

**FACTORS INFLUENCING CUSTOMER SATISFACTION
IN PUBLIC TRANSPORT SECTOR: A CASE OF
MATATUS IN CENTRAL BUSINESS DISTRICT
NAIROBI-KENYA**

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**A Research Project Report Submitted In Partial Fulfilment Of The
Requirements Of The Award Of The Degree Of Master Of Arts In
Project Planning And Management Of The University Of Nairobi**

2017

DECLARATION

This research project report is my own original work and has not been presented for the award of a degree in any university or any other institution of higher learning.

.....

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This research project report has been submitted with my approval as the university supervisor.

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DEDICATION

This work is dedicated to my dear husband, Mr Justus Ondigi, our lovely son Josiah Karani and my dear mother Mrs Jane Aoko Okoth.

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ABBREVIATIONS AND ACRONYMS USED IN THE STUDY

PSV	Public Service Vehicle
NTSA	National Transport Safety Authority
MOA	Matatu Owners Association
TLB	Transport Licencing Board
CBD	Central Business District
KBS	Kenya Bus Service
SACCO	Savings and Credit Cooperative Society
BRT	Bus Rapid Transport
SPSS	Statistical Package for Social Sciences
NACOSTI	National Council for Science Technology and Innovation

ABSTRACT

Matatus are the main form of public transport that provides service to millions of Kenyans per day. The purpose of this study was to investigate the public transport service attributes that influence overall commuters' satisfaction with a focus on the matatu as means of public transport in Nairobi Central Business District. This study was guided by the following specific objectives: To determine how matatu reliability influence customer satisfaction; to assess how the matatu service frequency influence customer satisfaction; to evaluate how matatu affordability influence customer satisfaction; to examine how matatu safety influences customer satisfaction and to determine how the condition of the matatus influence customer satisfaction. Government policies were used as moderating variable and the attitude and culture of the matatu crew, passengers and stakeholders were used as the intervening variable to help look at the relationship between the independent and dependent variable. The study adopted a descriptive survey research design. The choice of this design was informed by the fact that the researcher intended to get detailed information about the target respondents' views and opinions concerning the topic under study. The target population were all commuters and service crew of 88 matatus plying from Gill House terminus with the sample size of 72. Random sampling was used to identify 2 respondents from each of the 72 vehicles sampled. A total of 144 respondents were approached and 133 of them gave valid data for analysis. Data was collected using structured questionnaires and interview guides. The data collected was analysed using the SPSS tool and presented using the frequency distribution tables in APA format. Based on the findings, this study established that a unit increase in reliability of the matatus transport would lead to 0.811 increase in the customer satisfaction in, Kenya. A unit increase in frequency of the matatus transport services would lead to 0.784 increase in the customer satisfaction in, Kenya. A unit increase in affordability of the matatus as a means of transport would lead to 0.642 increase in customer satisfaction in, Kenya. A unit increase in safety of the matatus industry would lead to 0.612 increase in customer satisfaction in, Kenya and a unit increase in condition of the matatu would lead to 0.578 increase in customer satisfaction in Kenya. This study concluded that reliability and frequency of the matatus industry are main factors influencing customer satisfaction in Kenya and should be embraced so as to increase customer satisfaction. The study recommends an increase in number of vehicles in every route especially in areas of high population. Matatu operators should set prices and fixed travelling schedule to enable the commuter properly plan their travel. Establish proper policies to ensure matatu drivers are well trained and properly supervised to ensure commuters' safety. Measures to ensure conditions of the matatu vehicles put the commuter at ease or free from physical pain when boarding or riding the matatu. Further studies is suggested on factors influencing satisfaction in other modes of transport, sectors and labour conditions of the matatu crew in provision of service.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

For many years, public transport has been viewed as an inevitable need in several parts of the world (Cervero&Golub,2007). Illes (2005) stated that immobility leads to poverty. This implies that movement of people and goods affects the daily endeavours of human beings particularly in the economic aspect. A good transport system cannot be attained if there is no effective and efficient services that enhances people's living standards and gives them satisfaction through features such as affordability, efficiency, availability and economically important for development. Not only should it have these features but should be a transport system that gives commuters the satisfaction they want.

The department for Transport, UK (2003) considers adequate public transport service to be financially accessible, available, physically accessible and acceptable. This basically implies that the commuter's needs should take precedence. The provision of sustainable public transport is a challenging task for the Sub-Saharan Africa, where success in transport and traffic planning in the post-independence era has been negligible and urban population is growing at a rapid rate than in any other continent (Kanyama, 2009). Weakened public transportation services are caused by the increased urbanisation, increased operational costs, poor infrastructure and poor institutions (Beirao&Cabral, 2007). Surveys conducted reveal that users are dissatisfied with most of the public transport services offered in many of the African countries. Poor maintenance of both the vehicles and terminals is one of the major distaste expressed as well as concern over the increased emission.

Informal and formal public transport operators referred to as paratransit which facilitate the movement of the majority of the city dwellers are common in developing countries. Their common features include but not limited to irregular fares depending on peak or off peak, irregular operations and different routes by paratransit operators and are characterised by unfixed fares, irregular operations and different routes. Looking at the developing countries in East Africa, we have the paratransit in

Tanzania, also referred to as dala dala in reference to the dollar. In Uganda, there are the minibuses known as taxis and in Kenya we have the minibuses referred to as matatu. In most of these countries, this informal paratransit industry is described as dangerous, money minded and not friendly to the environment but at the same time necessary for mobility of the poor to the cities where there is potential for economic growth.

After the presidential decree in 1973 in Kenya, the use of matatu as a means of public transport grew immensely in most of the urban areas in Kenya and is very popular particularly in Nairobi. The word matatu was coined from a Kikuyu word 'mang'otore' referring to the standard fare of thirty cents for every journey (Aduwo 1990). Although the trend of the use of matatu as a mode of public transport for Nairobi residents is high, the area that the Kenya public transport has to upgrade immensely is customer service. Matatu has completely lost value for customers. An in-depth analysis of the factors influencing customer satisfaction in the public transport sector is worth an assessment. Is it valid to say that the matatu does not value its customers? The industry has been in existence since the year 1950s but given a choice, many people would prefer using private means rather than public transport vehicles.

1.2 Statement of the Problem

Tough new Public Service Vehicle regulations under Legal Notice 161 were adopted by the Government of Kenya on February 1, 2004 to restore sanity on Kenyan roads. These regulations also known as 'The Michuki Rules,' named after the then Minister of Transport, the late Hon. John Michuki, made attempts to regulate public service vehicles by implementing several measures. Passengers were no longer allowed to stand in buses, all PSV vehicles were to be fitted with speed governors and safety belts. The matatu crew were also to be in uniform and have their identification cards displayed. PSVs were also required to have a yellow strip along the side of the vehicle clearly indicating the route the vehicle services.

The late Hon. John Michuki was then transferred to the Ministry of Environment where he equally did a commendable job before his death on 21st February 2012. By 2017, five years down the line, the matatu sector is in chaos again. The careless

driving is rampant in the full glare of the traffic police officers even in broad daylight. These matatus are driven at crazy speeds, while disregarding traffic rules and rights of other road users. Ear splitting horns, loud music, rude and unkempt matatu crews, exaggerated graffiti, loud exhausts, pitch dark interiors that are completely dark at night, crazy videos and overlapping are some of features of the matatu profile in Kenya. It is very chaotic.

The Traffic Police officers on the other hand are expected to have an upper hand in enforcing the laid down traffic rules by evaluating the PSV drivers and issuing them with certificate of good conduct. In spite of this requirement, the same traffic police officers watch as the matatu crew violate the laid down traffic rules. The police have been unable to enforce the law on speed limit as spelt out on the Section 42 of the Traffic Act. Here, the drivers are expected to operate at a speed of 80km/hour as well as not to drive continuously for more than eight hours as laid down in Section 66 of the Traffic Act. Due to high corruption rate and the impossibility to tell how long a driver has driven, the police have failed to enforce some of these traffic laws. Ombati C. (2016), reported on the recent accident on Langata Road in Nairobi on 25th September 2016, where a matatu rolled and killed four people and left many injured, demonstrates that all is not right in the public transport sector. Despite the efforts of the government to regulate the matatu industry, the expectations of the commuters in this case, have not been met.

From the onset when the matatu industry began as an informal public transport service, there has been no formal regulation to control the affairs of the industry, resulting into a chaotic industry difficult to regulate and systemize. Some of the challenges faced include the Mungiki group which was extorting money from the crew in the name of protection fee, the 'Michuki rules have been disregarded, increased corruption and no political will has made the industry a tough one to understand even though 5 percent of Kenya's GDP comes from the commuter service. This study will therefore seek to unveil the factors that influence customer satisfaction in public transport in Nairobi Central Business District with particular focus on matatus plying from Gill house terminus in the Nairobi Central Business District.

1.3 Purpose of the Study

The purpose of this study aims to investigate the factors influencing customer satisfaction in public transport sector: case of matatus in the Central Business District (CBC) of Nairobi, Kenya. The study focused on three matatu Saccos operating within the Nairobi CBD, Kenya.

1.4 Objectives

The purpose of this study was achieved through the following specific objectives:

1. To determine how reliability of the matatu transport influences customer satisfaction in the Central Business District of Nairobi, Kenya;
2. To assess how the frequency of the matatus transport services influence customer satisfaction in the Central Business District of Nairobi, Kenya;
3. To evaluate the affordability of the matatus as a means of transport in influencing customer satisfaction in the Central Business District of Nairobi, Kenya;
4. To examine the safety of the matatus industry in relation to customer satisfaction in the Central Business District of Nairobi, Kenya;
5. To determine how the condition of the vehicle influences customer satisfaction in the Central Business District of Nairobi, Kenya.

1.5 Research Questions

This study was guided by the following research questions:

1. How does reliability of the matatu transport influence customer satisfaction in the Central Business District of Nairobi, Kenya?
2. To what extent does the frequency of the matatus transport services influence customer satisfaction in the Central Business District of Nairobi, Kenya?
3. What is the relationship between the affordability of matatus and customer satisfaction in the Central Business District of Nairobi, Kenya?
4. How is the safety of the matatus industry related to customer satisfaction in the Central Business District of Nairobi, Kenya?

5. To what extent does the condition of the vehicle influence customer satisfaction in the Central Business District of Nairobi, Kenya?

1.6 Significance of the Study

It was envisaged that the findings from this study would contribute to the body of knowledge on the role played by public transport workers and stakeholders in customer satisfaction. The findings generated by this research would be used to make recommendations to the government and other policy makers on the appropriate steps to be taken to ensure customers choose public transport over private cars in their daily travel. In this day and age where climate change is advocated for, many commuters are to be encouraged to use public transport rather than personal vehicles. Lastly, it was also hoped that the findings would add to the existing documents on efficiency of public transport and customer satisfaction in the Nairobi Central Business District.

1.7 Delimitations of the Study

The study population and area was chosen to a manageable size. The scope of this study was to establish the factors influencing customer satisfaction in public transport in the Nairobi Central Business District, the capital city of Kenya with particular focus on the matatus plying from the Gill house terminus. A total of 144 respondents were targeted and they comprised of the commuters, matatu crew (drivers and touts), route managers, and Sacco officials at the Gill house terminus in the Nairobi CBD. Matatu owner, an official from the Matatu Owners' Association (MOA), Nairobi City Council, The National Transport and Safety Authority (NTSA), Ministry of Transport, Ministry of labour and the Kenya Police.

1.8 Limitations of the Study

Time to reach out to all the classes of respondents was a challenge but was overcome by having research assistants to administer the questionnaires as well as emailing them. Most of the officials of NTSA, MOA, Ministry of Transport, Ministry of Labour and Kenya Police had busy schedules especially in preparation for the national presidential election. The researcher overcame this by making appointments with them in advance and in good time to get to interview them.

Some of the respondents, the matatus workers in particular, were illiterate, and the researcher had to interpret some of the questions on the questionnaires into Swahili and have face to face interviews to get a clear picture from most of them. The commuters were also in a hurry boarding the matatus and may not get time hence may only be interviewed on the queue while waiting for the matatus at the Gill house terminal. This researcher overcame this by travelling both ways, to get information from the passengers enroute to their destination and staying at the bus station during off peak hours when the matatu takes longer to fill to capacity. The findings were limited to Nairobi County which may not necessarily be applicable to other counties in Kenya.

1.9 Assumptions of the study

The key assumptions of this study included: 1) The variables would remain the same in the course of the research and that the respondents would be sincere in giving the requested information correctly. 2) The sample chosen would represent the population and the data collection instruments will be adequate enough to draw valid conclusions for this study. 3) The respondents would avail themselves for face-to-face interviews and that the weather would be favourable to meet the workers and commuters at their place of work at the Gill house terminus within the Nairobi CBD. 4) Reliability, frequency, safety, condition of the vehicle and affordability influence customer satisfaction in the use of public transport in Nairobi CBD 5) The conclusion and recommendations drawn from with study would generate a positive decision making by various stakeholders in improving public transport in Nairobi CBD.

1.10 Definitions of Significant Terms Used in the Study

Reliability:	This is the ability to carry out planned service dependably and accurately.
Frequency:	Refers to the number of times an event occurs per unit time.
Affordability:	People's financial ability or capacity to purchase essential goods and services. Transportation affordability therefore refers to people's financial capacity to access essential goods and services such as medical facilities, necessary shopping, education, work and socialising.
Affordability Index:	An affordability index is defined as the fare expenditure made by a household as a percentage of its income. It is used to look at fare expenditure against the income of the household.
Safety:	Safety as the state of being safe; freedom from the occurrence or risk of injury, danger, or loss. It is the quality of averting or not causing injury, danger, or loss.
Comfort:	Comfort is a state of physical ease free from pain or constraint.
Public transport:	This refers to all modes of transport accessible by the commuters irrespective of who owns them. This includes trains, buses, taxi, matatus and aeroplanes.
Customer satisfaction:	It is an evaluation on how goods and services meet or exceeds customer expectation. It could also be said to be the customers' past

experiences with certain goods and services exceeding the specific satisfaction levels.

Matatu:

Matatu is derived from the Kikuyu term *mangotore Matatu* referring to “thirty cents,” the standard fare charged when the 14 to 33 seater mini vans which provide transport services started operating in Kenya the late 1950s.

Savings and Credit Cooperative:

This refers to a savings and loaning facility and not only applies to the transport sector but also other areas. It is a requirement to register with the Ministry of Co-operative Development and Marketing to be identified as a legitimate SACCO. Matatus will come together as a group and identify itself with the route they are operating before coming together to register as a SACCO which is again referred to as route associations.

Central Business District:

It is the centre of a city where business and commercial activities take place.

Condition of the vehicle:

This refers to the state of the vehicle both interior and exterior.

1.11 Organizational of the Study

This study is in five main chapters with sections and sub sections as follows: Chapter One, contains the Introduction comprising of the Background of the Study, Statement of the Problem, Purpose of the Study, Delimitations of the Study, Limitations of the Study, Assumptions of the Study and Definitions of Significant Terms as well as the Organisation of the Study.

Chapter Two, contains The Literature Review comprising the Empirical, Theoretical, Conceptual Framework of the study and a Summary of the Chapter.

Chapter Three, contains The Research Methodology, which has the Introduction, Research Design, Target Population, Sampling Design and Procedures, Methods of Data Collection, Collection Instruments, Validity and Reliability of the Instruments, Data Analysis Techniques, Operationalisation of the Variables, Ethical Issues and Summary of the Chapter.

Chapter Four, comprises the Data Analysis, Presentation and Interpretation of the Findings and includes the sub-sections: the Introduction, Questionnaire Response Rate, Demographic Characteristics, Presentation and Interpretation.

Chapter Five, covers the Summary of the Findings, Discussion, Conclusions and Recommendation and is comprised of the sub-sections: Introduction, Summary of the Findings, Discussion, Conclusions, Recommendations for Policy Action and Suggestions for Further Studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the reviewed literature was related to the factors influencing customer satisfaction in public transport sector: a case of matatu in the Nairobi Central Business District. The chapter contains empirical, theoretical reviews and conceptual framework. The review was conceptualized under the objectives of the study and focused mainly on the factors influencing customer satisfaction in public transport identified such as reliability, frequency, affordability, safety and condition of the vehicle.

2.2 Factors Influencing Customer Satisfaction in Public Transport Sector

This section focused on the empirical aspect of this study. Focus was on the factors influencing customer satisfaction which include: reliability, frequency, affordability, safety and condition of the vehicle in relation to customer satisfaction.

2.2.1 Reliability and Customer Satisfaction

Parasuraman et al., (1988) and Gronroos (1984), state that reliability is the capacity to deliver the expected service dependably and accurately. A reliable public transport is one that arrives on time. Randheer Kokku et al. (2011), state that commuters value more the delivery of services on timely basis. The public, mostly business people would be most satisfied if they are assured that their business luggage reaches their destination at the desired time (Annabel 2005). Efficient and effective allows movement of workers also referred to as labour, transport of raw materials, finished goods as well as create access to employment (Cavanna&Cornbelt, 2007). The public transport also allows the public that do not own any means of transport to transport their commodities as well as for own mobility (Poleen 1993).

Bielen & Demoulin (2007) also pointed out that timely arrival of the matatus at the waiting station also determines customer satisfaction. Friman (2004), believes that punctuality of service also affects the commuter's satisfaction on the quality of public transport service. Another indicator of a reliable public transport is that which gives

information in case of delayed service. Bielen & Demoulin (2007), pointed out that customer would prefer being informed on occasion of delays to enable them have a rough idea of the perceived waiting time. Anderson et al., (2007) indicated that a commuter will also be dissatisfied when there are operation failures of the services such as delays and this will affect customers' satisfaction.

Travel time according to Li (2003), is another example of indication of a reliable public transport. Other than traffic congestion which leads to prolonged travel time, the matatus have a tendency to stop almost everywhere to pick or drop passengers. The several stops enroute if irregular, the total travel time is perceived to be longer leading to an unsatisfied customer. The more interruptions enroute, the more the commuters see the journey to have taken longer although the actual travel time would be the same if there is uninterrupted travel.

Some of the commuters walk quite a distance before getting to the bus station to board a matatu. With the increased insecurity, they become prone to being robbed of their valuable items. A reliable public transport is therefore necessary to facilitate an effective movement of goods and labour. If the public transport is reliable and convenient, the commuters who are the consumers will be satisfied (Cavana and Corbett, 2007).

2.2.2 Frequency and Customer Satisfaction

When there is increased frequency of transport services there will be increased commuter satisfaction and urban transport support (Taylor et al., 2008). Frequent services ensure continuous commuter service that is available on regular basis. Govender (2014), mentions that if services are available during off peak times such as evening and public holidays, the commuters' view on service quality will be majorly influenced. Commuters are generally satisfied with matatu services that are available on weekdays, weekends, public holidays and if possible until late in the night.

The public transport in Kenya particularly the matatus have no fixed arrival and departure time, the fare charged can change anytime as well as the routes to and from the commuters' destination which sometimes could be in unsafe areas. Despite all this, they continue to operate on demand and are very costly especially during the

peak times such as in the evening when many commuters are leaving their work places and heading home. Frequent services are often available during the high demand periods and the matatus change to these direction of high demand leaving the low demand passengers waiting at the bus terminal or stage until the matatu is full to capacity before the vehicle takes off and this could be as long as one hour. Sometimes the commuters may walk for about 10 minutes to reach the matatu terminus and when they arrive they have to wait before they take off.

From the NTSA report (2015), Saturday and Sunday have the highest fatalities in the last two years 2014 and 2015. Weekend apparently has the highest number of travel hence leading to high speed which contributes to the highest number of fatalities with a combined figure at average 38% in both 2014 and 2015. The peak hours fall between 1700hrs and 2000hrs when most commuters are rushing back home from work. Most of fatal road traffic crashes occur during this same period due to high speed traffic and most drivers have poor driving habits and skills at night in the reduced visibility.

2.2.3 Affordability and Customer Satisfaction

Litman (2009), states that affordability, refers to people's capacity to get essential goods and services. Transportation affordability therefore refers to people's financial capacity to acquire essential goods and services such as medical care, household items, education, access to work and socialising. Access to basic facilities varies, with poor areas generally at a disadvantage. In many cities a substantial proportion of the poor live in suburban areas. They face long and expensive journeys to work. Travel times to and from work vary greatly from city to city, averaging about one hour or more per day.

In the year 2003, the Itrans (Institute for Development and Information on Transport) and the IPEA (Institute of Applied Economic Research), conducted a number of surveys to delve deeper into the issues on urban mobility and lack of access to public transport by the low-income people in the densely populated urban areas of Sao Paulo, Rio de Janeiro and Recife. The results showed that low-income population who live in the big Brazilian metropolis are denied access to public transport. The low rate of urban mobility by the poor was noted, they face serious problems in their journey

to work and access to employment opportunities. Denying these people access to public transport is one of the factors that cause social segregation (Gomide 2003).

Transportation unaffordability leads to significant economic and social problem. From casually collected information from a number of resources, it is confirmed that that increased transport fares leads to a sharp drop in ridership but it often rebounds after a few months. The use of private cars and motorcycles by the middle-class city dwellers has increased particularly in Ouagadougou leading to congestion in the city center by private cars and motorcycles. Increase of fare for any justified reason or not, the passengers who cannot afford it may pull out. The available options if any that they could use are few and inferior, the infrastructure might not be suitable for use thus rendering them inaccessible to jobs and services and their social gatherings will be affected. These series of events may lead to side lining of those people at the bottom of the financial ladder both socially and economically. When doing the household budget, among other budget items to be considered, transport is seen as essential budget item.

An affordability index is used to look at fare expenditure against the income of the household. This index is defined as the transport expenses incurred by a family as a percentage of the family's earnings.

$$\text{Affordability Index} = \frac{\text{Number of trips} \times \text{Average cost per trip}}{\text{Per capita income}}$$

The result of the above is then expressed as a percentage.

Alan (1987) states that travel expenditure is viewed as the most important factor to consider when choosing mode of transport by the commuters having low income. If the mode of transport is too expensive for them, they may opt to travel on foot. He further explains that the extent of affordability depends on the earning level of the commuters. In the less industrialised countries, the transport expenses should not be more than 10 per cent of the family's earnings but in the developed countries, families without private cars may spend on travel about 3 to 5 percent of the family earnings. On the other extreme some cities such as Nairobi and Sao Paulo, commuters earning low income may spend more than 30 per cent of their earning on transport expenses.

Some cities such as Kingston, Jamaica and Calcutta spend 15 percent of their income on travel (Kumar, A. 2008).

Affordability should ideally be that a family spend less than 20% of their total budget on commuting and less than 45% on commuting and rent inclusive. Some families have reported increased commuting expenses while some on the other hand, do not spend anything on transport, which could imply that they meet all their commuting needs by walking. An affordable public transport is influential on satisfaction of service. If the commuters are charged high fares, they expect value for their money. It is worth to note that when a commuter earns more, they look for quality rather than how much they will be charged for the distance to be covered. Andreassen (1995) indicates that the ticket price, how high or low the price is and the outlook of the terminal are some the factors that influence customer satisfaction. Mosi (2010) also found ticket price as one of the major reasons why commuters are not satisfied, Very few routes have standard fares. The fares vary depending on route, peak time and the weather.

Public transport fare in Kenya is largely unregulated. Occasional hikes are common and commuters have to conform or risk being stranded either to or from their destinations. Some of the reasons given for such fare hikes could be that, it is raining, there is traffic police operation and they are expected to part with some money, it is festive season, so there is a high demand against a constant supply, the fuel prices are expected to go up, there is traffic snarl up, it is a rush hour or institutions such as schools and colleges have closed or opened for the semester or there is graduation of the students.

Although some routes enjoy fairly fixed fares, there are sections of the greater Nairobi Metropolitan such as Kiserian, Ngong Town, Ongata Rongai, Ruiru, Kahawa Wendani, Juja, Thika and Kitengela which can hike to about KES200 which is almost double the normal fare. The commuters normally have no choice but to board the matatu despite the hiked fare. Unstable fares are a worrying issue for many commuters, as revealed in various studies. Poor commuters travelling home from their work places are always not sure if they can afford the fare set to take them back home

at the time of boarding. At times, the journey is cut short midway and the matatu makes a u-turn so that it can take advantage of the peak time on the other direction, full compensation is rarely given to the passengers to enable them pay for the remaining part of the journey and they end up stranded or walking the remaining distance and may not be safe especially at night.

Favourable transport affordability can significantly improve the opportunities for the poor commuters and give them satisfaction resulting to economic development and increased social equity. Taking cognisance of transportation affordability in the design of transport policies and strategies is very important, particularly in remote or isolated areas (Panou, et al. 2007). In summation, transport affordability is equivalent to increased income, since the jobless commuters can access their prospective work stations and as result they will be socially and economically included in the society rather than feeling discriminated or being at a disadvantage. On the flip side, increased fare calls for increased or improved quality of service to satisfy the commuters

2.2.4 Safety and Customer Satisfaction

The Nairobi matatu crew are under pressure on a daily basis in order to meet the target set for them. They will do anything without taking into consideration customer satisfaction including not paying attention to safety regulations just to meet this minimum target. The crew is expected to work for about eighteen hours per day if this target is to be achieved (Mutongi, 2006, p.554).

Most of the matatu owners are absentee operators of their Matatu businesses; they set targets for daily fare collections, and are not conversant with traffic rules and customer care. Some of the owners also hold positions in Government and that makes them partisan when making decisions on the Matatu industry. Raynor and Mirzoev (2014, p.344) mention that, reckless driving and over speeding always lead to accidents which could have been prevented. The crew argue that they have to make maximum collection of money so that something is left. Mungai et al. (2012) goes further to mention that drivers are paid depending on the number of passengers they have. Many drivers end up competing to carry as many passengers as possible.

Drivers are also paid based on the number of passengers they have, this leads to constant rush for as many passengers as possible and carry as many as possible.

In the NTSA report of the year 2015, 22 percent of the deaths caused by road accidents is from the Nairobi county. Of the 668 deaths recorded from Nairobi county, 497 of them were pedestrians. Some of the Nairobi roads with the highest number of recorded accidents include the Thika Superhighway, Airport North, Thika Road, Eastern Bypass, Jogoo and Mombasa Road. Maranga (1989), mentions that matatus cause more accidents than any other means of transport. Tunbridge (1998, p.54) on the other hand, mentions that most matatus have neglected safety observations as they are ever rushing under the pressure of time and competition from themselves. He is concerned about the safety of pedestrians who happen to find themselves on the way of a speeding matatu especially those that drive on the pavement where pedestrians walk.

In the NTSA 2015 road safety report, it was reported that about 3000 national deaths resulting from road accidents happen annually and 40 percent of these deaths are the pedestrians due to the major reason that there are no facilities that support the pedestrians' use of public transport. The road space encroachments by parked matatus and other public transport such as motorcycles and taxi forces the pedestrians are forced to walk on the road. The market and vending services have overflowed to the road reserve area therefore limiting the space for use by the traffic (Cervero 2000). In case a matatu is recklessly driven, the pedestrians are prone to serious accidents along the roads. At times, the pedestrians also cross at non-designated areas.

The next fatalities are the passengers in the public transport vehicles, because the vehicle is poorly maintained with loose seats and belts and it is also dangerously driven. Due to increased corruption, poor machinery and unrealistic expectation such as the one from Section 66 of the Traffic Act prohibiting continuous driving by the public service vehicle, the police have also failed to ensure traffic rules are followed. A fatigued driver is prone to losing control of the vehicle leading to serious accidents. From the Nairobi accident map, the highest number of road user affected by accidents is the Public service vehicle passenger.

2.2.5 Condition of the Vehicle and Customer Satisfaction

Islam, R., Chowdhury, M. S., Sarker, M. S., & Ahmed, S. (2014), state that comfort is one of the factors that influence customer satisfaction. This can only be achieved when the condition of the vehicle is as per the commuters' expectation. Commuters would want to have comfortable seats to sit on, clean matatu as well as clean drivers and turn boys. Elobi & Mazzulla, (2009) researched on air passengers and realised that they not only value comfortability but also cleanliness which also has an impact on their satisfaction level. From the beginning, the public positively viewed the use of matatus as a means of public transport. In the 1980s, the rich capitalised on the lack of regulation in the matatu sector and changed it to benefit them. The increased competition changed the drivers' behaviour to become more aggressive and changing the public perception from positive to negative view.

Edvardsson (1998) reveals the driver as the contact person with the passengers and therefore has a greater impact in the satisfaction of the passengers. However, the driver does not seem to know the customers' preferences on what would satisfy them most, he appears to be indifferent most of the time. It is expected that the driver would be having full information regarding the availability or lack of transport on any particular day. The driver and availability of information is important for the satisfaction of the passengers. Although these traits lack, the passengers have no choice but to continue using the public transport even when price are hiked and they are not satisfied to their expectations.

Friendliness of the personnel especially driver behaviour in relation to service frequency has an impact on customer satisfaction. Friendliness behaviour of the driver can satisfy customers by developing better communication and knowledge of its customers' needs (Disney, 1998).

The perception that has been held for a long time is that the matatu crew do not only participate in gang-like activities but also rough handling of the passengers. Some of the chaotic traits of the matatu include: gross language, playing loud music, overcrowding the vehicles and over speeding (Mutongi 2006, wa Mungai & Samper 2006, Rasmussen 2012)

Kariuki (2006) mentions other factors that affect service quality of public transport. They include the condition of the matatu and the driving skills and length of service the driver has had in the matatu industry. Oliver (1980) also mentions similar factors that influence customers' satisfaction as courtesy of the operators', experiences and skills. Basing on the above, finding one missing link on personnel and stakeholders is also worth further investigation in relation to influencing customer satisfaction in public transport.

The labour condition of the matatu crew is unsatisfactory. Khayesi (1997) in his study revealed that the matatus workers had verbal contracts, worked long hours and most were paid on daily basis. This list of terms and conditions is not exhaustive and is therefore an area worth exploring further as they are the contact people to the commuters. The stakeholders on the other hand, have the power to manipulate the conditions in the matatu industry and as a result influence how the operators handle the commuters in their day to day business.

2.3 Theoretical Framework

Barsky, J. D. (1992), elaborates on the expectancy disconfirmation theory as the most acceptable theory used to explain the concept of customer satisfaction. In this study, it will be used as a lens of analysis. Szymanski & Henard (2001) point out that it is the best to be used to predict customer satisfaction. It was developed in the field of marketing and later became popular in other scholarly domains such as information systems and electronic commerce. The theory was developed by Oliver (1980), who proposed that satisfaction level is a result of the difference between expected and perceived or actual performance. This theory suggests that consumers form satisfaction judgements by evaluating actual product or service.

The Expectancy Disconfirmation theory posits that 'satisfaction is related to the size and direction of the disconfirmation experience that occurs as a result of comparing service performance against expectations (Mattila, A & O'Neill, J.W. 2003). Spreng & Page (2003), explain the difference between two concepts, that is, the pre-purchasing standard such as expectations or desires and the actual performance results to disconfirmation. The disconfirmation, according to studies in the areas of

consumer satisfaction is viewed as the difference between a standard and the level of any service (Jiang, Klein & Crampton, 2000); (Parasuraman, Zeithaml & Berry, 1988).

In Expectation Disconfirmation Theory, consumers look forward to a particular level of service before buying any goods or services. They then form positive or negative views regarding the service or goods bought. The consumers then compare their pre- and post-purchase expectations to have an outcome of the overall satisfaction. It may be positive if the level of what they expected before buying the goods or services is lower than the actual service. On the flip side, a negative disconfirmation occurs when service performance does not match up to the standard of service that was originally expected leading to lower satisfaction.

The Disconfirmation may be measured by looking at difference between the expected (desired or ideal) satisfaction by the goods and services looked at before and after using them. The situation can be represented by the algebraic expression: $\sum (P_i - S_i)$ where, P_i is the expected performance delivered/desired, S_i is what is looked forward and i is the attribute, then the differences are all summed up. Parasuraman, Zeithaml & Berry (1994) believe the main advantage of this method is that it is efficient in that only two scales are used to measure each attribute. Positive disconfirmation takes place when the service provided is better than what the consumer expected or desired. Dissatisfaction also referred to as negative disconfirmation, occurs when actual performance has less than expected results. In a nutshell, satisfaction is the result of direct experiences with products or services, and it occurs by comparing perceptions against a standard, such as expectations.

The main debate regarding this method is that disconfirmation is measured indirectly from other bases and that expectation before purchasing any goods or services is different with after purchase expectations (Halstead & Page, 1992). Further, within the marketing literature, there are discussions concerning the nature of the effect of disconfirmation on satisfaction. There is great debate in the use of predictive expectations as the comparison standard for perceived performance. Santos and Boote (2003), the confirmation of negative expectations is not likely to lead to satisfaction.

To counter this problem, researchers such as Halstead (1999), Spreng et al. (1996) Tse and Wilton (1988), Woodruff et al (1983) and Yi (1990), have proposed other comparison standards such as desires, ideals, equity, or past product and brand experience.

2.4 Conceptual Framework

Figure 1, illustrates the conceptual framework, showing the relationship between the independent and dependent variable. It also indicates the moderating and intervening variables which are likely to have an effect on the variables. Mugenda and Mugenda (2003) define a variable as a measurable characteristic that assumes different values among the subjects. Independent variable is that which a researcher manipulates in order to determine its effects or influence on another variable. Dependent variable attempts to indicate the total influence arising from effects of the independent variables. Should have a measurable indicator for each variable and show the relationship. Moderating variable is that which you have no control over e.g. government policy. The intervening variable is the attitude and culture.

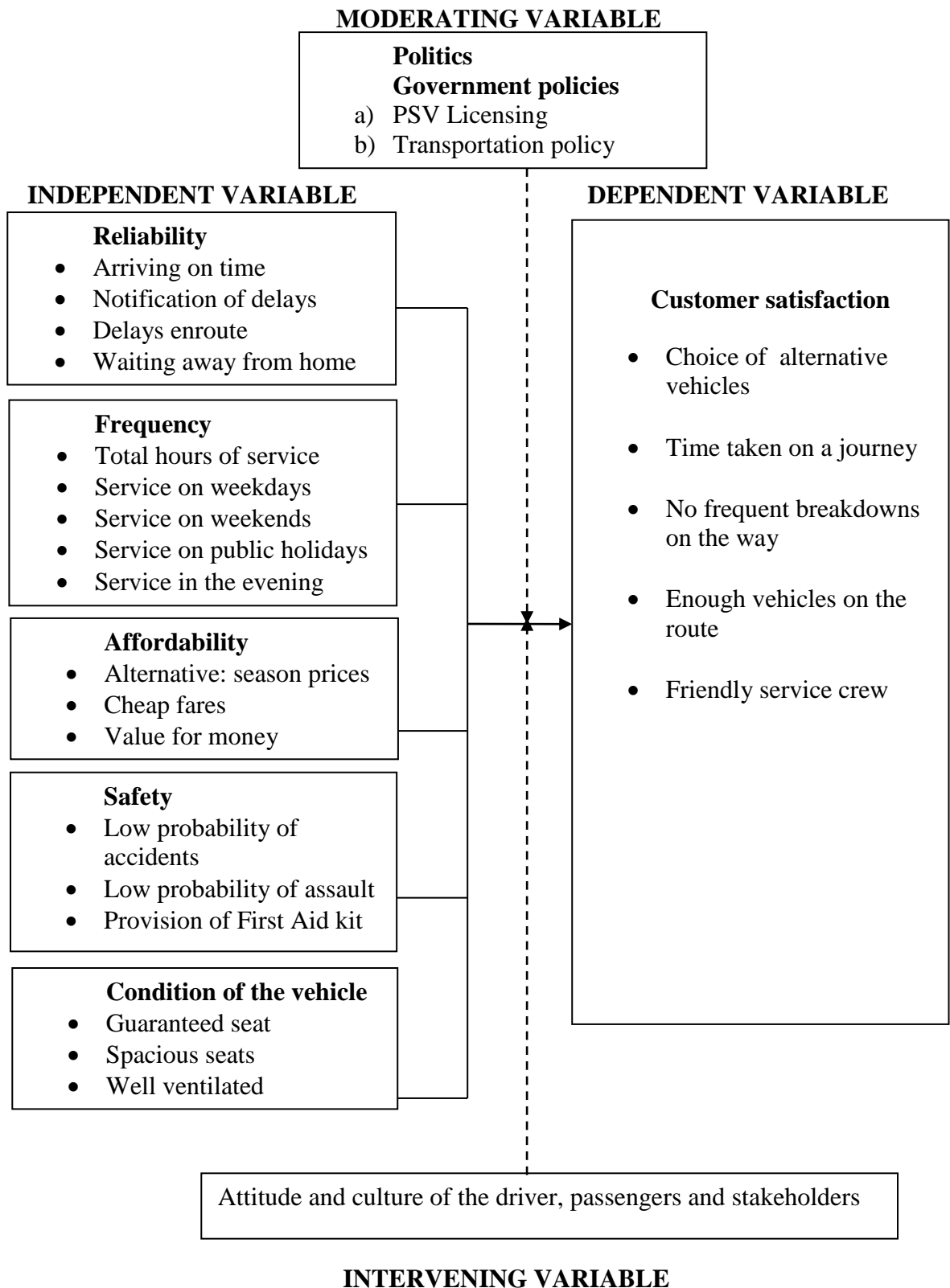


Figure 1: Conceptual Framework

Explanation of Relationships of Variables in the Conceptual Framework

The conceptual framework in Figure 1 above helped the researcher to clearly explain the interrelationship between the independent variables representing level of services of public transport such as reliability, frequency, affordability, safety, condition of the vehicle and intervening variables such as attitude and culture as well as the moderating variables (politics and government policy) which were included to enable the researcher examine the effect of independent variable on the overall dependent, commuters' satisfaction. Correlation between services attributes was established and their influence to the overall commuters' satisfaction concluded.

Under this study on analysis of the factors influencing customer satisfaction in public transport, service quality was identified as the main independent variable which was further divided into two: safety issues and condition of the matatu vehicles formed the category referred to as soft quality factors while frequency, reliability and affordability formed the category of the functional quality service factors.

2.5 Gaps of the Literature Reviewed

The literature review reveals the factors influencing customer satisfaction in the public transport sector. This study will seek to get the unique and specific factors that have greater influence in customer satisfaction in the use of public transport. This research therefore delved deeper into the specific influences of the totality of the factors that influence customer satisfaction in the use of public transport with particular focus of the matatus plying from the Gill House terminus in Nairobi. This research study seeks to fill this knowledge gap.

2.6 Summary of Literature Reviewed

The literature reviewed showed the factors influencing customer satisfaction in the use of public transport. When there is lack of understanding of these factors, there is tendency to move in a vicious cycle of trying to deliver better services to the commuters and create a sustainable urban transport. There is need to establish the most influential factor influencing commuters' use of public transport. The government, the transport planners, policy makers and all stake holders need to understand these factors. Any planning without the commuter and matatu operators in mind will be in vain.

Table 2.1: Summary of Literature Reviewed

Reference	Key Findings	Comments/Knowledge Gap
Behrens, R., McCormick, D., & Mfinanga, D. (Eds.). (2015). <i>Paratransit in African cities: Operations, regulation and reform</i> . Routledge.	<p>Two recommendations are made:</p> <p>Hybrid system comprising of paratransit modes and formally planned modes;</p> <p>Improve and upgrade the existing systems and strengthen the regulation of the existing services.</p>	To have an improved public transport system is to look at the factors affecting the commuter satisfaction in totality and to know where to improve on.
Bruun, E., & Behrens, R. (2016). Paratransit in Sub-Saharan African Cities: Improving and Integrating Informal Services. In <i>Paratransit: Shaping the Flexible Transport Future</i> pp. 219-244. Emerald Group Publishing Limited.	<p>There is need of innovative solutions to develop models with flexible transport systems;</p> <p>Understanding the change of mobility in relation to technology.</p>	In the developing world, technology is still in the maiden stages and there is need to look at more workable innovations applicable to Africa. America is more advanced not only in technology but in so many areas.
MacDorman, L. C., MacDorman, J. C., & Fleming, W. T. (1995). <i>The Quality Journey: A TQM Roadmap for Public Transportation</i> (Vol. 8). Transportation Research Board.	<p>TQM cannot be rigidly applied by following a rigid plan;</p> <p>The seven TQM principles should be applied even though organisations may have unique elements or situations;</p> <p>TQM should undergo three phases,</p>	The commuter who is a customer should also be involved in the foundation phase

	<p>each with its unique purpose and action. Jumping from first phase to last will ensure total failure; The most difficult thing to deal with is people's behaviour or habits.</p>	
<p>Verma, A., & Ramanayya, T. V. (2014). <i>Public transport planning and management in developing countries</i>. CRC Press.</p>	<p>Implementation of the principles of public transport planning and management.</p> <p>How to address the current transport system inefficiencies looking at mobility and accessibility.</p>	<p>The book gives a diagnostic approach and scanty solutions to the challenges addressed.</p>
<p>Schiefelbusch, M., & Dienel, H. L. (Eds.). (2009). <i>Public transport and its users: The passenger's perspective in planning and customer care</i>. Ashgate Publishing, Ltd.</p>	<p>There is need to enforce passenger's rights to the bus company as well as involve passenger associations;</p> <p>Development of customer oriented transport systems.</p>	<p>A gap is seen in that, the drivers and all the crew members are left out in the planning process and their interest are not fully discussed.</p> <p>How do we involve drivers or matatu crew association in planning and customer care?</p>
<p>Salon, D., & Gulyani, S. (2010). Mobility, poverty, and gender: travel 'choices' of slum residents in Nairobi, Kenya. <i>Transport Reviews</i>, Vol. 30, No,5, pp. 641-657.</p>	<p>To develop policies to improve ridership, there is need to not only look at affordability but also look at the constraints faced by women and children.</p>	<p>Another group that needs favourable policies are the physically challenged</p>

<p>Rasmussen, Jacob. 2012. "Outside the Law – Inside the System: Operating the Matatu Sector in Nairobi," <i>Urban Forum</i> Vol. 23, No.4, pp.415-433</p>	<p>The government is giving a lee way to non-state practices and a mix of formal and informal processes in dealing with issues in the industry.</p>	<p>The government as a stakeholder in the industry makes it difficult to enforce laws.</p>
<p>Kumar, A., & Barrett, F. (2008). Stuck in traffic: Urban transport in Africa. <i>Africa Infrastructure Country Diagnostic</i>, 44980.</p>	<p>The problems in the developing countries are similar particularly with regard to infrastructure.</p>	<p>Countries could work on pulling resources together to improve infrastructure and cross fertilise ideas on how to improve the paratransit industry</p>
<p>Gomide, A., Leite, S., & Rebelo, J. (2004). Public transport and urban poverty: a synthetic index of adequate service. <i>The World Bank Urban Transport Program in Brazil</i>, The World Bank, Washington DC.</p>	<p>Transport affordability is key in developing countries; Subsidies should move from supply side to demand side; Demand for transport increases with demand for service; Redirect funds to improve alternative modes of transport such as walking or cycling.</p>	<p>How can the Sub-Saharan Africa work on affordability of commuters in relation to the use of public transport</p>
<p>Edvardsson, B. (1998). Causes of customer dissatisfaction-studies of public transport by the critical-incident method. <i>Managing Service Quality: An International Journal</i>, Vol.8, No.3, pp.189-197.</p>	<p>Poor quality standards usually reoccur frequently; The company under study should focus on the driver related aspects as well as customers' complaints</p>	<p>Measures to counter the dissatisfaction are paramount rather than diagnosing the problem only.</p>

Githui, J. N., Okamura, T., & Nakamura, F. (2010). The structure of users' satisfaction on urban public transport service in developing country: the case of Nairobi. *Journal of the Eastern Asia Society for Transportation Studies*, Vol, 8, pp.1288-1300.

Level of commuter satisfaction is influenced by service quality (SQ), Travel Cost (TC) and safety (S)

There is more to service quality than just the generalisation. Research more on determinants of factors that determine commuter satisfaction

Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990). Delivering service quality: Balancing customer perceptions and expectations. *New York: The Free Press*, 4.

Develop a framework to understand and improve service quality by balancing customer perceptions and expectations

Commuters' expectations are highly pegged on several factors and may be difficult to balance perception and expectation. Best approach is to improve service delivery and as far as it is possible have zero negative perception of the service provided.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presented the research methodology that was used in this study. Areas that were looked at is the research design, target population, sample size and sampling procedures, data collection methods, data collection instruments, data collection procedures, data analysis and presentation techniques, ethical considerations, operationalisation of the variables and a summary of the chapter. Validity and reliability were discussed in line with the quality standard of the research.

3.2 Research Design

The research design that was used in the study was descriptive survey research design. This was used to collect information from respondents on their attitudes and opinions in relation to their satisfaction in the use of matatu as a mode of public transport. Oso and Onen (2009) point out that this design presents oriented methodology used to investigate populations by selecting samples to analyse and discover occurrences. It describes events as they are. It facilitates rapid data collection and ability to understand population from a sample. Kombo and Tromp (2006), emphasize that this descriptive survey will allow the researcher to gather information, summarize, present and interpret it for more clarity. The research design adopted allowed me as the researcher to describe record, analyse and report conditions that exist or existed before. It also allowed the generation of both numerical and descriptive data that is meant to assist in measuring correlation between the variables.

3.3 Target Population

Barton (2001) defines a population as any set of persons or objects that possess at least one common characteristic. Miles and Huberman (1994) describes a population as a well-defined set of people, services, elements, events, groups of things or households that are being investigated. Barton (2001), states that any scientific research, targets a given population through which questionnaires, interview guides, focused group discussions or observation guides are distributed so as to get the desired or the required data for analysis. The target population in this study was the

commuters and service crew based on three matatu Saccos plying from Gill house terminus in the Nairobi CBD as well as interviewees of selected informants.

Table 3.1: Study Population

Matatu Sacco (Stratum)	Number of vehicles
ROG	38
C-BET	40
Outer Circle	10
Total	88

3.4 Sample Size and Sampling Procedure

In this section, the researched looked at how to get the sample size for this study using the Yamane’s formula as the sampling procedure used.

3.4.1 Sample Size

Nachmias (1996, p.178), states that researchers use a relatively small number of cases (a sample) as the basis for making inferences about all the cases (a population). A sample is defined as a small group; sub-group or sub-set obtained from the accessible population and selected to be representative of the entire population with the relevant or desired characteristics.

This study used Yamane’s formula in determining the sample size as outlined by Yamane (1967):

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n is the proposed sample size;

N is the target population (in this case N = 88)

e is the standard error (a standard value of 0.05)

Therefore,

$$n = \frac{88}{1 + 88(0.05)^2}$$

$$n = 72$$

Calculating the sample size based on these figures, a sample size of 72 was arrived at. The 72 vehicles were distributed using proportional allocation and summarised in Table 3.2.

Table 3.2: Target Population and Sample Sizes for the Three Matatu Saccos

Matatu Sacco (Stratum)	Study Population	Sample Size
ROG	38	31
C-BET	40	33
Outer Circle	10	8
Total	88	72

3.4.2 Sampling Procedure

In this study, probability and non-probability sampling techniques was used. Combining the use of probability and non-probability techniques helps to make the researcher's work easier, save time and cost and increase the reliability of the information to be collected during the field work.

In probability sampling, the simple random sampling was used to ensure different commuters are included in the survey. The proportional allocation was used to distribute the samples among the three Saccos. Bowley (1926), proposed this method where the sampling fraction n/N is the same in all strata. Where n is the sample size and N is the population size. The strata here consist of matatus from each of the three Saccos. After identifying the strata, non-probability convenient sampling was used to select two passengers from each vehicle sampled from each of the three matatu Saccos. A total of 144 passengers from the 72 sampled vehicles was expected to be reached but only 133 was possible. In convenient sampling, we sample the passengers

as and when they make themselves available in the site under study. This type of sampling enabled the researcher to reach the targeted sample quickly.

The researcher also used purposive sampling to select three respondents to be interviewed; one matatu owner, tout, route manager and driver from each of the three matatu Saccos. These respondents assisted the researcher to get the general information on how the matatu operators conduct their daily operations, when they start and end their operations, the number of days they work in a week, the institutions responsible for the overall management and allocation of matatu routes, the working relationship between different actors in the industry, other services offered (if any) and comments on the services offered by the matatu industry.

The final group to be selected by purposive sampling, that is sampling with a purpose, were six informants: one official from: the Ministry of Transport, Ministry of Labour, Nairobi City council, National Transport and Safety Authority (NTSA), Matatu Owners Association (MOA) and the Kenya Police. These key informants gave in-depth qualitative information on management and operations of routes including the dynamics in the matatu industry, issues of policies, achievements and challenges that face different actors in the matatu industry.

3.5 Data Collection Instruments

In this section, the instruments that were used to collect data are discussed. The questionnaire and the interview guide were selected for data collection.

3.5.1 Questionnaire

Data for this study was collected from the commuters using a questionnaire. The questionnaire had the following parts to collect the information indicated: Items measuring commuter satisfaction with reliability, frequency, affordability, safety and condition of the matatu vehicle. Travel pattern behaviour: this gave information about their commuting pattern, numbers of commute day in a week, majority daily transport of choice, and matatu use pattern. Questions on effect of moderating variables on the dependent variable were included.

3.5.2 Interview Guide

Another instrument used was the interview guides. They were used to collect data from the drivers, conductors, route managers, and matatu owners at the Gill House terminus. This instrument was used to collect the general information on how the matatu operators conduct their daily operations, when they start and end their operations, the number of days they work in a week, the institutions responsible for the overall management and allocation of matatu routes, the working relationship between different actors in the industry, other services offered (if any) and comments on the commuters perception about the services offered by the matatu industry.

This instrument was also used to interview the six targeted informants: Ministry of Transport, Ministry of Labour, Nairobi City council, National Transport and Safety Authority (NTSA), Matatu Owners Association (MOA) and the Kenya Police to specifically capture issues to do with management and operations, policies issues and strategies, achievements and challenges in the industry.

3.6 Pilot Testing of the Instruments

The questionnaires and interview guides was used for data collection for this study; a pilot study on three matatu Saccos at Gill house terminus was conducted before the actual day of data collection. This process helped in identifying any adjustments which should be done on the research instruments and also their reliability and validity.

3.7 Validity and Reliability

In this section, the aspects of validity and reliability of the data collection instruments was looked at.

3.7.1 Validity of the Instruments

Validity has three distinct aspects, such as content validity, criterion validity and constructs validity. A numbers of different steps were taken to ensure the validity of the study. An extensive search of the literature on the concept that was measured was done to achieve content validity. Content validity was attained by thoroughly covering all the targeted information area by ensuring data is collected within two weeks to minimise major event that would change content in relation to the study topic. Data was collected from the credible sources, for instance experience commuters

particularly on public transport. Interview guide and questionnaire was based on literature review and research objectives to ensure result attained is valid. Criterion validity was attained by conducting analysis that measures correlation between dependent and independent variables.

3.7.2 Reliability of the Instruments

Reliability refers to the consistency of a measure. Split-half method was used to get the internal reliability that is the degree of internal consistency of a measure. In this case, all items that purport to measure the same construct were divided into two groups. One group comprised of items of even numbers and the other group that comprised of items of odd numbers. The instrument was used to a sample of people and total score for each was calculated and randomly divided half then calculate the correlation between the two scores. The correlated results value gave the internal consistency of one group; that is the extent to which the two groups were equivalent or consistent in terms of items. The Pearson product moment formula was used to get the coefficient.

Full reliability of the instrument was obtained using the Spearman-Brown proficiency formula as follows:

$$R_2 = \frac{2\{\text{reliability of test (r)}\}}{1 + \{\text{reliability of 0.5 test (r)}\}}$$

$$\text{That is } R_2 = \frac{nr}{1 + (n-1)}$$

Where:

R_2 = Correlated reliability

r = Uncorrelated reliability

n = Number of parts

3.8 Data Analysis Techniques

Data was analysed using descriptive, correlation and regression analysis. Descriptive analysis was used to look at the commuters' perceived satisfaction on the visible variable, total satisfaction and particularly attribute of any service quality. The

responses was summarised in a table and a correlation analysis to measure linear correlation between variables was done to get the correlation coefficient to understand how the specific service quality attributes relate to total customer satisfaction. Quantitative data was analysed using Statistical Package for Social Sciences (SPSS) version 20.0. The multicollinearity of the independent variables was examined using the Pearson's correlation matrix and the coefficients were less than 0.8 indicating that there is no chance of multicollinearity in agreement with Sincich T et al, who mention that any figure below 0.8 confirms that there is no chance of multicollinearity.

3.9 Operational Definition of the Variables

Table 3.3: Operationalization of Variables

Objective	Variable	Indicator(s)	Measurement of Indicator	Measurement of scale	Data Collection Instruments	Data Analysis Techniques
To determine how reliability of the matatu transport influences customer satisfaction	Reliability	Arriving on time; Notification of delays; Delays enroute; Waiting away from home.	Mode of communication in case of delays; Opinion of commuters.	Nominal	Questionnaire Interview guides	Mean Standard deviation
To assess how the frequency of the matatus transport services influence customer satisfaction	Frequency	Total hours of service; Service on weekdays; Service on weekends; Service on public holidays; Service in the evening.	Data from route manager; Opinion from commuters.	Nominal	Questionnaire Interview guides	Mean Standard deviation
To evaluate the affordability of the matatus as a means of transport in influencing customer satisfaction	Affordability	Alternative: season prices; Cheap fares; Value for money.	Measures in place to ensure constant fare	Nominal	Questionnaire Interview guides	Mean Standard deviation
To examine the safety of the matatus industry in relation to customer satisfaction	Safety	Low probability of accidents; Low probability of assault	Provision of First Aid kit; Availability of dustbins; Seat belts in good conditions; Physical condition of the matatu	Nominal	Questionnaire; Interview guides	Mean; Standard deviation

To determine how the condition of the vehicle influences customer satisfaction	Condition of the vehicle	Guaranteed seat Spacious seats Well ventilated	Correct size of seats; Enough space between seats; Windows in good working conditions.	Nominal	Questionnaire; Interview guides	Mean Standard deviation
	Dependent Overall customer satisfaction	Availability of alternative vehicles; Time taken on journey; No frequent breakdowns on the way; Enough vehicles on the route; Friendly service crew.		Interval	Questionnaire Interview guides	Descriptive; Correlation; and Regression

3.10 Ethical Issues

Before administering the questionnaire to the respondents, prior arrangement was made with the route managers on the date and time to administer the questionnaire to the commuters. The purpose of the study was explained to the respondents and they were not forced to give their responses but were allowed to participate voluntarily to the study. An explanation of the objectives of the research was done before and after undertaking the research for clarity purposes on the direction of study. Utmost confidentiality about the respondents' responses was assured by way of keeping all responses secure and using them only for academic purpose. Before embarking on the field research, I sought permission from the National Council of Science and Technology, the matatu SACCOs where the matatu vehicles work under. Prior arrangements were made with the key informants before conducting the interviews or issuing them with the questionnaires.

3.11 Summary

In this chapter, the research methodology used was described in detail focusing on the main aspects which include: Research Design, Target Population, Sample Size and Sampling Procedures, Description of Data Collection Instruments, Data Collection Procedures, Data Analysis Techniques, Ethical Considerations and Operational Definition of the Variables.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter shows the data analysis, presentation and interpretation of the findings. In addition, the background information of the respondents, findings of the analysis based on the objectives of the study are presented.

Quantitative data was analysed using Statistical Package for Social Sciences (SPSS) version 20.0. Frequency tables, mean and standard deviation were used to present the findings as per the research objectives upon which data interpretations were made.

4.2 Response Rate

(Kothari, 2008), refers to the response rate as the extent to which the collected set of data includes all sample members of the targeted population. To ascertain in-depth of data collected, stating response rate of respondents is essential. The response rate is calculated by the number of collected questionnaires divided by the number of the entire sample. The study targeted a sample size of 144 respondents from 3 categories of matatu Sacco namely: ROG, C-BET and Outer Circle. The response rate for the three Saccos is shown in Table 4.1.

Table 4.1: Response Rate

	Sample size	Respondents	Percentage
ROG	62	58	93.55
C-BET	66	62	93.94
Outer Circle	16	13	81.25
Total	144	133	92.36

Table 4.1 shows that C-BET returned their questionnaires making a response rate of 93.94 percent followed by ROG 93.55 percent and Outer Circle 81.25 percent. The overall response rate was 92.36 percent. Berg (2004) states that response rate of 70 percent and above is credible for analysis. Therefore the questionnaire return rate was commendable at 92.36 percent and credible for analysis.

4.3 Demographic Characteristics of the Respondents

This section considered the gender, level of education and age of the respondents. This information is important for the study as it helped to evaluate the credibility of the respondents in answering the questionnaires or questions posed to them regarding the factors influencing customer satisfaction in public transport sector: A case of matatus in the Central Business District, Nairobi, Kenya.

4.3.1 Gender

This study sought to establish the gender of the respondents. The research findings are as indicated in Table 4.2.

Table 4.2: Distribution of the Respondents by Gender

	Frequency	Percent	Cumulative Percent
Male	50	37.6	37.6
Female	83	62.4	100.0
Total	133	100.0	

The study shows that majority (62.4 percent) of the respondents were female and 37.6 percent male.

4.3.2 Age of the Respondents

The study sought to establish the ages of the respondents. The findings are indicated in Table 4.3

Table 4.3: Age of the Respondents

	Frequency	Percent	Cumulative Percent
Below 20 years	21	15.8	15.8
Between 21 and 25 years	42	31.6	47.4
Between 26 and 35 years	44	33.1	80.5
Between 36 to 45 years	20	15	95.5
Over 45 years	6	4.5	100.0
Total	133	100	

Table 4.3 shows that majority (33.1%) of the respondents were aged between 26 and 35 years, 31.6% between 21 and 25 years, 15.8% aged below 20 years and 4.5% were aged over 45 years. The age of the respondents was important as different age groups have different perception and experience in public transport sector. The age bracket above 25 years, have routine commute pattern and enriched the data collected.

4.3.3 Frequency of Travel

This study sought to get information on how frequent the respondents use the matatu as a means of transport. The findings are tabulated on Table 4.4.

Table 4.4: Frequency of Travel

	Frequency	Percent	Cumulative Percent
Daily	67	50.4	50.4
Rarely	20	15	65.4
Occasionally	32	24.1	89.5
Never	14	10.5	100
Total	133	100	

Table 4.4 shows that the majority 50.4% travel daily, 24.1% travel occasionally, 15% rarely travel with 10.5% claimed not to travel at all. This confirms that since majority travelled they had the requisite experience on matatu travel and were the best target group for this research.

4.3.4 Reason of Travel

The study sought to find out the reason of travel of the respondents. 35.3% of the respondents travelled to work, 18.0% travelled to do shopping, and 27.1% travelled to school, 12.8% were leisure trips, and 6.8% were other trips. The findings were recorded on Table 4.5.

Table 4.5: Reason of Travel

	Frequency	Percent	Cumulative Percent
Work	47	35.3	35.3
Shopping	24	18	53.4
School	36	27.1	80.5
Leisure	17	12.8	93.2
Other	9	6.8	100
Total	133	100	

4.3.5 Highest Level of Academic Qualification of the Respondents

The study sought to establish the highest level of academic qualifications of the respondents. The research findings were indicated on Table 4.6.

Table 4.6: Highest Level of Academic Qualification of Respondents

	Frequency	Percent
Diploma	56	42.11
Bachelor's Degree	44	33.08
Master's Degree	26	19.55
PhD	7	5.26
Total	133	100

Table 4.6 shows that majority (42.11%) of the respondents had attained a Diploma or attended a college level of education, 33.08% Bachelor's degree, 19.55% Master's degree and 5.26% PhD. This is an indicator that all the respondents had attained high

levels of education and would therefore have the necessary information relevant to participate in the study.

4.4 Presentation and Interpretation of the Study Findings

This section of the study presents the findings based on the research objectives:

4.4.1 Reliability of the matatus transport and customer satisfaction

The study sought to determine whether reliability of the matatus transport influences customer satisfaction in the Central Business District of Nairobi, Kenya. The respondents were given a statements regarding provision of matatu services to indicate whether they agreed or disagreed. The findings are shown on Table 4.7.

Table 4.7: Reliability of the Matatu and Customer Satisfaction

Statements	SD %	D %	N %	A %	SA %	M	Standard deviation
There is no delay in arrival time	52	36	0	0	12	4.2	0.805
Notification of delay is made in advance	60	28	4	8	0	3.4	0.763
There are no delays enroute to destination	64	36	0	0	0	4.8	0.846
Time taken at the bus stop before boarding a matatu is acceptable	44	48	0	8	0	4.1	0.766
Vehicles hardly breakdown enroute	56	28	4	8	4	3.9	0.679

Key: (SD-strongly disagree, D-disagree, N-neutral, SA- strongly agree and M-mean.)

Table 4.7 shows that majority (52.0%) of the respondents strongly disagreed to the statement that there is no delay in arrival time, 36.0% of the respondents disagreed, 12.0% agreed with a mean of 4.2 and a standard deviation of 0.805. Majority (60.0%) of the respondents strongly disagreed to the statement that, notification of delay is made in advance, 28.0% disagreed, 8.0% agreed and 4.0% were neutral with a mean of 3.4 and a standard deviation of 0.763. Majority (64.0%) strongly disagreed with the statement that, there are no delays enroute to destination, 36.0% disagreed with a mean of 4.8 and a standard deviation of 0.846. Majority (48.0%) strongly disagreed

with the statement that time taken at the bus stop before boarding a matatu is acceptable, 44.0% disagreed, 8.0% agreed with a mean of 4.1 and a standard deviation of 0.766 Majority (56.0%) strongly disagreed with the statement that vehicles hardly breakdown enroute, 28.0% disagreed, 4.0% were neutral, 8.0% agreed and 4.0% strongly agreed with a mean of 3.9 and a standard deviation of 0.679.

4.4.2 Frequency of the Matatu Transport Services and Customer Satisfaction

The study sought to determine whether the frequency of the matatus transport services influence customer satisfaction in the Central Business District of Nairobi, Kenya. The respondents were given a list of statement to indicate whether they agreed or disagreed. The findings are shown on Table 4.8.

Table 4.8: Frequency of the Matatus Transport Services and Customer Satisfaction

Statements	SD %	D %	N %	A %	SA %	M	Standard deviation
Total hours of service is sufficient	48	40	4	0	8	3.8	0.568
Availability of service on weekends is commendable	52	36	0	12	0	3.5	0.642
Sufficient service during public holidays and festive seasons	60	40	0	0	0	4.1	0.761
Enough services in the evenings	38	56	4	0	2	2.8	0.465
Effective services on working days	40	60	0	0	0	3.4	0.744
Customers are satisfied with queuing time	24	44	0	24	8	3.3	0.602

Key: (SD-strongly disagree, D-disagree, N-neutral, SA- strongly agree and M-mean.)

Table 4.8 shows that majority (48.0%) of the respondents strongly disagreed to the statement that total hours of service is sufficient, 40.0% disagreed, 8.0% were neutral and 4.0% strongly agreed with a mean of 3.8 and a standard deviation of 0.568. Majority (52.0%) strongly disagreed with the statement that availability of service on

weekends is commendable, 36.0% disagreed, 12.0% agreed with a mean of 3.5 and a standard deviation of 0.642. Majority (60.0%) strongly disagreed that sufficient service during public holidays and festive seasons, 40.0% disagreed with a mean of 4.1 and a standard deviation of 0.761. Majority (56.0%) disagreed that there is enough services in the evenings, 4% were neutral, 2% strongly disagreed with a mean of 2.8 and a standard deviation of 0.465.

Majority (60.0%) of the respondents strongly disagreed that there is effective services on working days, 40.0% disagreed with a mean of 3.4 and a standard deviation of 0.744. Majority (44.0%) disagreed that customers are satisfied with queuing time, 24.0% strongly disagreed, 24% agreed and 8% strongly agreed with a mean of 3.3 and a standard deviation of 0.602.

4.4.3 Affordability of the Matatu and Customer Satisfaction

This study sought to establish the affordability of the matatus as a means of transport in influencing customer satisfaction in the Central Business District of Nairobi, Kenya the respondents were given a list of statement to indicate whether they agreed or disagreed. The findings are shown on Table 4.9

Table 4.9: Influence of Affordability of the Matatus on Customer Satisfaction

Statements	SD	D	N	A	SA	M	Standard deviation
	%	%	%	%	%		
You are satisfied with the fare at off peak hours.	0	4	0	32	64	3.6	0.578
You are satisfied with the fare at peak hours.	28	52	0	0	20	4.3	0.645
Passengers at the stops make it easier for matatu to hike fare.	0	4	12	36	48	3.4	0.691
The fare charged commensurate with distance.	56	36	0	8	0	3.9	0.8

Key: (SD-strongly disagree, D-disagree, N-neutral, SA- strongly agree and M-mean.)

Table 4.9 shows that majority (64.0%) of the respondents strongly agreed that they are satisfied with the fare at off peak hours, 32.0% agreed, 4.0% disagreed with a mean of 3.6 and a standard deviation of 0.578. Majority (52.0%) of the respondents disagreed that they are satisfied with the fare at peak hours, 28.0% strongly disagreed and 20.0% strongly agreed with a mean of 4.3 and a standard deviation of 0.645. Majority (48.0%) of the respondents strongly agreed that passengers at the stops make it easier for matatu to hike fare, 36.0% agreed, 12.0% were neutral and 4.0% disagreed with a mean of 3.4 and a standard deviation of 0.691 Majority (56.0%) strongly disagreed that the fare charged commensurate with distance, 36.0% disagreed, 8.0% agreed with a mean of 3.9 and a standard deviation of 0.800.

4.4.4 Safety of the Matatu Transport and Customer Satisfaction

This study sought to establish the safety of the matatu transport in relation to customer satisfaction in the Central Business District of Nairobi, Kenya. The respondents were given a list of statement to indicate whether they agreed or disagreed. The findings are shown in Table 4.10.

Table 4.10: Safety of the Matatu Transport and Customer Satisfaction

Statements	SD %	D %	N %	A %	SA %	M	Standard deviation
Drivers follow traffic rules and speed of vehicle guarantees your safety	60	40	0	0	0	4.4	0.845
Have witnessed police receive bribes from the drivers and conductors	0	0	0	32	68	4.6	0.791
Drivers have sufficient driving skills	36	48	4	12	0	3.6	0.806
The matatus drop the passengers at their destination	56	44	0	0	0	3.9	0.777

Key: (SD-strongly disagree, D-disagree, N-neutral, SA- strongly agree and M-mean.)

Table 4.10 shows that majority (60.0%) strongly disagree with the statement that drivers drive follow traffic rules and speed of vehicle guarantees their safety, 40.0% disagree with a mean of 4.4 and a standard deviation of 0.845. Majority (68.0%) strongly agree that they have witnessed police receive bribes from the drivers and

conductors, 32.0% agree with a mean of 4.6 and a standard deviation of 0.791. Majority (48.0%) disagree with the statement that drivers have sufficient driving skills, 36.0% strongly disagree, 12.0% agree, 4.0% are neutral with a mean of 3.6 and a standard deviation of 0.806 and majority (56.0%) strongly disagree with the statement that the matatus drop the passengers at their destination, 44.0% disagree with a mean of 3.9 and a standard deviation of 0.777.

4.4.5 Condition of the Vehicle and Influence on Customer Satisfaction

This study sought to determine how the condition of the vehicle influences customer satisfaction in the Central Business District of Nairobi, Kenya. The respondents were given a list of statement to indicate if they agreed or disagreed. The findings are shown in Table 4.11.

Table 4.11: Conditions of the Vehicle and Influence on Customer Satisfaction

Statements	SD %	D %	N %	A %	SA %	M	Standard deviation
Loud uncomfortable music is played	0	0	0	56	44	3.7	0.822
Cleanliness of the interiors are sufficient	68	32	0	0	0	4.3	0.745
Proper shelter and benches are available at designated stops	64	36	0	0	0	4.8	0.846
Appropriate seats are available for females, the aged, expectant women and the physically challenged	48	44	0	8	0	3.3	0.602

Key: (SD-strongly disagree, D-disagree, N-neutral, SA- strongly agree and M-mean.)

Table 4.11 shows that majority (56.0%) agreed that loud uncomfortable music is played, 44.0% strongly agreed with a mean of 3.7 and a standard deviation of 0.822. Majority (68.0%) strongly disagreed that cleanliness of the interiors are sufficient, 32.0% disagreed with a mean of 4.3 and a standard deviation of 0.745. Majority (64.0%) strongly disagreed that proper shelter and benches are available at designated stops, 36.0% disagreed, with a mean of 4.8 and a standard deviation of 0.846 and majority (48.0%) disagreed that appropriate seats are available for females, the aged,

expectant women and the physically challenged, 44.0% disagreed to a with a mean of 3.3 and a standard deviation of 0.602.

4.5 Determinants of Customer Satisfaction (Independent Variables)

The study further sought to establish the extent to which the respondents agreed or disagreed with the various factors influencing customer satisfaction in the public transport sector. The findings were presented in Table 4.12

Table 4.12: Factors Affecting Customer Satisfaction in Public Transport Sector

Statements	SD %	D %	N %	A %	SA %	M	Standard deviation
Reliability influences customer satisfaction in public transport sector	0	0	0	36	64	4.8	0.846
Frequency of services determines customer satisfaction in public transport sector	0	8	4	28	60	3.4	0.763
Affordability of the means of transport is a determinant of customer satisfaction in public transport sector	0	0	12	32	56	3.9	0.679
Safety influences customer satisfaction in public transport sector	0	0	12	36	52	4.2	0.805
Condition of the vehicle is a determinant in influencing customer satisfaction in public transport sector	0	0	8	44	48	4.1	0.766

Key: (SD-strongly disagree, D-disagree, N-neutral, SA- strongly agree and M-mean.)

Table 4.12 shows that majority (64.0%) of the respondents strongly agreed that reliability of the matatus transport influence customer satisfaction to, 36.0% agreed, 12.0% remained neutral with a mean of 4.2 and a standard deviation of 0.805. Majority (60.0%) of the respondents strongly agreed that frequency of the matatus transport services influence customer satisfaction, 28.0% agreed, 8.0% disagreed and 4.0% remained neutral with a mean of 3.4 and a standard deviation of 0.763. Majority (56.0%) strongly agreed that affordability of the matatus as a means of transport

influence customer satisfaction, 32.0% agreed with a mean of 4.8 and a standard deviation of 0.846. Majority (52.0%) strongly agreed that safety of the matatus industry affect customer satisfaction, 44.0% agreed and 12.0% were neutral with a mean of 4.1 and a standard deviation of 0.766 and majority (48.0%) of the respondents strongly agreed that comfort in the matatus industry influences customer satisfaction, 44.0% agreed, 8.0% neutral with a mean of 3.9 and a standard deviation of 0.679.

4.6 Influence of Moderating Factors on Customer Satisfaction in Public Transport

The government policies and politics were identified as the moderating variables in this study. This study sought to find out if they had any influence on customer satisfaction in public transport.

4.6.1 Influence of Politics on Customer Satisfaction in Public Transport

The study sought to establish whether politics have any significant influence in the performance of the matatu in meeting customer expectations. The results were summarized in Table 4.13.

Table 4.13: Influence of Politics

	Frequency	Percent	Cumulative Percent
Yes	87	65.4	65.4
No	46	34.6	100.0
Total	133	100.0	

In Table 4.13, majority of the respondents 65.4% agreed with the statement that politics influence in the performance of the matatu in meeting customer expectations with minority 34.6 % disagreeing with the statement.

4.6.2 Nature of the Influence of Politics

The study in addition to looking at the influence of politics, wanted to establish whether politics influence negatively or positively the matatu efforts in meeting customer satisfaction.

Those that agreed (87) that politics influence the performance of the matatu in meeting customer expectations 87.9% who were the majority mentioned that it had a negative influence while only a few 11.5% confirmed a positive influence as shown in Table 4.14. Most respondents argued out that politics cause chaos and disorder in the market even by bending laws to fit those of their own while others from positive perceptives said politics help in shaping the sectors through good policies.

Table 4.14: Nature of Influence of Politics on Customer Satisfaction

	Frequency	Percent
Negative	77	88.5
Positive	10	11.5
Total	87	100

4.6.3 Influence of Government Policies

The study sought to find out whether government policies influence in the performance of the matatu in meeting customer expectations. The findings are recorded in Table 4.15

Table 4.15: Influence of Government Policies on Customer Satisfaction

	Frequency	Percent	Cumulative Percent
Yes	92	69.2	69.2
No	41	30.8	100.0
Total	133	100.0	

In Table 4.15, majority of the respondents, 69.2% agreed to the statement that government policies influence in the performance of the matatu in meeting customer expectations. Only 30.8% disagreed.

4.6.4 Nature of Influence of Government Policies on Customer Satisfaction

In Table 4.16, of the 92 respondents who agreed with the statement that government policies influence customer satisfaction, majority 78.2% said the influence is positive only if the policies set in place represent the true will in the sector since it is only through sound policies that the market can have order.

Table 4.16: Nature of Influence of Government Policies on Customer Satisfaction

	Frequency	Percent
Positive	72	78.2
Negative	20	21.8
Total	92	100

4.7 Regression Analysis

Regression analysis was used to model, examine, and explore the factors influencing customer satisfaction in public transport sector (reliability of the matatus transport, frequency of the matatus transport services, affordability of the matatus as a means of transport, safety of the matatus industry and comfort in the matatus industry) used for the study, this was important in measuring the extent to which changes in one or more variables jointly affected changes in another variable. Regression analysis was used to generate an equation applied to the independent variables in order to best predict the dependent variable in the model. Each independent variable is associated with a regression coefficient describing the strength and the sign of that variable's relationship to the dependent variable.

4.7.1 Model Summary

The independent variables that were studied, explain only 78.8% of the dependent variable as represented by the adjusted R square in Table 4.17. This therefore means that other factors not studied in this research contribute 21.2%. Therefore, further research should be conducted to assess other factors influencing customer satisfaction in public transport sector.

Table 4.17: Model Summary

Model	R	R Square	Adjusted R Square
1	0.597 ^a	0.645	0.788

4.7.2 Analysis of Variance (ANOVA)

In Table 4.18, the significance value is 0.002 which is less than 0.05 thus the model is statistically significant in predicting factors influencing customer satisfaction in public transport sector. The F critical at 5% level of significance was 1.554. Since F calculated (value = 4.53) is greater than the F critical (value=1.554), this shows that the overall model was significant.

Table 4.18: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.	Model
1	Regression	1.442	2	0.213	4.53	0.002b
	Residual	3.492	40	1.341		
	Total	4.934	42	1.554		

4.7.3 Significance of Coefficients

Coefficient of determination explains the extent to which changes in the dependent variable (customer satisfaction) can be explained by the change in the independent variables (reliability of the matatus transport, frequency of the matatus transport services, affordability of the matatus as a means of transport, safety of the matatus industry and condition of the matatu vehicle) variation in the dependent variable that is explained by all the five independent variables. This is summarised in Table 4.19.

Table 4.19: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	0.601	0.072		0.141	
Reliability of the matatus transport	0.811	0.011	0.178	0.579	0.005
Frequency of the matatus transport services	0.784	0.064	0.106	0.643	0.002
Affordability of the matatus as a means of transport	0.642	0.024	0.493	0.374	0.003
Safety of the matatus industry	0.612	0.015	0.068	0.243	0.005
Condition of the vehicle	0.578	0.075	0.241	0.567	0.001

As per the SPSS generated Table 4.19, the equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$) became $Y = 0.601 + 0.811X_1 + 0.784 X_2 + 0.642X_3 + 0.612X_4 + 0.578X_5 + \varepsilon$

Whereby Y= Customer satisfaction

X₁= Reliability of the matatus transport,

X₂= Frequency of the matatus transport services,

X3= Affordability of the matatus as a means of transport,

X4 = Safety of the matatus industry,

X5 = Condition of the vehicle.

According to the regression equation established, taking all the independent into constant at zero, customer satisfaction on matatu transport in public transport in Kenya will be 0.601 (60.1%). The data findings show that a unit increase in reliability of the matatus transport services would lead to 0.811(81.1%) increases in the customer satisfaction in public transport in Kenya. A unit increase in frequency of the matatus as a means of transport would lead to 0.784 increases in in the customer satisfaction in public transport in Kenya. A unit increase in affordability of the matatus industry would lead to 0.642 increases in customer satisfaction in public transport in Kenya. A unit increase in safety in the matatus industry would lead to 0.612 increases in customer satisfaction in public transport in Kenya and a unit increase in condition of the vehicle would lead to 0.578 increases in customer satisfaction in public transport in Kenya

CHAPTER FIVE

SUMMARY OF THE FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter provides the summary of the findings, discussion, conclusions and recommendations of the study based on the objectives of the study. Descriptive and inferential statistics have been used to discuss the findings of the study.

5.2 Summary of the Findings

The study established that most of the respondents disagreed with statements in frequency of the matatu transport services, affordability of the matatu as a means of transport, safety of the matatu industry, condition of the matatu vehicles and reliability of the matatu transport to a very great extent. It was also pointed that the respondents mostly disagreed with the statement safety of the matatus industry and affordability of the matatus. These findings indicate that the public are still dissatisfied with the public transport services in Kenya.

The analysis done on correlation indicates that reliability has the strongest relationship with the overall commuter satisfaction followed by frequency, affordability, security and comfort.

5.3 Discussion of the Findings

In the first objective, the study sought to establish whether reliability influences customer satisfaction in the public transport sector. The findings as recorded in Table 4.12, confirm this. Majority (64%) of the respondents agreed that reliability influences customer satisfaction. Those who agreed to this statement mentioned that the travel time should be as short as possible without risking the lives of those commuting. A fixed travel schedule would help in commuters with assurance of reaching their destination in good time.

The findings give an indication that the commuters are not satisfied with the duration taken before delivery of services. These concur with the findings of Randheer Kokku et al. (2011) who state that commuters value more the delivery of services on timely basis. Bielen & Demoulin (2007) also pointed out that timely arrival of the matatus at

the waiting station also determines customer satisfaction. Friman (2004) believes that punctuality of service also affects the commuter's satisfaction on the quality of public transport service. Another indicator of a reliable public transport is that which gives information in case of delayed service.

In the second objective, the study sought to examine how the frequency of the matatu services influences customer satisfaction. From the findings in Table 4.12, majority (60%) of the respondents agreed that the frequency of matatu services influences customer satisfaction. The supply of the vehicles is not enough to meet the increased demand from the growing population in Nairobi. During the peak hours, the number of commuters is high whereas the number of vehicles is low. The respondents agreed that they would be more satisfied if the numbers would be able to meet the demand at peak hours.

The findings in Table 4.8, further imply that the commuters are not satisfied with the frequency of the matatu services. These findings concur with the findings of Govender (2014), who mentions that if services are available during peak times such as evening and off peak times such as public holidays and weekends, the commuters' view on service quality will be majorly influenced. Commuters are generally satisfied with matatu services that are available on weekdays, weekends, public holidays and if possible until late in the night. When there is increased frequency of transport services there will be increased commuter satisfaction and urban transport support (Taylor et al., 2008).

The third objective was geared towards evaluating the affordability of matatu as a means of transport in influencing customer satisfaction. The findings recorded in Table 4.12 indicate that majority (56%) of the respondents confirm that affordability influences customer satisfaction. Of those who agreed, they would like to have value for their money paid. The off peak and on peak rate should not have a huge difference yet the distance travelled is the same. The weather or increased number of passengers is not a justification to increased fare.

The findings in Table 4.9, indicate that the customers are not satisfied with the fare charged. This concurs with the findings of Alan (1987) which states that travel expenditure is viewed as the most important factor to consider when choosing mode

of transport by the commuters especially those having low income. Andreassen (1995) indicates that the ticket price, how high or low the price is and the outlook of the terminal are some the factors that influence customer satisfaction. Mosi (2010) also found ticket price as one of the major reasons why commuters are not satisfied, Very few routes have standard fares. The fares vary depending on route, peak time and the weather.

The fourth objective looked at the safety in relation to customer satisfaction. From the findings recorded in Table 4.12, indicate that majority (52%) of the respondents agree that safety of the matatu influences customer satisfaction. All commuters would like to feel safe on board and at the bus stops. Pick pocketing while boarding the bus or when in the bus, mugging at the bus stations and road carnages were some of the common security challenges mentioned that should be brought to zero for commuters to be satisfied with the public transport.

The findings on Table 4.10, confirm that the commuters are not satisfied with the safety standards in the matatu industry. Many confirmed to having witnessed the police receiving bribes and drivers not observing the traffic rules and recklessly driving the matatu vehicles even onto the pedestrian walk. This finding is in line with Raynor and Mirzoev (2014, p.344) who mention that, reckless driving and over speeding always lead to accidents which could have been prevented. Mungai et al. (2012) goes further to mention that drivers are paid depending on the number of passengers they have. Many drivers end up competing to carry as many passengers as possible, leading to constant rush for as many passengers as possible and carry as many as possible.

The fifth and final objective focused on examining how condition of the vehicle influence customer satisfaction. The findings summarised in Table 4.12, indicate that majority (48%) of the respondents agree that the condition of the matatu influences customer satisfaction. Most of the respondents confirmed that overcrowded vehicles, unpleasant behaviour from fellow commuters, sexual harassment by the matatu crew and playing loud music is annoying. Most of the commuters would like to enjoy their journey and be as comfortable as using their own private vehicle.

The findings on Table 4.11, indicate that the commuters are not satisfied with the conditions of the matatu vehicles which cause physical distress either physically, emotionally or socially. This finding is in line with Islam, R., Chowdhury, M. S., Sarker, M. S., & Ahmed, S. (2014), state that comfort is one of the factors that influence customer satisfaction. Commuters would want to have appropriate seats to sit on, clean matatu as well as clean drivers and turn boys. Elobi & Mazzulla, (2009) researched on air passengers and realised that they not only value comfortability but also cleanliness which also has an impact on their satisfaction level.

Politics and government policies were also looked at as the moderating variables and indeed the findings as recorded in table 4.13 and 4.15 confirm that politics and government policies also influence customer satisfaction.

5.3 Conclusion

Based on the study findings, it is concluded that a significant and a positive relationship exists between the above discussed factors and customer satisfaction in the central business district of Nairobi, Kenya. The study also concluded that the factors affect customer satisfaction in the Central Business District of Nairobi, Kenya. In order to enhance customer satisfaction the reliability and frequency of the matatus must come first. When there is increased frequency of transport services there will be increased commuter satisfaction and urban transport support. Frequency can only be ensured if there enough number of public transport vehicle to ferry people from one place to another. This also helps to enhance certainty and proper planning for the customers hence customer satisfaction.

Reliable transport will ensure longer travel time is minimised by creating lanes for public transport only and good motorcycle and bicycle lanes as well as pedestrian walks. Affordability on the other hand is that commuters want to get value for their money paid. If more customers are to be attracted to the public transport, these three need to be improved to maintain the existing commuters and to attract more.

Friendliness of the personnel especially driver behaviour in relation to service frequency has an impact on customer satisfaction. Most of the matatu owners are absentee operators of their matatu businesses; they set targets for daily fare

collections, and are not conversant with traffic rules and customer care. Therefore proper training should be conducted to enlighten both drivers and matatu owners on how to enhance customer satisfaction.

5.4 Recommendations for Policy Action

The study recommends the following based on the findings and conclusions made:

- i. Matatu operators should set fixed travelling schedule. This will help customers in planning their time well and to avoid delays.
- ii. The number of vehicles in every route should be increased or the seating capacity be taken into consideration. Areas with high population should have more vehicles with high seating capacity plying those routes. This will avert the waiting period before next vehicle is boarded;
- iii. Government should monitor the fare prices of matatu operators in order to avoid exploitation of customers as well as exploitation of matatu operators;
- iv. Long term solution to ensuring customer satisfaction should be established. This can be done by government coming up with proper policies pertaining drivers. They should be well trained and properly supervised in order to assure customers of their safety. Strict measures must be put in place for punishing both drivers and policemen who involve themselves in corruption;

CCTV cameras should be placed on all matatu to put in check on board security. All commuters would like to feel safe on board and at the bus stops. Pick pocketing while boarding the bus and when on board, mugging at bus stations and road carnages are some of the safety challenges mentioned that should be brought to zero for commuters to be satisfied with the public transport;

- v. The matatu owners should ensure the condition of the matatu is checked to ensure the commuter does not suffer any physical distress while travelling. Proper ventilation, ample seating space, reasonable volume of music played and friendly crew to handle the commuters should be observed

If the country is to have a sustainable public transport, all the attributes need to be improved by carrying out commuters survey to get an indication of what should be improved on to maintain the current commuters and attract more from the private vehicles into the public transport.

5.5 Suggestion for Further Studies

The following suggestions are proposed for further studies:

- i. Based on the findings, the study suggests that further studies should be conducted on the factors influencing customer satisfaction on other modes of public transport;
- ii. This study was only limited to public transport sector and cannot be generalised for other sectors. It is suggested that further studies be done on customer satisfaction in other sectors;
- iii. A study on the matatu industry labour conditions to better understand the performance of the matatu crew in provision of the services;

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APPENDICES

APPENDIX 1: INTRODUCTORY LETTER

Phoebe Okoth
P O Box 66540-00800
Nairobi

April 2017

Dear Respondent,

RE: DATA COLLECTION FOR ACADEMIC RESEARCH

I am conducting an academic research on the topic below:

FACTORS INFLUENCING CUSTOMER SATISFACTION IN PUBLIC
TRANSPORT SECTOR: A CASE OF MATATUS IN CENTRAL BUSINESS
DISRICT NAIROBI-KENYA

A series of questions have been prepared to be answered by you. The questionnaire is aimed at collecting data for research purpose which is for partial fulfilment of the requirements for the award of the degree of Master of Arts in Project Planning and Management from the University of Nairobi. I assure you that whatever information is obtained, will be used for academic purposes only and will be treated as confidential information. I will be extremely grateful for your kind cooperation.

Yours Sincerely,

Phoebe Okoth
Cell phone: +254733369539
Email: poacreations@gmail.com

APPENDIX 2: QUESTIONNAIRE

(This questionnaire was answered by two passengers from each of the 72 sampled vehicles from the three named matatu sacco.)

This study is meant to analyse customer satisfaction in the use of public transport, your answer will be relevant to the findings of this study. I wish to find out your views on reliability, frequency, comfort, affordability and safety of public transport.

Section A: Background Information

1. Gender: Male Female

2. Age:

Less than 20 Years 21 – 25 Years 26 – 35Years 36 – 45Years

Over 45 Years

3. What is your level of education?

Diploma Bachelor's Degree Master's Degree Post-graduate Diploma

4 How often per week do you use the matatu?

Daily Once Rarely Weekends only

5 In the list below tick were appropriately the common reasons for your travelling.

a. Work

b. Shopping

c. School

d. Leisure

e. Other reasons.

SECTION B:

1) INFLUENCE OF THE INDEPENDENT VARIABLES ON THE DEPENDENT VARIABLE

Kindly provide your honest opinion on your experience with the Public Service Transport – The Matatu. To what level or extent do you agree or disagree with the following statements. Tick appropriately on the level of agreement/disagreement indicated in the tables below:

Objective 1: Determining how reliability of the matatu transport influences customer satisfaction in the central business district of Nairobi, Kenya

No.	Reliability Indicators	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	There is no delay in arrival time					
2.	Notification of delay is made in advance					
3.	There are no delays enroute to destination					
4.	Time taken at the bus stop before boarding a matatu is acceptable					
5.	Vehicles hardly breakdown enroute					

Objective 2: Assessing how the frequency of the matatu transport services influence customer satisfaction in the central business district of Nairobi, Kenya

No.	Frequency Indicators	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	Total hours of service is sufficient					
2.	Availability of service on weekends is commendable					
3.	Sufficient service during public holidays and festive seasons					
4.	Enough services in the evenings					
5.	Effective services on working days					
6.	Customers are satisfied with queuing time					

6 i) During the peak hours, what would be the average inter arrival rate of these matatus?

0-30minutes 30-60minutes Above 60 minutes

ii) During the off peak hours, what would be the average inter arrival rate of these matatus?

0-30minutes 30-60minutes Above 60 minutes

iii) In your own opinion, are you satisfied with the inter arrival rate as indicated above?

Yes No

If No, explain.....

7 i) Are there other matatu companies plying the same route?.....

ii) How do you compare the frequency of arrival of these companies plying the same route?

.....

Objective 3: Evaluating the affordability of the matatus as a means of transport in influencing customer satisfaction in the central business district of Nairobi, Kenya

	Affordability indicators	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	You are satisfied with the fare at off peak hours					
2.	You are satisfied with the fare at peak hours					
3.	Passengers at the stops make it easier					

	for matatu to hike fare					
4.	The fare charged commensurate with distance					

Objective 4: Examining the safety of matatu industry in relation to customer satisfaction in the central business district of Nairobi, Kenya

	Safety Indicators	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	Drivers drive follow traffic rules and speed of vehicle guarantees your safety					
2.	Have witnessed police receive bribes from the drivers and conductors					
3.	Drivers have sufficient driving skills					
4.	The matatus drop the passengers at their destination					

Objective 5: Determining how the condition of the matatu vehicle influences customer satisfaction in the Central Business District of Nairobi, Kenya

No.	Condition of matatu Indicators	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	Loud uncomfortable music is played					
2.	Cleanliness of the					

	interiors are sufficient					
3.	Proper shelter and benches are available at designated stops					
4.	Appropriate seats are available for females, the aged, expectant women and the physically challenged					

2) To what level or extent do you agree or disagree with the following statements. Please tick appropriately on the level of agreement/disagreement indicated in the table below:

Independent variable	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
• Reliability influences customer satisfaction in public transport sector					
• Frequency of services determines customer satisfaction in public transport					

sector					
<ul style="list-style-type: none"> Affordability of the means of transport is a determinant of customer satisfaction in public transport sector 					
<ul style="list-style-type: none"> Safety influences customer satisfaction in public transport sector 					
<ul style="list-style-type: none"> Condition of the vehicle is a determinant in influencing customer satisfaction in public transport sector 					

	Customer satisfaction	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<ul style="list-style-type: none"> You are pleased with the transport services 						

•	Drivers and conductors are consistently polite					
•	Compared to private cars you are happy in having public transport					
•	You are satisfied with the fares					
•	As compared to private sector you are more satisfied					

SECTION C: QUESTIONS ON THE EFFECT OF MODERATING VARIABLES ON DEPENDENT VARIABLE

1. a) Do you think politics has a role to play in the provision of public transport services?

Yes

No

b) If yes, what is the nature of the role played?

Positive

Negative

Explain your answer in (b) above

.....

.....

.....

2. a) Does the government policy influence the services offered by the public transport sector?

Yes

No

b) If yes, what is the nature of the influence?

Positive

Negative

Please explain your answer in (b) above

.....
.....
.....

3. Do you agree with the following statements; to what level? Please tick appropriately on the level of agreement/disagreement indicated in the table below:

Moderating Factors	Large Extent	Very Large Extent	Neutral	Low Extent	Very Low Extent
• Politics determines the provision of effective and efficient public transport services					
• Government policies influences the provision of					

effective and efficient public transport services					
---	--	--	--	--	--

4. Apart from reliability, frequency, affordability, safety, condition of the matatu, government policy and politics, state any other factors that influence customer satisfaction in public transport sector.

.....

.....

.....

5. Any comments or suggestions on how the public transport sector could be made even better in favour of the commuter?

.....

.....

.....

APPENDIX 3: INTERVIEW GUIDE I

Interview guide was answered by the matatu service crew (tout, driver and route manager) at the Gill House terminus from each of the matatu Saccos

I am Phoebe Okoth, a student at the University of Nairobi, School of Continuing and Distance Education. I am currently undertaking my research project as a requirement for award of the degree of Masters of Arts in Project Planning and Management. The study is on:

FACTORS INFLUENCING CUSTOMER SATISFACTION IN PUBLIC
TRANSPORT SECTOR: A CASE OF MATATUS IN CENTRAL BUSINESS
DISRICT NAIROBI-KENYA

This study is meant to analyse customer satisfaction in the use of public transport, your answer will be relevant to the findings of this study. I wish to ask you a few questions regarding your views on the services provided by the public transport; matatu in Kenya. The findings and recommendations of the study will contribute to the improvement of public transport in Kenya. I would like to collect data that will assist in accomplishing the objectives of this study. The information you provide will be treated with utmost confidentiality.

1. Which matatu Sacco do you work with?

Outer circle Sacco ROG Sacco C-BET Sacco

2. a) What is your role or position and for how long have you worked in that capacity?

- Have you ever received any training to assist you in your role or position?
- How did you gain the capacity to carry out the responsibilities?

3. a) Have you ever been arrested for any traffic offence?

- What was the root cause of the arrest?

4. a) What time does your shift start and end?

- b) Do you get any breaks during your shift?
5. How many trips per day do you have during
- i. Working days.....
 - ii. Weekends
 - iii. Holidays.....
6. a) How many days do you work in a week?
- b) Are you given any days off?
7. a) What target are you given per day?
- b) Is it too high or too low?
- c) What do you do to meet your target?
8. Are you satisfied with the daily wage/salary you receive?
9. Are there matatus available daily during the weekdays, weekends and public holidays?
- Yes
- No
- If No, explain
-
-
- a) Have you ever been involved in an accident?
- b) What was the cause?
- c) Do you have any medical cover?
10. How would you describe your working relationship with the other matatu actors?
11. Have you ever given a bribe to traffic policeman? Why?

12. a) Are you allowed to form/join a union to fight for your rights?
 - b) Do you belong to any union? Name it?
 - c) Does the union give you service as a member?
13. Are there any laid down procedures regarding the operations of the matatu in the terminus?
14. Are you required to pay any levy to operate in the terminus?
15. Do you think the commuters are satisfied with the services you provide? Why?
16. What can be done to make the services much better?

APPENDIX 4: INTERVIEW GUIDE II

This interview guide was used to interview one informant from the Ministry of Transport, Ministry of Labour, Nairobi City council, National Transport and Safety Authority (NTSA), Matatu Owners Association (MOA) and the Kenya Police.

I am Phoebe Okoth, a student at the University of Nairobi, School of Continuing and Distance Education. I am currently undertaking my research project as a requirement for award of the degree of Masters of Arts in Project Planning and Management. The study is on:

FACTORS INFLUENCING CUSTOMER SATISFACTION IN PUBLIC TRANSPORT SECTOR: A CASE OF MATATUS IN CENTRAL BUSINESS DISRICT NAIROBI-KENYA

This study is meant to analyse customer satisfaction in the use of public transport, your answer will be relevant to the findings of this study. I wish to ask you a few questions regarding your views on the services provided by the public transport; matatu in Kenya. The findings and recommendations of the study will contribute to the improvement of public transport in Kenya. I would like to collect data that will assist in accomplishing the objectives of this study. The information you provide will be treated with utmost confidentiality.

1. What is your role or position in this institution? For how long have you worked in this capacity?
2. What are some of the achievements that have taken place in the matatu industry since independence?
3. What are some of the challenges in the management of the matatu industry?
4. Does politics have any role to place in the provision of effective services in public transport sector? Is it negative or positive? How do you manage these challenges?
5. What are the prominent labour issues and challenges facing the matatu workers and how do you counter these challenges?
6. What are some of the traffic offences recorded from the matatu sector?
7. a) When do we have the highest number of accidents in Nairobi?

- b) What measures have been put in place to curb these accidents?
8. a) Who are involved in coming up with the policies on public transport? How are they selected to form part of the policy group?
- b) Are there any policies in favour of the commuter?
9. What is your opinion about matatu workers forming or joining a transport trade union? Why?
10. a) Do you think the commuters are satisfied with the services provided by the public transport sector?
- b) What plans do you have to make the services even better to the satisfaction of the commuters

APPENDIX 5: MINISTRY OF EDUCATION APPROVAL LETTER



Republic of Kenya
MINISTRY OF EDUCATION
STATE DEPARTMENT OF BASIC EDUCATION

Telegrams: "SCHOOLING", Nairobi
Telephone: Nairobi 020 245099
Email: rce@kenya.go.ke
rce@kenya.go.ke

REGIONAL COORDINATOR OF EDUCATION
NAIROBI REGION
NYAYO HOUSE
P.O. Box 74629 - 00209
NAIROBI

When replying please quote

Ref: RCE/NRB/GEN/1/VOL. 1

DATE: 6th July, 2017

Phoebe Awuor Okoth
University of Nairobi
P O Box 30197-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

We are in receipt of a letter from the National Commission for Science, Technology and Innovation regarding research authorization in Nairobi County on "**Factors influencing customer satisfaction: A case of matatus in Central Business District Nairobi-Kenya.**"

This office has no objection and authority is hereby granted for a period ending **3rd July, 2018** as indicated in the request letter.

Kindly inform the Sub County Director of Education of the Sub County you intend to visit.




MAINA NGURU
FOR: REGIONAL COORDINATOR OF EDUCATION
NAIROBI

C.C

Director General/CEO
Nation Commission for Science, Technology and Innovation
NAIROBI

APPENDIX 6: NACOSTI RESEARCH PERMIT

THIS IS TO CERTIFY THAT: **Permit No. : NACOSTI/P/17/68267/17882**
MS. PHOEBE AWUOR OKOTH **Date Of Issue : 4th July,2017**
of UNIVERSITY OF NAIROBI, 12138-100 **Fee Received :Ksh 1000**
NAIROBI, has been permitted to conduct
research in Nairobi County
on the topic: FACTORS INFLUENCING
CUSTOMER SATISFACTION: A CASE OF
MATATUS IN CENTRAL BUSINESS
DISTRICT NAIROBI-KENYA
for the period ending:
3rd July,2018




[Signature]
.....
Applicant's Signature


[Signature]
.....
Director General
National Commission for Science,
Technology & Innovation

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2. Both the Licence and any rights thereunder are non-transferable.
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4. The Licensee shall report to the County Director of Education and County Governor in the area of research before commencement of the research.
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RESEARCH CLEARANCE
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