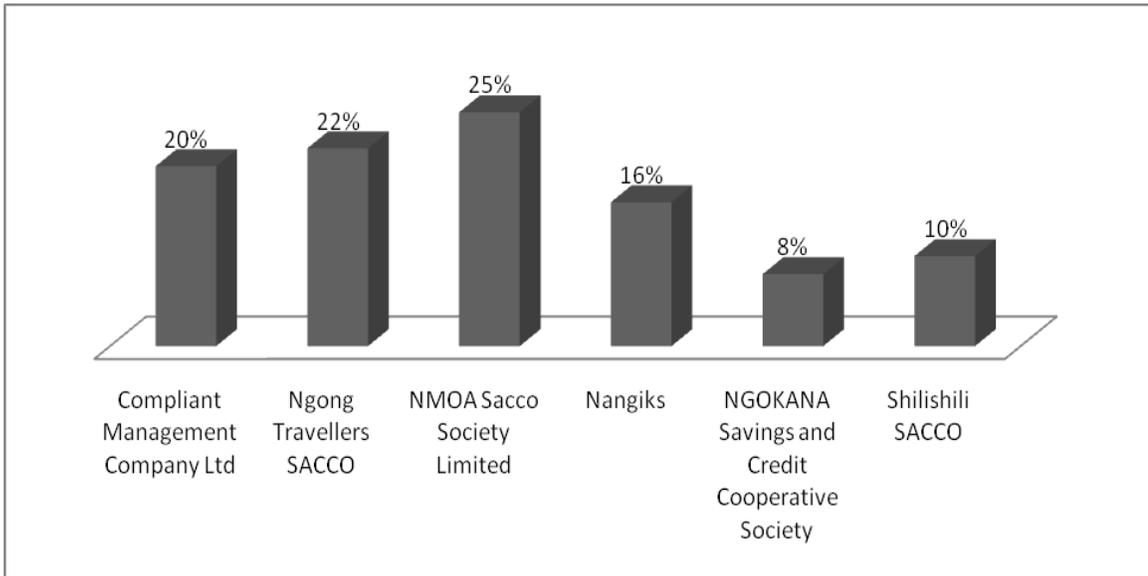


Figure 4.3: PSV Sacco

4.2.3 Period Operating in PSV SACCO

The respondents were asked to indicate the period of time they have been operating with their respective PSV SACCO. From the responses, 31% of the respondents indicated a period of between 1-3 years, 27% indicated between 4-6 years, 20% indicated between 7-9 years and 22% indicated more than 9 years. This shows that the respondents had been at their respective SACCOs long enough to understand the factors affecting the performance hence provided reliable information for the study.

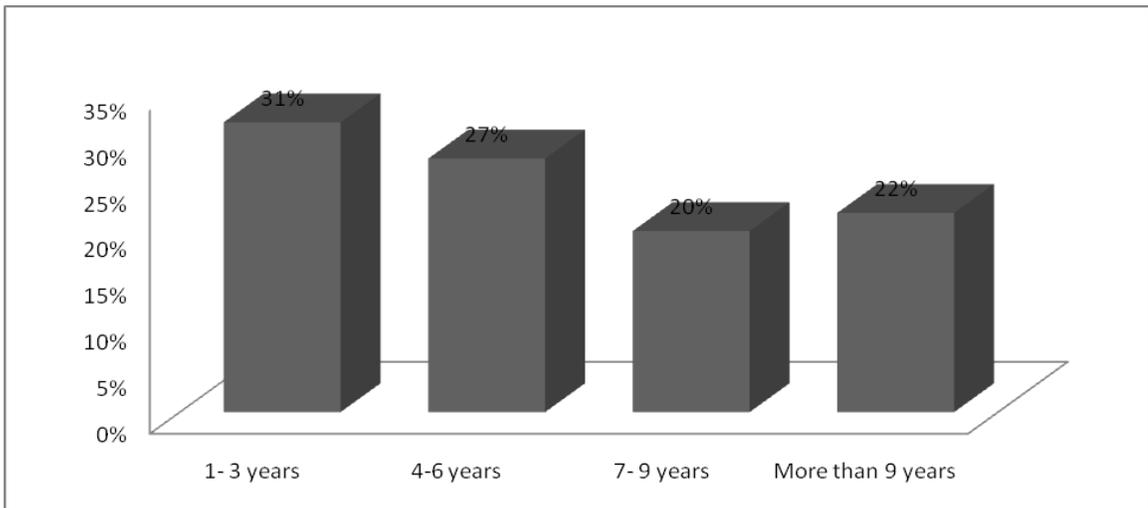


Figure 4. 4: Period Operating in PSVs SACCO

4.2.4 Period in PSVs Transport Sector

The respondents were asked to indicate the period they have been in the PSV transport sector. From the finding, 33% indicated a period between 1-4 years, 31% indicated 5-8 years, and 12% indicated 9-12 years and 24% indicated above 12 years. This shows that the respondents had been in the PSV transport sector long enough to understand the factors affecting the performance of the industry hence provided reliable information for the study.

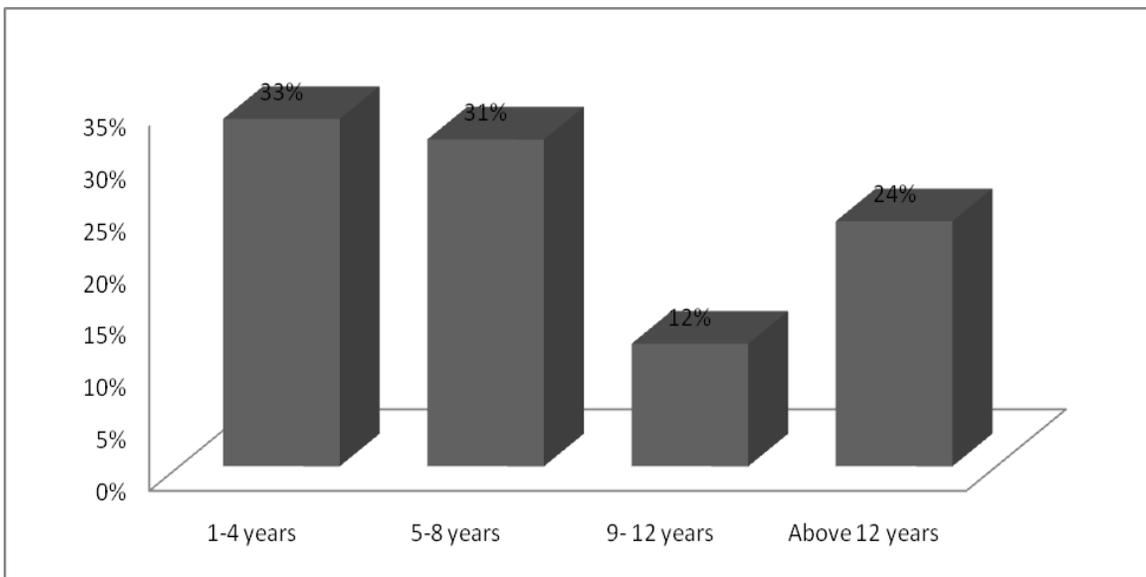


Figure 4. 5: Period in PSVs Transport Sector

4.2.5 Highest Level of Education

The respondents were required to indicate their highest level of education. As shown in Figure 4.6, 10% of the respondents had primary school level of education, 45% had secondary school level, 35% had certificates/diploma level and 10% had degree level. This shows that the respondents had relevant knowledge thus they had ease in addressing the question and provided the reliable responses.

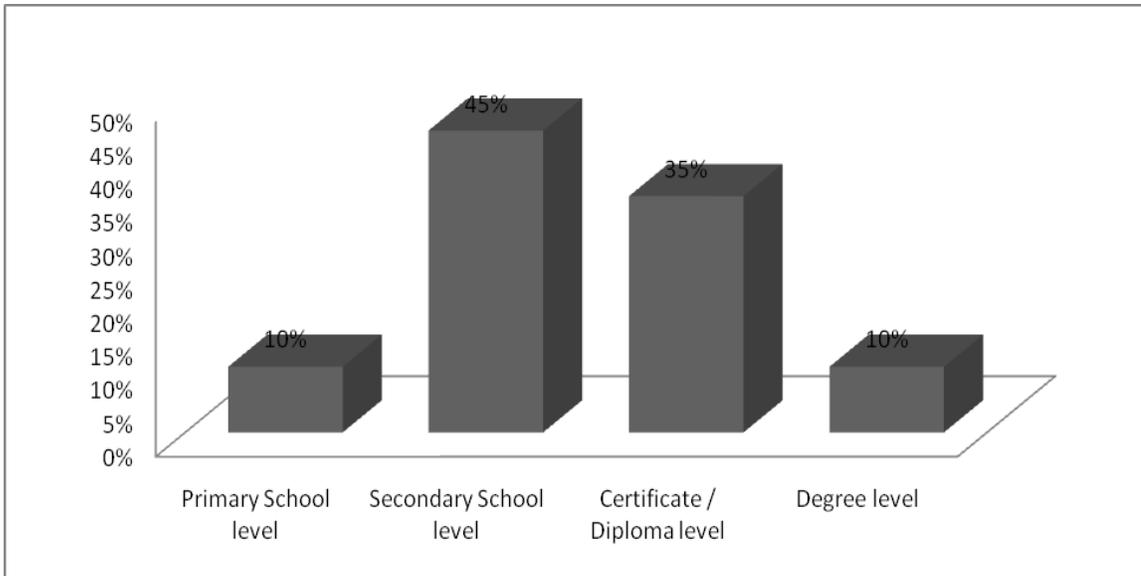


Figure 4. 6: Highest Level of Education

4.3 Transport Infrastructure Management

Several statements on transport infrastructure management as a factor affecting performance of the PSVs sector in Nairobi County were identified and the respondents were required to indicate the extent of agreement with each as it applies to their PSV. 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 was used. From the responses, mean and standard deviation were calculated for ease of interpretation and generalization of finding. The finding is shown on the subsequent sections.

4.3.1 Management Competence

From the responses in Table 4.1, there is better PSV SACCOs coordination on the Ngong – Nairobi route had a mean of 3.52 with a standard deviation of 1.238, the PSV SACCOs have a prescribed code of conduct for their staff had a mean of 3.70 with a standard deviation of 1.253, PSV SACCO has engaged qualified members in its management had a mean of 3.92 with a standard deviation of 1.092, the persons entrusted with managing the SACCOs have wide experience in public transport management had a mean of 3.66 with a standard deviation of 1.227, persons entrusted with management of SACCO affairs are well educated had a mean of 4.15 with a standard deviation of 1.155, the persons entrusted with management of our PSV SACCOs are always informed of key changes

affecting the business had a mean of 3.64 with a standard deviation of 1.213, the persons entrusted with management of our PSV SACCOs understand how to motivate staff had a mean of 3.74 with a standard deviation of 1.210, the persons entrusted with management of our PSV SACCOs always strive to train the crew on customer service had a mean of 3.96 with a standard deviation of 1.094, SACCO encourages drivers not to work for more than eight hours had a mean of 3.99 with a standard deviation of 1.038, SACCO has measures of monitoring the behaviour of its crew on the roads had a mean of 4.01 with a standard deviation of 1.086 and SACCO managers have a wide network with key stakeholders in the industry had a mean of 3.92 with a standard deviation of 0.996.

Table 4. 1: Management Competence

	Mean	Std. Dev
There is better PSV SACCOs coordination on the Ngong – Nairobi route	3.52	1.238
The PSV SACCOs have a prescribed code of conduct for their staff	3.70	1.253
Our PSV SACCO has engaged qualified members in its management	3.92	1.092
The persons entrusted with managing the SACCOs have wide experience in public transport management	3.66	1.227
The persons entrusted with management of SACCO affairs are well educated	4.15	1.155
The persons entrusted with management of our PSV SACCOs are always informed of key changes affecting the business	3.64	1.213
The persons entrusted with management of our PSV SACCOs understand how to motivate staff	3.74	1.210
The persons entrusted with management of our PSV SACCOs always strive to train the crew on customer service	3.96	1.094
Our SACCO encourages drivers not to work for more than eight hours	3.99	1.038
Our SACCO has measures of monitoring the behaviour of its crew on the roads	4.01	1.086
Our SACCO managers have a wide network with key stakeholders in the industry	3.92	.996

4.3.2 Strategic Responses

From the finding in Table 4.2, the managers of our SACCO always ensures that all its vehicles have the necessary licenses before being allowed to join the road had a mean of 3.66 with a standard deviation of 1.160, SACCO pays for licenses on behalf of its members had a mean of 4.09 with a standard deviation of 1.005, SACCO has a way of reaching to all its members whenever it has important information for us had a mean of 3.70 with a standard deviation of 1.188, SACCO has adequate employees to run its office affairs had a mean of 3.82 with a standard deviation of 1.108, SACCO has mechanisms of training its crews on basic customer service had a mean of 3.84 with a standard deviation of 1.137, SACCO has a well stipulated pricing list for our services had a mean of 3.74 with a standard deviation of 1.213, SACCO has clearly outlines on the condition of vehicles to be registered under it had a mean of 3.94 with a standard deviation of 0.925, the state of our road network has influenced our businesses had a mean of 3.69 with a standard deviation of 1.032, the level of security for our crews in the course of their business has influenced their work had a mean of 3.70 with a standard deviation of 1.136, SACCO management team are always on the alert on how we can improve our businesses had a mean of 3.76 with a standard deviation of 1.069 and SACCO management have developed a number of strategies to ensure that our SACCO is competitive had a mean of 4.01 with a standard deviation of 0.969

Table 4. 2: Strategic Responses

	Mean	Std. Dev
The managers of our SACCO always ensures that all its vehicles have the necessary licenses before being allowed to join the road	3.66	1.160
Our SACCO pays for licenses on behalf of its members	4.09	1.005
Our SACCO has a way of reaching to all its members whenever it has important information for us	3.70	1.188
Our SACCO has adequate employees to run its office affairs	3.82	1.108
Our SACCO has mechanisms of training its crews on basic customer service	3.84	1.137
Our SACCO has a well stipulated pricing list for our services	3.74	1.213
Our SACCO has clearly outlines on the condition of vehicles to be registered under it	3.94	.925
The state of our road network has influenced our businesses	3.69	1.032
The level of security for our crews in the course of their business has influenced their work	3.70	1.136
Our SACCO management team are always on the alert on how we can improve our businesses	3.76	1.069
Our SACCO management have developed a number of strategies to ensure that our SACCO is competitive	4.01	.969

4.3.3 Effect of Transport Infrastructure Management on Performance of PSVs Sector

The respondents were asked to indicate the extent to which transport infrastructure management affected performance of PSVs sector on the Ngong - Nairobi route in Nairobi County. From the responses, 7.8% indicated not at all, 13.7% indicated moderate extent, 49% indicated large extent and 29.4% indicated very large extent.

Table 4. 3: Effect of Transport Infrastructure Management on Performance of PSVs Sector

	Frequency	Percent
Not at all	4	7.8
Moderate Extent	7	13.7
Large Extent	25	49.0
Very Large Extent	15	29.4
Total	51	100.0

4.4 Alternative Transport Means

Several statements on the impact alternative transport means has on the performance of the PSVs sector in the Nairobi County were identified and the respondents were asked to indicate the extent of agreement. From the responses, business has been affected by private personal cars on the Ngong – Nairobi route had a mean of 3.76 with a standard deviation of 1.011, business has been affected by other SACCOs operating along the Ngong- Nairobi Route had a mean of 4.00 with a standard deviation of 1.077, the motor cycles business has affected the performance of our business had a mean of 4.01 with a standard deviation of 1.067 and innovative Online taxi operations have affected the performance of our business had a mean of 3.78 with a standard deviation of 1.331.

Table 4. 4: Alternative Transport Means

	Mean	Std. Dev
Our business has been affected by private personal cars on the Ngong – Nairobi route	3.76	1.011
Our business has been affected by other SACCOs operating along the Ngong- Nairobi Route	4.00	1.077
The motor cycles business has affected the performance of our business	4.01	1.067
Innovative Online taxi operations have affected the performance of our business	3.78	1.331

4.4.1 Effects of Alternative Transport Means on the Performance of the PSVs Sector

The respondents were asked to indicate the extent to which alternative transport means affect the performance of the PSVs sector in Nairobi County. From the finding, 2% of the respondents indicated not at all, 19.6% indicated moderate extent, 70.6% indicated large extent and 7.8% indicated very large extent.

Table 4. 5: Effects of Alternative Transport Means affect the Performance of the PSVs Sector

	Frequency	Percent
Not at all	1	2.0
Moderate Extent	10	19.6
Large Extent	36	70.6
Very Large Extent	4	7.8
Total	51	100.0

4.5 Professionalism

Various statements on professionalism as a factor affecting the performance of PSVs sector in Nairobi County were identified and the respondents were asked to indicate the extent of agreement with each as applied in their PSV Sacco. From the finding, SACCO has a clear outline on the qualifications of drivers to be engaged had a mean of 3.98 with a standard deviation of 0.989, SACCO has a clear criterion on qualifications of conductors to be employed in the SACCO had a mean of 4.00 with a standard deviation of 0.979, SACCO has a clear stipulation on remuneration of the driver and conductor had a mean of 4.11 with a standard deviation of 0.992, SACCO has capacity to train matatu crews on basic customer service skills had a mean of 3.94 with a standard deviation of 1.027, SACCO gives refresher courses to drivers to ensure they remain competent had a mean of 4.10 with a standard deviation of 0.992, SACCO has well qualified route inspectors to ensure that the crew observe laid down rules had a mean of 4.17 with a standard deviation of 0.865, SACCO always deals with other stakeholders in the industry in a professional manner had a mean of 4.03 with a standard deviation of 0.979, SACCO insists on recruiting drivers with adequate experience had a mean of 4.07 with a standard deviation of 0.996, SACCO has a professional legal advisors to deal with all legal issues in the SACCO had a mean of 4.06 with a standard deviation of 0.893 and SACCO ensures that only road worthy vehicles are allowed on the road had a mean of 4.13 with a standard deviation of 0.825.

Table 4. 6: Professionalism

	Mean	Std. Dev
Our SACCO has a clear outline on the qualifications of drivers to be engaged	3.98	.989
Our SACCO has a clear criterion on qualifications of conductors to be employed in the SACCO	4.00	.979
Our SACCO has a clear stipulation on remuneration of the driver and conductor	4.11	.972
Our SACCO has capacity to train matatu crews on basic customer service skills	3.94	1.027
Our SACCO gives refresher courses to drivers to ensure they remain competent	4.10	.992
Our SACCO has well qualified route inspectors to ensure that the crew observe laid down rules	4.17	.865
Our SACCO always deals with other stakeholders in the industry in a professional manner	4.03	.979
Our SACCO insists on recruiting drivers with adequate experience	4.07	.996
Our SACCO has professional legal advisors to deal with all legal issues in the SACCO	4.06	.893
Our SACCO ensures that only road worthy vehicles are allowed on the road	4.13	.825

4.5.1 Effects of Professionalism on the Performance of the PSVs Sector

The respondents were asked to indicate the extent to which professionalism affect the performance of PSVs sector in Nairobi County. From the responses, 3.9% of the respondents indicated not at all, 3.9% indicated little extent, 11.8% indicated moderate extent, 49% indicated large extent and 31.4% indicated very large extent.

Table 4. 7: Effects of Professionalism on the Performance of the PSVs sector

	Frequency	Percent
Not at all	2	3.9
Little Extent	2	3.9
Moderate Extent	6	11.8
Large Extent	25	49.0
Very Large Extent	16	31.4
Total	51	100.0

4.6 Chapter Summary

This chapter has covered the response rate for the study and the demographic information of the respondents with regard to: their ages; the PSV SACCO they work under; the length of time they have been working in the specified PSV SACCO; the length of time they have worked in the PSV transport section; and their highest education level.

It also has sections covering the study variables of transport infrastructure management, alternative transport means and professionalism and their effect to the performance of the PSVs sector in the Nairobi County.

Chapter Five presents a summary of the research findings. In that chapter, there is also the discussion of the findings by comparing and contrasting with other studies. The chapter also presents the conclusion and the recommendations of the study.

CHAPTER FIVE

5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter highlights a summary of the findings, discussion, conclusions and recommendations of the study based on the research questions of the study. The purpose of this study was to determine the factors affecting the performance of the PSV sector in the Nairobi County.

5.2 Summary

The purpose of the study was to determine the factors affecting the performance of the PSV sector in the Nairobi County. To reach the purpose this study sought to answer the following research questions: How does transport infrastructure management affect performance of PSV sector in Nairobi County? What are the effects of alternative transport means on performance of PSV sector in Nairobi County? How does professionalism affect the performance of PSV sector in Nairobi County?

This study applied the explanatory research design which aided in the study while collecting qualitative and quantitative data. The study target population included a total of 233 employees and management teams of PSV vehicles plying the Nairobi-Ngong route number 111. The study group the population into 2 strati, management and employees. From each stratum, random sampling was used to select individual members to be subjected to the study. The study selected 30% of the population therefore a sample of 70 respondents was selected. The study collected primary data using questionnaires. The filled questionnaires were checked for completeness and consistency then coded and analysed qualitatively and quantitatively. The qualitative data were grouped into patterns, themes, and categories that would enable the researcher to made general statements from the observable attributes. Data from questionnaires were summarized, coded, tabulated and analysed. The study then derived the means, frequencies and percentages from the data analysis for each variable. Results of the study were then presented in tables and figures.

The study found out that there was better PSV SACCOs coordination on the Ngong – Nairobi route with a prescribed code of conduct for their staff, engaged qualified members in its management, persons entrusted with managing the SACCOs had wide experience in public transport management, well educated, always informed of key changes affecting the business, motivate staff and always strive to train the crew on customer service, SACCO encourages drivers not to work for more than eight hours, had measures of monitoring the behaviour of its crew on the roads and managers had a wide network with key stakeholders in the industry.

The study also found out that the managers of the SACCOs always ensures that all its vehicles have the necessary licenses before being allowed to join the road, pays for licenses on behalf of its members, had a way of reaching to all its members whenever it has important information, had adequate employees to run its office affairs, had mechanisms of training its crews on basic customer service, had a well stipulated pricing list for their services, had clearly outlines on the condition of vehicles to be registered under it.

The study established that business had been affected by private personal cars on the Ngong – Nairobi route, other SACCOs operating along the Ngong- Nairobi Route, the motor cycles business and innovative online taxi operations.

The study revealed that SACCO had a clear outline on the qualifications of drivers to be engaged, clear criterion on qualifications of conductors to be employed in the SACCO, clear stipulation on remuneration of the driver and conductor, had capacity to train matatu crews on basic customer service skills, gave refresher courses to drivers to ensure they remain competent, had well qualified route inspectors to ensure that the crew observe laid down rules, dealt with other stakeholders in the industry in a professional manner, had a professional legal advisors to deal with all legal issues in the SACCO and ensures that only road worthy vehicles are allowed on the road.

5.3 Discussion

5.3.1 Transport Infrastructure Management

The respondents indicated that there is better PSV SACCOs coordination on the Ngong – Nairobi route which concurs with the finding of Chitere, McCormick, Orero, Mitullah and Ommeh (2011) on Paratransit operations in Nairobi development of their routes and termini, that this can easily be accomplished by all road users implementing and strictly adhering to the traffic laws.

The respondents also indicated that PSV SACCOs have a prescribed code of conduct for their staff, encourages drivers not to work for more than eight hours and has measures of monitoring the behaviour of its crew on the roads. This finding concurs with that of McKernon (2009) that a good and competent management team will be able to design measures and programmes to counter driver fatigue within the general public hence reduce rate of traffic accidents.

The respondents indicated that the persons entrusted with managing the SACCOs have wide experience in public transport management, are qualified, well educated, always informed of key changes affecting the business, understand how to motivate staff and always strive to train the crew on customer service. This finding is in line with that of Njoroge (2015) that the training and ethical conduct of PSV drivers and conductors would enable them to attract more customers into the business thus making more money and trips.

The respondents indicated that the SACCO managers have a wide network and engagement with key stakeholders in the industry.

The study also found out that managers of the SACCOs always ensures that all its vehicles have the necessary licenses before being allowed to join the road, SACCO has clearly outlines on the condition of vehicles to be registered under it, pays for licenses on behalf of its members, always on the alert on how we can improve our businesses and developed a number of strategies to ensure that the SACCOs are competitive. This is consistent with Njoroge (2015) that regulations aide in ensuring that the public transport

sector experiences some level of order and sanity; and helps in reducing the often seen chaos that mar the image of the public transport sector in Nairobi Kenya.

The respondents further indicated that SACCO has a way of reaching to all its members whenever it has important information, has adequate employees to run its office affairs, has mechanisms of training its crews on basic customer service and has a well stipulated pricing list for our services. This concurs with Njoroge (2015) that a good management strategy can easily fail to be successful because of one or more of this reasons; an incompatible management style to the strategy the organization wishes to achieve, poor coordination between one department to another and between the top management, the middle and the low management staff.

The respondents also indicated that the state of road network has influenced their businesses, management team are always on the alert on how we can improve our businesses and SACCOs management had developed a number of strategies to ensure that the SACCOs are competitive. This finding is consistent with that of Githinji (2012) that a well developed and managed infrastructure system greatly affects the growth and profitability of the public transport system. This can be done through costs reduction as vehicles do not get spoilt easily since the infrastructure is in good form.

The respondents also indicated that the level of security provided to the PSV crews in the course of their business has influenced their work.

5.3.2 Alternative Transport Means

The respondents indicated to a great extent that business had been affected by private personal cars on the Ngong – Nairobi route. This finding is contrary to that of Viegas, Silva and Arriaga (2008) whose study looks at ways to de-congest the urban areas and one of the ways is for personal car drivers to shift to public transport. This appeal has failed to ease on congestion in urban towns and cities.

The respondents also indicated that the business had been affected by other SACCOs operating along the Ngong- Nairobi Route. Gwaro (2011) stated that the growth of Kenya's economy hinges to a large extent on the road transport sector and its ability to

operate more efficiently and effectively in moving people, freight and goods. This would enable the transport sector to reap benefits such as operational efficiency, cost reduction, improved customer services, and competitive advantage.

The respondents also to a great extent indicated that the motor cycle's business had affected the performance of their business which is in agreement with Chepchieng (2011) on the 'Factors influencing growth of motorcycle-propelled urban public transport: a case of tricycles and motorbikes in Kitui Town, Kenya'. Some of the factors mentioned include high transport costs especially in the case of use of taxis, high unemployment rate among the young people; road infrastructure, urban transport policy and convenient transportation have led to the growth in the numbers of motorcycle in urban public transport. The use of Taxi services has been one way of complementing the public service vehicles (i.e. matatus). The taxi services in Kenya come in so many forms, including: the registered taxi firms; "boda-bodas" (the motorcycle and bicycles); "tuk-tuks" (Tri-cycles powered by a small generator-type engine).

The respondents also indicated that innovative online taxi operations have affected the performance of their business and this concurs with Masai (2012) that cost advantage strategy had the highest impact on gaining competitive advantage and has a factor of increasing the number of passengers using taxis to commute from point A to point B and differentiations where each taxi firm tries to come with a different model of operational so as to attract customers and retain them to be loyal regular customers. And at times freelance private car owners who occasionally use their cars as taxis for transportation and online taxi platforms such as Uber which has become a common happenstance.

And again the entry of Uber-cabs is heralded as a way to innovate the transport system and the taxi sector, as it uses a web application where customers download the app and place the order to be picked and they are billed based on both time spent on the trip and the distance.

5.3.3 Professionalism

The respondents agreed to a great extent that their SACCOs had a clear outline on the qualifications of drivers to be engaged and clear criterion on qualifications of conductors

to be employed in the SACCO. This finding concurs with Osei and Ackah (2015) study on performance of pharmaceutical firms in Ghana; stating that professionalism ensures that employees are efficient in whatever they engage in hence minimize possibilities of losses and liabilities being brought against an organization. Well qualified and experienced employees have been found to be a great asset in creating customer loyalty and satisfaction. On the other hand, Boyatzis (2008) concurs that the employees need to be competent in all tasks they are entrusted. At times an organization may not always get applicants who fit the job. Boyatzis (2008) noted that such organizations should look for the applicants who, whereas they lack the experiences, are willing to learn and willing to make an effort to improve their ability and work turn out.

The respondents also indicated that the SACCOs had capacity to train matatu crews on basic customer service skills, gave refresher courses to drivers to ensure they remain competent, had well qualified route inspectors to ensure that the crew observe laid down rules and insists on recruiting drivers with adequate experience. This is in line with Mbugua (2009) that matatu mode of public transport has experienced dramatic reforms geared towards addressing both the chaotic operations and the frequent involvement of matatu public transport in road traffic accidents. This is an attempt to restore order and safety in the matatu public transport by the national and municipal government. And again Nafukho and Hinton (2003) in the relationship between drivers' level of education, training, working conditions and job performance in Kenya; the study noting that, training levels and experience affected the performance of drivers in reducing the number of accidents. The experience and number of hours worked had a big significance to performance in terms of rate of accidents caused by each driver. Although the study was on bodaboda operators, it still makes emphasis on training and education. Nabende (2010) on the factors contributing to Bodaboda taxi-related traffic accidents in Kakamega Municipality, Kenya; the study found out that accidents were majorly caused by the bodaboda operators as they were young and inexperienced, some lacking any formal education and had little training on how to operate the bodaboda.

The respondents agreed that their SACCOs had a clear stipulation on remuneration of the driver and conductor and that this affected the performance of PSV SACCOs. Just like

Nafukho and Hinton (2003) in the relationship between drivers' level of education, training, working conditions and job performance in Kenya; noted that other factors like education level, training, salary earned, and average speed travelled had a small significance to performance in terms of number of accidents.

The respondents on the statement of 'our SACCO has well qualified route inspectors to ensure that the crew observe laid down rules' was agreed to a great extent. This concurs to the study by Kyalo (2011) in the study on an analysis of factors affecting performance of the matatu enterprises' sector: a case study of selected routes in Nairobi noted that the public transport industry in Kenya is used by millions of people on a daily basis. The most common means in the public sector is the use of Matatus –either the mini-buses or caravans. The matatus are notorious for their poor safety records, reckless driving, uncouth behavior and lack of professionalism by the matatu drivers and crew members. While Yahia, Ismail, Albrka, Almselati and Ladin (2014) in a journal on the attitudes and awareness of traffic safety among drivers in Tripoli-Libya Road notes that accidents are one of the major challenges faced by most countries worldwide.

The respondents further indicated that SACCO always deals with other stakeholders in the industry in a professional manner, had professional legal advisors to deal with all legal issues in the SACCO and ensures that only road worthy vehicles are allowed on the road. This is contrary to Ngui (2014) that the implementation of the traffic regulations by the relevant government agencies would bring normalcy and regulate the runaway public transport services within Nairobi County. This would help in making the sector more efficient in handling its mandate in a safe way.

5.4 Conclusion

5.4.1 Transport Infrastructure Management

From the findings, the study concluded that transport infrastructure management is a crucial field within the environment of the PSV business thus presents numerous potential obstacles. Management competence is often determined by the availability of management and financial information. Managerial skills are important in running any

business. Managerial skills assist managers to solve issues that are directly relevant to the current, fast shifting business environment.

5.4.2 Alternative Transport Means

The study concludes that competition from Taxi cabs was identified as the biggest threat from alternative transport followed by competition posed from motor cycles. Competition from taxi cabs was also cited as a source of consumers bargaining power and private personal cars least seen as a threat. Competition from other alternative non-motorized transport had the lowest threat.

5.4.3 Professionalism

The study concludes that there was involvement of management of the SACCOs and crew through their discussions and decisions relating to their industry as well as strengthening their capacity to manage the industry and to self-regulate. Some of the SACCOs were effectively managing their routes and dealing with other stakeholders in the industry in a professional manner.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Transport Infrastructure Management

The study recommends that there is need to charge all the staff with the responsibility of ensuring right operations strategies are put in place. Management in PSVs SACCOs need to hire qualified personnel, develop rewarding system for productive operations strategies and give necessary support as the best way of attainment of performance in PSVs Sector.

5.5.1.2 Alternative Transport Means

This study recommends that the passenger transport sector increase innovative use of alternative means of transportation. This will help improve competitiveness in the sector and reduce dependencies created by reliance on only a few providers who are able to integrate and form cartels. This implies lowering entry barriers to facilitate new entrants, thus increasing the bargaining power of commuters, lowering the bargaining power of

suppliers, increasing industry rivalries and also the formulation of Government policies that facilitate the entire process from end-to-end.

5.5.1.3 Professionalism

The study recommends the study recommends that policy makers should impose policies to govern the transport sector. The key focus should be on formulating policies that will improve public transport safety for the citizens. The policies formed should also be friendly to ensure that both service provider and passengers appreciate the transport industry.

5.5.2 Recommendations for Further Studies

This study concentrated on the factors affecting the performance of PSVs sector in Nairobi County. The study concentrated on PSVs SACCOs and their staff operating PSVs on the Nairobi – Ngong route (Route 111), and thus, the same study can be conducted on other PSVs SACCOs in other routes in Nairobi County for comparison purposes. The study also recommends that transport regulatory body should be included.

REFERENCES

- Agunloye, O. O., & Oduwaye, L. (2011). Factors influencing the quality of rail transport services in metropolitan Lagos. *Journal of Geography and Regional Planning*, 4(2), 98.
- Alistreri, E. J., Rutherford, T. F., & Tarr, D. G. (2009). Modeling services liberalization: The case of Kenya. *Economic Modelling*, 26(3), 668-679.
- Aworemi, J. R. (2009). A Study Of The Factors Militating Against Public Transport Operations In Nigeria. *Journal of Research in National Development*, 6(1).
- Chepcheng, J. K. (2011). *Factors influencing growth of motorcycle-propelled urban public transport: a case of tricycles and motorbikes in Kitui Town, Kenya* (Doctoral dissertation, University of Nairobi, Kenya).
- Chitere, P., McCormick, D., Orero, R., Mitullah, W. V., & Ommeh, M. S. (2011). Paratransit operations in Nairobi: development of their routes and termini. *SATC 2011*.
- Chumba, J. (2015). *Factors Affecting Performance Of Family Owned Matatu Businesses In Nairobi; Kenya* (Doctoral dissertation, The Management University of Africa).
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Fan, J. P., Wong, T. J., & Zhang, T. (2013). Institutions and organizational structure: The case of state-owned corporate pyramids. *Journal of Law, Economics, and Organization*, 29(6), 1217-1252.
- Friman, M., & Fellesson, M. (2009). Service supply and customer satisfaction in public transportation: The quality paradox. *Journal of Public transportation*, 12(4), 4.
- Githinji, R. N. (2012). *An investigation into the constraints affecting the growth and profitability of public transport business in Nairobi. A case of Langata / Rongai route* (Doctoral dissertation).

- Gwaro, T. M. (2011). *Logistics innovations in the road transport sector in Kenya*(Doctoral dissertation).
- Jinca, M. Y. (2014). The Satisfaction Analysis for the Performance of Public Transport Urban Areas.
- Kelly, A. M., Mullan, P. B., & Gruppen, L. D. (2016). The evolution of professionalism in medicine and radiology. *Academic radiology*, 23(5), 531-536.
- Koimur, I., Kangogo, L. K., & Nyaoga, R. (2014). Assessment of Commuter Preferences of 14-Seater Public Service Vehicles versus Alternative Modes of Public Service Transport in Nairobi City. *Journal of Business Economics and Finance*, 3(1), 115-132.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.
- Kyalo, P. M. (2011). *An analysis of factors affecting performance of matatu enterprises' sector: a case study of selected routes in Nairobi* (Doctoral dissertation).
- Lai, W. T., & Chen, C. F. (2011). Behavioral intentions of public transit passengers. The roles of service quality, perceived value, satisfaction and involvement. *Transport Policy*, 18(2), 318-325.
- Lee, E. S., Noh, C. W., & Sung, J. S. (2014). Meaning Structure of Green Infrastructure- A Literature Review about Definitions. *Journal of the Korean Institute of Landscape Architecture*, 42(2), 65-76.
- Lewis, S., & Travare, P. S. (2011). *An Alternative Transportation Fuels Update: A Case Study of the Developing E85 Industry* (No. SWUTC/11/167360-1). Texas Southern University.
- Litman, T. (2009). Transportation cost and benefit analysis. *Victoria Transport Policy Institute*, 31.

- Masai, A. M. (2012). *Competitive Strategies Adopted By Registered Taxi Firms In Mombasa County, Kenya* (Doctoral dissertation, University of Nairobi).
- Mbugua, C. W. (2009). *A sociological study on commuters' compliance to the new traffic regulations in matatu public transport: Nairobi province* (Doctoral dissertation, University of Nairobi, Kenya).
- McKernon, S. (2009). *A literature review on driver fatigue among drivers in the general public*. Land Transport New Zealand.
- Monzón, A., Alonso, A., & López-Lambas, M. E. (2013, June). Key factors affecting the efficiency of transport interchanges. In *13th World Conference on Transport Research (WCTR)*.
- Mugenda, O., & Mugenda, A. (2003). *Research Methods: Quantitative and Qualitative methods. Nairobi, Rev editions*.
- Mugondo, A. W. (2012). *Strategic responses to changes in the external environment by the matatu subsector within Nairobi central business district* (Doctoral dissertation).
- Nabende, M. S. (2010). *Factors contributing to Bodaboda taxi related traffic accidents in Kakamega Municipality, Kenya* (Doctoral dissertation, University of Nairobi, Kenya).
- Nafukho, F. M., & Hinton, B. E. (2003). Determining the relationship between drivers' level of education, training, working conditions, and job performance in Kenya. *Human Resource Development Quarterly*, 14(3), 265-283.
- Ngui, S. K. (2014). *Strategies for the implementation of traffic regulations within the public transport sector in Nairobi city county, Kenya* (Doctoral dissertation, University of Nairobi).
- Njiru, R. N. (2012). *Strategies used by matatus in Nairobi to gain competitive advantage* (Doctoral dissertation).

- Njoroge, R. W. (2015). *Quality management and safety in public transport Sacco's in Nairobi City County* (Doctoral dissertation, University of Nairobi).
- Owino, S. A. (2015). *The effect of management competence, competition and working environment on performance of public service vehicle Saccos in Nairobi County* (Doctoral dissertation, University of Nairobi).
- Rajeshwari, G., & Tamilchelvi, N. (2014). Passengers' Attitude towards Retention Strategies Adopted By the Indian Railways: A Study in Salem Division of Southern Railways.
- Remi, A. J., Adegoke, A. A. I., & Olaogun, O. B. (2009). A study of the performance of public transport company in Niger State, Nigeria. *International Journal of Business and Management*, 4(11), 73.
- Shi, J., Tao, L., Li, X., Xiao, Y., & Atchley, P. (2014). A survey of taxi drivers' aberrant driving behavior in Beijing. *Journal of Transportation Safety & Security*, 6(1), 34-43.
- Singh, S. K. (2005). Review of urban transportation in India. *Journal of public transportation*, 8(1), 5.
- Singh, S. K. (2012). Urban transport in India: issues, challenges, and the way forward. *European Transport/Trasporti Europei (2012) Issue*, 52.
- Thompson, K., & Schofield, P. (2007). An investigation of the relationship between public transport performance and destination satisfaction. *Journal of Transport Geography*, 15(2), 136-144.
- Vasconcellos, E. A. (2014). *Urban Transport Environment and Equity: The case for developing countries*. Routledge.
- Viegas, J. M., e Silva, J. D. A., & Arriaga, R. (2008). Innovation in transport modes and services in urban areas and their potential to fight congestion. *CESUR, Lisbon*.

- Wood, J. M., Lacherez, P. F., Marszalek, R. P., & King, M. J. (2009). Drivers' and cyclists' experiences of sharing the road: Incidents, attitudes and perceptions of visibility. *Accident Analysis & Prevention, 41*(4), 772-776.
- Yahia, H. A., Ismail, A., Albrka, S. I., Almselati, A. S., & Ladin, M. A. (2014). Attitudes and awareness of traffic safety among drivers in tripoli-libya. *Research Journal of Applied Sciences, Engineering and Technology, 7*(24), 5297-5303.
- Yin, R. K. (2009). Case study research: Design and methods 4th ed. In *United States Library of Congress Cataloguing-in-Publication Data*.

APPENDICES

Appendix I: Questionnaire

This is a questionnaire on the research topic: TO DETERMINE THE FACTORS AFFECTING THE PERFORMANCE OF THE PSV SECTOR IN THE NAIROBI COUNTY.

Please fill out this questionnaire by marking [X] on the spaces provided the response that best represents your opinion for each of these statements

SECTION A: GENERAL INFORMATION

1. How old are you?

18 -28 years []

29-38 years []

39-48 years []

Above 48 years []

2. Which PSV SACCO do you work for?

Eleventh Hour [] Astrabell []

Nangiks [] Oromat Transporters []

3. How long have you operated with this PSV SACCO?

1- 3 years [] 4-6 years []

7- 9 years [] More than 9 years []

4. How long have you operated in the PSV transport sector?

1-4 years [] 5-8 years []

9- 12 years [] Above 12 years []

5. Please indicate your highest level of Education.

a) Primary School level [] (b) Secondary School level []

c) Certificate / Diploma level [] (d) Degree level []

e) Other professional qualifications (specify if applicable)

SECTION B: TRANSPORT INFRASTRUCTURE MANAGEMENT

6. Kindly indicate the extent of agreement on transport infrastructure management as a factor affecting performance of the PSVs sector in Nairobi County. Use the 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.

Statement	1	2	3	4	5
a) There is better PSV SACCOs coordination on the Ngong – Nairobi route					
b) The PSV SACCOs have a prescribed code of conduct for their staff					
c) Our PSV SACCO has engaged qualified members in its management					
d) The persons entrusted with managing the SACCOs have wide experience in public transport management					
e) The persons entrusted with management of SACCO affairs are well educated					
f) The persons entrusted with management of our PSV SACCOs are always informed of key changes affecting the business					
g) The persons entrusted with management of our PSV SACCOs understand how to motivate staff					
h) The persons entrusted with management of our PSV SACCOs always strive to train the crew on customer service					
i) Our SACCO encourages drivers not to work for more than eight hours					
j) Our SACCO has measures of monitoring the behaviour of its crew on the roads					
k) Our SACCO managers have a wide network with key stakeholders in the industry					
l) The managers of our SACCO always ensures that all its vehicles have the necessary licenses before being allowed to join the road					
m) Our SACCO pays for licences on behalf of its members					
n) Our SACCO has a way of reaching to all its members whenever its has important information for us					
o) Our SACCO has adequate employees to run its office affairs					
p) Our SACCO has mechanisms of training its crews on basic customer service					
q) Our SACCO has a well stipulated pricing list for our services					
r) Our SACCO has clearly outlines on the condition of vehicles to be registered under it					

Statement	1	2	3	4	5
s) The state of our road network has influenced our businesses					
t) The level of security for our crews in the course of their business has influenced their work					
u) Our SACCO management team are always on the alert on how we can improve our businesses					
v) Our SACCO management have developed a number of strategies to ensure that our SACCO is competitive					

7. In your opinion, in what other ways has transport infrastructure management affected the performance of the PSV sector on the Ngong- Nairobi route?

8. To what extent has transport infrastructure management affected performance of PSVs sector on the Ngong- Nairobi route in Nairobi County?

Not at all []

Little Extent []

Moderate Extent[]

Large Extent []

Very Large Extent []

SECTION C: ALTERNATIVE TRANSPORT MEANS

9. Kindly indicate the extent of agreement on the impact alternative transport means has on the performance of the PSVs sector in the Nairobi County. Use the 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

Statement	1	2	3	4	5
a) Our business has been affected by private personal cars on the Ngong – Nairobi route					
b) Our business has been affected by other SACCOs operating along the Ngong- Nairobi Route					
c) The motor cycles business has affected the performance of our business					

Statement	1	2	3	4	5
d) Innovative Online taxi operations have affected the [performance of our business					

10. In your opinion, in what other ways has alternative transport means affected the performance of the PSV sector on the Ngong- Nairobi route?

11. To what extent do alternative transport means affect the performance of the PSVs sector in Nairobi County?

Not at all []

Little Extent []

Moderate Extent[]

Large Extent []

Very Large Extent []

SECTION D: PROFESSIONALISM

1. Kindly indicate the extent of agreement on professionalism as a factor affecting the performance of PSVs sector in Nairobi County. Use the 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

Statement	1	2	3	4	5
a) Our SACCO has a clear outline on the qualifications of drivers to be engaged					
b) Our SACCO has a clear criterion on qualifications of conductors to be employed in the SACCO					
c) Our SACCO has a clear stipulation on remuneration of the driver and conductor					
d) Our SACCO has capacity to train matatu crews on basic customer					

Statement	1	2	3	4	5
service skills					
e) Our SACCO gives refresher courses to drivers to ensure they remain competent					
f) Our SACCO has well qualified route inspectors to ensure that the crew observe laid down rules					
g) Our SACCO always deals with other stakeholders in the industry in a professional manner					
h) Our SACCO insists on recruiting drivers with adequate experience					
i) Our SACCO has professional legal advisors to deal with all legal issues in the SACCO					
j) Our SACCO ensures that only road worthy vehicles are allowed on the road					

2. To what extent does professionalism affect the performance of PSVs sector in Nairobi County?

Not at all []

Little Extent []

Moderate Extent[]

Large Extent []

Very Large Extent []

THE END