

**FACTORS INFLUENCING GROWTH OF INFORMAL  
TRANSPORT SECTOR: A CASE OF MOTORCYCLE INDUSTRY  
IN LURAMBI SUB-COUNTY, KAKAMEGA COUNTY IN, KENYA.**

**BY**

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**DECLARATION**

This research project report is my original work and has never been presented for the award of any degree in any university.

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## **DEDICATION**

I dedicate this work to my beloved husband, sons and daughters who have inspired me to pursue higher education.

## **ACKNOWLEDGEMENT**

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## TABLE OF CONTENT

|  |      |
|--|------|
| <b>DECLARATION</b> .....                                     | ii   |
| <b>DEDICATION</b> .....                                      | iii  |
| <b>ACKNOWLEDGEMENT</b> .....                                 | iv   |
| <b>LIST OF TABLES</b> .....                                  | x    |
| <b>LIST OF FIGURES</b> .....                                 | xiii |
| <b>ABBREVIATIONSANDACRONYMS</b> .....                        | xiv  |
| <b>ABSTRACT</b> .....  | xv   |
| <b>CHAPTER ONE</b> .....                                     | 1    |
| 1.1. Background to the study.....                            | 1    |
| 1.1. Statement of the problem. ....                          | 2    |
| 1.2. Purpose of the study.....                               | 3    |
| 1.3. Objectives.....   | 4    |
| 1.4. Research Question.....                                  | 4    |
| 1.5. Significance of the study.....                          | 5    |
| 1.6. Limitation of the study.....                            | 5    |
| 1.7. Delimitation of the study.....                          | 5    |
| 1.8. Assumptions of the study.....                           | 5    |
| 1.9. Definition of significant terms used in the study. .... | 6    |
| 1.10. Organization of the study.....                         | 6    |

|   |        |
|---|--------|
| <b>CHAPTER TWO</b> .....  | 7      |
| <b>LITERATURE REVIEW</b> .....  | 7      |
| 2.0. Introduction .....   | 7      |
| 2.1. The Concept of Motorcycle Industry .....   | 7      |
| 2.2 Socio-Economic Factors and Motor Cycle Industry Growth.....                                       | 11     |
| 2.3 The Environmental and structural factors and Motor Cycle Industry Growth .....                    | 13     |
| 2.6. Presence of Investors and Versatility of bodaboda and growth of informal transport<br>.....      | 14     |
| 2.5 Cost and mode of acquisition and maintenance of bodaboda and growth of informal<br>transport..... | 15     |
| 2.6. Political and other factors and Motor Cycle Industry Growth .....                                | 17     |
| 2.6.1. Government Policies and Motor Cycle Industry Growth.....                                       | 19     |
| 2.7. Conceptual Framework .....   | 21     |
| 2.8 Summary of Literature Reviewed and Research Gaps.....   | 22     |
| 2.9. Theoretical framework .....  | 23     |
| <br><b>CHAPTER THREE</b> .....  | <br>25 |
| <b>RESEARCH DESIGN AND METHODOLOGY</b> .....  | 25     |
| 3.1. Introduction .....   | 25     |
| 3.2. Research Design.....   | 25     |
| 3.3. Target population .....  | 26     |
| 3.4. Sample size and sampling procedure .....   | 26     |

|  |           |
|--|-----------|
| 3.5. Data Collection Methods.....                      | 27        |
| 3.5.1 Validity of instruments.....                     | 28        |
| 3.5.2 Reliability of the instrument.....               | 28        |
| 3.6 Data collection procedure.....                     | 28        |
| 3.7 Data analysis techniques .....                     | 29        |
| 3.8 Ethical considerations .....                       | 29        |
| 3.9 Operational definition of variables.....           | 30        |
| 3.9. Operationalization of variables .....             | 30        |
| <br>   |           |
| <b>CHAPTERFOUR.....</b>                                | <b>31</b> |
| <b>DATAANALYSIS, INTERPRETATIONANDDISCUSSION .....</b> | <b>31</b> |
| 4.1. Introduction .....                                | 31        |
| 4.2. Questionnaire return rate.....                    | 31        |
| 4.3. Demographic factors .....                         | 32        |
| 4.3.1. Gender .....                                    | 32        |
| 4.3.2. Respondents Age.....                            | 32        |
| 4.3.3. Respondents' Marital status .....               | 33        |
| 4.4. Socio-economic factors .....                      | 34        |
| 4.4.1. Unemployment .....                              | 34        |
| 4.4.2. Need and opportunity .....                      | 36        |
| 4.4.3. Funding channels in the county.....             | 38        |
| 4.4.4. Occupation .....                                | 40        |

|  |    |
|--|----|
| 4.5. Environmental and structural factors .....          | 41 |
| 4.5.1. Climatic conditions .....                         | 41 |
| 4.5.2. Poor road networks.....                           | 43 |
| 4.5.3. Routes.....                                       | 45 |
| 4.5.4. Charges.....                                      | 46 |
| 4.6. Investors .....                                     | 47 |
| 4.6.1. Variations in prices.....                         | 48 |
| 4.6.2. Multiple stockiest .....                          | 49 |
| 4.6.3. Distances .....                                   | 51 |
| 4.6.4. Passengers per trip.....                          | 52 |
| 4.6.5. Length of service (motorcycle) .....              | 53 |
| 4.6.6. Operating Environment.....                        | 55 |
| 4.7. Acquisition .....                                   | 56 |
| 4.7.1. Cost of ownership of a motorbike .....            | 57 |
| 4.7.2. Availability of loans to acquire motorcycles..... | 58 |
| 4.7.3. Returns on investment.....                        | 59 |
| 4.7.4. Operational costs .....                           | 61 |
| 4.7.5. Accessibility of funds.....                       | 62 |
| 4.8. Other Factors .....                                 | 63 |



|   |               |
|---|---------------|
| <b>CHAPTER FIVE .....</b>   | <b>67</b>     |
| <b>SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS .....</b>                               | <b>67</b>     |
| 5.1 Introduction .....  | 67            |
| 5.2 Summary of the findings .....   | 67            |
| 5.2.1 Unemployment and growth of bodaboda transport.....  | 68            |
| 5.2.2 Cost of acquisition and maintenance of bodabodas and growth of bodaboda<br>transport..... | 68            |
| 5.2.3 Ease of operation and growth of bodaboda transport.....                                   | 68            |
| 5.3 Discussion of the results.....  | 68            |
| 5.3.1 Unemployment and growth of bodaboda transport.....  | 69            |
| 5.3.2 Ease of operation and growth of bodaboda transport.....                                   | 70            |
| 5.4 Conclusions .....   | 70            |
| 5.5 Recommendations .....   | 71            |
| 5.6 Suggestions for further study .....   | 72            |
| <br><b>REFERENCES.....</b>  | <br><b>73</b> |
| <br><b>APPENDICES .....</b>   | <br><b>77</b> |
| Appendix I: Questionnaire for the Motor Motorcycle Users.....                                   | 77            |
| Appendix II. Interview Schedules for the Bodaboda Riders/ Customers .....                       | 82            |
| Appendix III: Budget for the Study .....  | 84            |
| Appendix IV: Duration for the Study .....   | 85            |
| Appendix V: Research Authorization.....   | 86            |

## LIST OF TABLES

|   |    |
|---|----|
| Table 3.2: Operational definition of variables .....  | 30 |
| Table 4.1 Response Rate.....  | 31 |
| Table 4.2: Frequency distribution on respondents gender .....   | 32 |
| Table 4.3: Frequency distribution on respondents age .....  | 32 |
| Table 4.4: Frequency distribution on marital status.....  | 33 |
| Table 4.5: Frequency distribution on respondents education qualification .....  | 33 |
| Table 4.6: Frequency distribution on respondents economic status .....  | 34 |
| Table 4.7: Frequency distribution on unemployment led one to begin boda boda transport service .....  | 35 |
| Table 4.8: Cross tabulation showing growth of motorcycle transport and unemployment led one to begin boda-boda transport service .....                    | 35 |
| Table 4.9: Frequency distribution on need and opportunity available drove one to begin the business .....   | 36 |
| Table 4.10: Cross tabulation showing growth of motorcycle transport and need and opportunity available drove one to begin the business .....              | 37 |
| Table 4.11: Frequency distribution on funding channels in the county enable proper disbursement of funds .....  | 38 |
| Table 4.12: Cross tabulation showing growth of motorcycle transport and funds acquisition channels in the county enable proper disbursement of funds..... | 39 |
| Table 4.13: Frequency distribution on occupation .....  | 40 |
| Table 4.14: Cross tabulation showing Growth of motorcycle transport and occupation..  | 40 |

|   |    |
|---|----|
| Table 4.15: Frequency distribution on climatic conditions provided opportunities for motorbike transport services .....                                   | 41 |
| Table 4.16: Cross tabulation showing Growth of motorcycle transport and climatic conditions provided opportunities for motorbike transport services ..... | 42 |
| Table 4.17: Frequency distribution on poor road network demanding easier means of transport .....   | 43 |
| Table 4.18: Cross tabulation showing Growth of motorcycle transport and poor road network in my area called for easier means of transport .....           | 44 |
| Table 4.19: Frequency distribution on routes .....  | 45 |
| Table 4.20: Cross tabulation showing Growth of motorcycle transport and routes .....  | 45 |
| Table 4.21: Frequency distribution on charges .....   | 46 |
| Table 4.22: Cross tabulation showing Growth of motorcycle transport and charges .....   | 47 |
| Table 4.23: Frequency distribution on variations in prices of available motorbike models enhanced acquisition .....                                       | 48 |
| Table 4.24: Cross tabulation showing growth of motorcycle transport and variations in prices of available motorbike models enhanced acquisition .....     | 49 |
| Table 4.25: Frequency distribution on availability of multiple motorbike stockiest .....  | 49 |
| Table 4.26: Cross tabulation showing growth of motorcycle transport and availability of multiple motorbike stockiest .....                                | 50 |
| Table 4.27: Frequency distribution on distances .....   | 51 |
| Table 4.28: Cross tabulation showing growth of motorcycle transport and distances .....   | 51 |
| Table 4.29: Frequency distribution on no. of passengers per trip .....  | 52 |

|  |    |
|--|----|
| Table 4.30: Cross tabulation showing Growth of motorcycle transport and no. of passengers per trip.....              | 53 |
| Table 4.31: Frequency distribution on length of service .....  | 53 |
| Table 4.32: Cross tabulation showing growth of motorcycle transport and length of service .....                      | 54 |
| Table 4.33: Frequency distribution on conduciveness of operating environment .....                                   | 55 |
| Table 4.34: Cross tabulation showing growth of motorcycle transport and conduciveness of operating environment ..... | 56 |
| Table 4.35: Frequency distribution on cost of ownership of a motorbike .....   | 57 |
| Table 4.36: Cross tabulation showing Growth of motorcycle transport and cost of ownership of a motorbike .....       | 57 |
| Table 4.37: Frequency distribution on availability of loans .....  | 58 |
| Table 4.38: Cross tabulation showing growth of motorcycle transport and availability of loans .....                  | 59 |
| Table 4.39: Frequency distribution on returns on investment .....  | 59 |
| Table 4.40: Cross tabulation showing growth of motorcycle transport and returns on investment.....                   | 60 |
| Table 4.41: Frequency distribution on operational costs .....  | 61 |
| Table 4.42: Cross tabulation showing Growth of motorcycle transport and operational costs.....                       | 61 |

|  |    |
|--|----|
| Table 4.43: Frequency distribution on funds are accessible through groups and/or individuals.....                                    | 62 |
| Table 4.44: Cross tabulation showing growth of motorcycle transport and funds are accessible through groups and/or individuals ..... | 63 |
| Table 4.45: Frequency distribution on market charges.....  | 64 |
| Table 4.46: Cross tabulation showing growth of motorcycle transport and market charges .....   | 64 |
| Table 4.47: Frequency distribution on theft and robbery .....  | 65 |
| Table 4.48: Cross tabulation showing growth of motorcycle transport and theft and Robbery .....                                      | 68 |

### **LIST OF FIGURES**

|  |    |
|--|----|
| Figure 2. 1: Conceptual framework showing the relationship between independent Variable and Depended Variables ..... | 21 |
|--|----|

## **ABBREVIATIONS AND ACRONYMS**

|             |                                     |
|-------------|-------------------------------------|
| <b>GES</b>  | Global Economic Survey              |
| <b>GoK:</b> | Government of Kenya                 |
| <b>HCT</b>  | Human Capital Theory                |
| <b>KPHC</b> | Kenya Population and Housing Census |
| <b>USA</b>  | United States of America            |
| <b>WES</b>  | World Economic Survey               |

## ABSTRACT

The study seeks to find the reasons behind growth of informal transport sector majoring on the motorcycle industry in Lurambi Sub-county of Kakamega County. The objectives to be addressed cover on the socio economic, environmental, structural and investment factors. The study used descriptive survey design in studying these determinants. The study targets 298 respondents; while employing Random, Stratified, Purposive techniques as sampling procedures, employing questionnaires and interview schedules during data as well as questionnaires, Interview and Document Analysis as its Data Collection tools. Data was coded, entered, analyzed by both qualitative and quantitative techniques using SPSS 20.0 which provided specific outputs relative to the study findings and the study discussed findings that may be important to the Traffic Police Department and the County Devolved Administration to identify and fix the outstanding factors that do not promote the safety, efficiency and reliability of motorcycle taxis as a means of transport in the Sub County. The findings and recommendations may also benefit the driving school entrepreneurs to review and strengthen their training units to accommodate the emerging Motorcycle taxis challenges on the road. Validity was determined using content validity whereby components of the questionnaire and interview schedule was checked to ensure clarity of words and the accuracy of the statements in relation to the specific research questions. A pilot test was done to establish commonality and the results analysed using descriptive and inferential statistics. The results of the analysis were computed in table form as a summary data with chi-statistic. The data was analyzed both descriptive and inferential techniques of which Frequencies, cross tabulations, and chi-square elements for measuring association were used to study the findings at 5% -level significance. From this study, it is clear that the four factors are very important in contributing towards the growth of informal transport sector measures should be put in place to ensure that the growth impacts positively to those involved. The government should offer subsidies to those who want to start the business and put strict regulations to control the provision of these services. It was recommended that motorcycle operators should go to riding schools to improve on their competency. In addition to that, all bodaboda operators should be forced to form Sacco's just like Matatus to handle matters concerning bodaboda operations. On the reduction of bodaboda related accidents, it can be stated briefly that frequent raids and ambushes should be done to arrest and prosecute those bodaboda operators who do not observe the law as suggested by the Traffic Base commander.

## CHAPTER ONE

### 1.1. Background to the study

Motorcycles are the primary means of motorized transport today. In overseas countries for instance Asia, China, Indonesia, Vietnam motorcycle transport overrides automobile transport due to its reliability and efficiency. These are the four largest motorcycle markets in the world. In Taiwan for instance the number of motorcycles is twice the number of automobiles for every ten thousand population. (Taiwanese Government, 2007). The rise in number is attributed to low income levels, high pump prices that bar many to acquire automobiles. There has generally been an increase in the use of motorcycle in recent years globally. In the USA, registrations increased by 51% between 2000 and 2005. The informal transport modes are in the forms of Jitney, dial and ride subscription buses, Vanpool, shared taxi and auto rapid transit (Ane, 2011). This is the case in Caracas where it appeared in the mid-1990s, at Lima in Peru and in other small towns such as Sincelejo in Colombia. (World Economic Survey, 2010).

In Sub Saharan Africa, the origin of motorcycle dates back to the use of bicycles that were used for transport in rural areas since the colonial era. In Benin, Kenya & Uganda transport was by bicycle back in the 1960's. Benin bicycles known as *keke kannan*. In Kenya and Uganda they are referred to as 'bodaboda'. This is a coined word to refer 'border to border' that was used to transport people across the no-man's land between the border posts without the paperwork involved with using motor vehicles crossing the international border of Busia and Malaba in Kenya. Recent years have seen motorcycles adopt the 'bodaboda' name to offer transport services. The Swahili term for, *piki-piki*, describes motorcycles in reference to *boda-bodas*. (Howe



and Mander: 2004). The rise in motorcycles corresponds equals the rise in motorcycle riders. More than 400,000 men operate in Kenya and Uganda (World Economic Survey, 2010). This sudden rise in motorcycle taxi business requires a structured planning in the upcoming urban centers.

According to World Economic Survey, (2010). Motorcycles are popular means of transport in Brazil's frontier towns, Latin America, Vietnam and USA. This is mainly attributed to low fuel consumption, affordable and flexible means of transport. However in Kenya no study has been done to establish this sudden rise in motorcycle taxi business by the time this study was being conceived.

### **1.1. Statement of the problem.**

Agriculture has been the backbone of Kakamega County since independence until transport became liberalized in 1995. The county had few and impassable roads with few linkages. This rendered movements to the minimum especially during rainy seasons. Most movements were by foot and the only roads linking the town to its outlets were Kakamega-Ingotse, Kakamega-Shinyalu and Sigalagala-Sidindi feeder roads which were functional in the dry season. The motorcycle use was limited before 1995 as it was associated with the rich. However with the high population at stake there was need to introduce commercialized motorcycles as a solution. This helped improve socio-economic and cultural practices of the Kakamega Sub County. Motorcycle use has created jobs for mechanics and spare part retailers. It is convenient and flexible to use motor cycle as transport means for penetrating into enclave areas. In general the motorcycle use is a source of revenue for the county that influences life positively.

In Kakamega town alone the Number of Registered Motor motorcycles are 1252 and number of motorcycle Spare parts Kiosks/Shops are 26 while the Number of Motor motorcycle Garages are 21. A spot check in the workshops indicates that several most mechanics are usually busy repairing or assembling new motorcycles. These activities replicate themselves in motor motorcycle spare part shops and roadside or makeshift garages. The number of motor motorcycle taxi related accidents within the town environments between 2010 and 2013 was 1857 cases and the incidences seem to be growing every day (Kakamega General Hospital, Feb. 2014).

Despite the monumental growth of motor cycle taxis on Kakamega Central roads, very little effort has been made to establish the determining factors of growth and streamlining of this promising industry. This study therefore seeks to determine the growth of the motor cycle industry in Kakamega County. Secondly, Motorcycle taxis provide a reliable and economic transport service as well as livelihood income to the urban poor. However knowledge sharing of the motorcycle industry is needed to address the socio-economic, cultural and environmental impacts. The aim of the study is to bring out the merits of motorcycle as an alternative and sufficient means of transport in Kakamega County.

## **1.2 Purpose of the study**

The study purpose is to establish the determinants of Performance of Motorcycle Business in Kakamega Central Sub County of Kakamega County.

### **1.3. Objectives**

This study shall be anchored on the following objectives:-

1. To establish how Socio-Economic factors determine the growth of motorcycle industry.
2. To assess how environmental and structural factors determine the growth of motorcycle industry.
3. To establish whether the presence of investors in the industry determine its growth.
4. To establish whether mode of motorcycle acquisition determine industry growth.

### **1.4. Research Question**

The study sought to answer to the following research question:-

What are the factors that determine the growth of motorcycle industry in Kakamega County?

1. How do Socio-Economic factors determine the growth of motorcycle industry?
2. How do environmental and structural factors determine the growth of motorcycle industry?
3. How does the presence of investors in the industry determine its growth?
4. How does the mode of acquisition of motorcycle determine the industry's growth?

### **1.5. Significance of the study**

The findings of this study may be important to the Traffic Police Department and the County Devolved Administration may use the study findings to identify and fix the outstanding factors that do not promote the safety, efficiency and reliability of motorcycle taxis as a means of transport in the county. The study findings may also benefit the driving school entrepreneurs to review and strengthen their training units to accommodate the emerging Motorcycle taxis challenges on the roads.

### **1.6. Limitation of the study**

This study shall be limited to the Motorcycle taxis (bodaboda) of the urban centers within Kakamega County. Its findings may be used to generalize the situations in other regions but outside this area of study.

### **1.7. Delimitation of the study**

The study shall be delimited to the time and financial constrains since the researcher is both a student and a parent whose finances and time are limited.

### **1.8. Assumptions of the study**

The assumptions upon which this study is founded are that: -The motorcycle taxis riders have the required information for the study and will be co-operative during the study. On efficiency, safety and understand their roles in seeking to improve their livelihoods and the economy of Kakamega County.

### **1.9. Definition of significant terms used in the study.**

|                                   |  |
|-----------------------------------|--|
| <b>Motorcycle Industry:</b>       | Growth of the Motorcycle Enterprises   |
| <b>Socio-Economic Factors:</b>    | Are The Sectors Of An Individuals Or Groups Activities and Understandings That Shape Him/her As An Economically Active Person. |
| <b>The Environmental Factors:</b> | The Nature of the Terrain and Climatic Conditions of the Area under study.   |
| <b>Political Factors:</b>         | Government Legislations in Enforcing Law on Motorcycle Industry.   |
| <b>Government Policies:</b>       | Government Regulations of Motorcycle Industry  |
| <b>Training Factors:</b>          | Motorcycle industry training schools on Highway Code   |

### **1.10. Organization of the study**

This study is organized in five chapters: chapter one has five main sub topics. Chapter two highlights literature review on the concept of motor motorcycle business and determinants of motorcycle taxi industry growth in Kakamega town. Also reviewed are the socio-economic factors such as unstable transport fares, increased rate of unemployment, and easy access to the business; the environmental factors together with political factors, administrative factors, training factors, theoretical framework and identified research gaps.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0. Introduction**

This chapter gives an overview of the relevant literature on factors that lead to growth of motorcycle business. The chapter reviews Socio-Economic, environmental, political/administrative, and training and the government policies as factors that are determining the growth of motor motorcycle businesses.

#### **2.1. The Concept of Motorcycle Industry**

The Traffic Act Cap 403 Sec.2 defines a motorcycle as a motor vehicle with less than four wheels. This classification includes the two wheelers or three wheelers popularly referred to as Tuk Tuks (Jamal 1997). Motorcycles vary with reference to the number of wheels, size and power. Basing on these different motorcycles are used in different roads and the task at hand. Motorcycles are designed different to meet different needs. Therefore we have off road motorcycles for use in dirt roads, racing motorcycles for use in highways and street motorcycles that are used on highways. According to the Oxford English dictionary (2009) a motorcycle is described as a two-wheeler motor-driven road vehicle but with an internal combustion engine. Bodaboda transport services have grown since its humble start along the border of Kenya Uganda in the 1960s. The term a corruption of the English term 'border to border' and they offer goods movement and passenger taxi services. Initially bicycles did the transportation and had padded cushions that were fitted on the rear; however they became complemented in the early 1960s with light motorcycles that carry loads along wide distances, (Malmberg, 1994). The lack of jobs has prompted youth to find means of self-reliance for sustainability and motor cycle transport has provided employment to

many. The World Bank Research 2009 pin points how it is a cheap venture hence the ballooning numbers. The Oxford Hachette Dictionary (2008) describes a motorcycle as a small machine having a minute frame and raised handle bars. The German Gottlieb Daimler and Wilhelm Maybach, (1885) invented first internal combustibile petroleum fuelled motorcycle. It was a difference from the safety bicycles as they had zero degree steering axis angle with no offset meaning they didn't use principle of dynamics. The cities in Asia have motorcycles distributed everywhere for instance bus stations, shopping centres and train stations. Cervero, 2000). He further argues that it is a entity for job creation for youth who influx from urban areas having not secured jobs. The skilled and unskilled workforce settle on motorcycle industry for livelihood. The lack of regulations has underplayed the importance of motorcycle in the transport industry. Concerns that center on environment and socio economic issues need clear understanding through knowledge sharing.

In Vietnam the mode is called "xeom" in Vietnamese, "ojek" in Indonesian or "habal-habal" in Filipino and "Motorcycle taxis" in Kenya. One, two or more passengers normally ride behind the driver as a pillion. The Philippines however have a hybrid of the motorcycle taxi called the "skylab". It carries up to 6 passengers. Growth in motorcycle and ownership has been witnessed in the past decades according to (Tuan, 2012), making these cities natural breeding grounds for motorcycle taxi services. (Guillen and Ishida, 2004) notes that lack of provision of adequate transport is the primary reason for the growth.

Motorcycles in Bangkok, for instance have provided transport in densely populated regions where buses and trains don't reach as they are limited to highways. This helps

in connecting the local communities to the buses and railway stations (Oshima et al., 2007). The high speed, ability to maneuver traffic and flexibility gives motor cycles an edge over other modes. (Iles, 2005).

The notoriety of motorists along the roads poses serious safety concerns as most drive recklessly on wet roads and at high speeds. There is no definite fair price that is based on distance and time but only through common agreement between passenger and rider. Foreigners as such shy off from using the service because of the complicated negotiation process. In 2005, Thailand embarked on regulating motorcycle taxi services to ensure safety operations. This was achieved through handle installation and helmet provision. Other measures focused on annual registration tax, driving license, and penalty for traffic law violation (Oshima et al., 2007). Despite the many consultations and discussions many Asian countries have not regulated the service yet. Several questions that need answers are like what are the determinants of the service, what are the problems or issues facing it, and whether and how to regulate the service. It is on this basis that an in-depth assessment of the determinants of motorcycle business in Kakamega County based on socioeconomic, environmental, political, training and the GoK policies that determine its growth form the basis of this study.

However before the assessment of the above factors, an overview of stakeholders in the business is worth noting. Motorcycles are mainly used by middle to low income levels whose ages range between 20 and 50 years old. Weekly observation indicates most trips center on shopping and work trips.



The use of motorcycles for short and medium distances gives it an edge over buses and bicycles that major on long distances. 6.3 km, 8.0 km, and 13.0 km are average distances for motorcycle taxi, private motorcycle and buses respectively. It costs a maximum of about sh.100.00 and in terms of average cost per km, motorcycle taxi costs about sh.5.00 which is about 3 times less expensive than private motorcycle and bus. Notably it is less costly using a motorcycle taxi than car taxi, bus and multi-cab.

The above analysis gives a wider understanding on socio economic determinants and main issues of the service in developing countries. The operation and management of the operator, operating routes, and operational efficiency help in understanding the costs of motorcycle industry in developing countries. Males aged between 40 and 60 years old solely manage and operate motorcycle taxi. 95% and 5 % of them take motorcycle taxi as their main job and as a part-time job respectively. This means job creation is evident for most high school graduands yearly and lower cadre individuals engage in the business. Notably some motorists have specific sections for passenger pick up but drop off varies. This forms the basis of their operating route. Shopping malls, road junction at the markets, railway station and bus terminal and residential area are their specific areas of wait. Every day average driver works 12 hours a day making about 7-8 round trips plus the weekends. Dwell time however seems to consume half of the time is spent on waiting for passengers. This is owed to the fact that about more than 50 drivers operate on the same route and same area without any coordination. The cumulative earnings of a motorcycle rider per month total to Kshs. 200 per day. This corresponds to Kshs. 6000.00 per month minus expenses majority of which is taken up by fuel. The Kenya Economic Survey, 2012 seems to place it as a fair bargain to an individual as he lives above a dollar a day.

## **2.2 Socio-Economic Factors and Motor Cycle Industry Growth**

Socio-economic factors are experiences and events that shape one's personality and life attitude. Mainly culture, social understandings, religion and education are the pillars that present a scope for classifying individuals with regards to multiculturalism and integration among different states and economies. (World Economic Survey, 2010).

The motorcycle industry as a whole offers a notable contribution to the economy of most of the world countries. Motorcycle industry in the UK significantly contributes to the economy with a turnover of more than £5 billion and around £1 billion paid in taxes. Motorcycle industry supports £2.8 billion of added value and 81,500 jobs in the UK economy, indirectly through purchases from other UK industries and directly within the industry. The UK motorcycle industry also generates significant Tourism expenditures of around £570 million is generated by the Motorcycle industry helping support 13,000 tourism jobs and more according to (Iles, R., 2005). The industry comprises five main sectors that include including manufacturing; distribution and retail; repair, servicing and maintenance; sports and leisure; and other support services. There are approximately 1.5 million active motorcyclists in the UK, representing 3% of the UK adult population which translates to 1.5 million people are active motorcyclists. Approximately 22 motorcycles are owned per every 1,000 people making it potential for further growth. Significant growth in motorcycle purchase grew between to 2007 where declines came by. Following recession since 2008 indigenous markets have tapped on the declines that were recorded. Licenses are owned by around 3 million people.

There is a significant and increasing contribution to exports of over £400 million per annum and supply chain impacts support an additional £750 million of Gross Value Added (GVA) and 16,000 Full Time Employment (FTE) jobs in the UK economy. The government has a key role in recognizing motorcycling and its potential in manufacturing. Political support and motorcycles inclusion as part of transport strategies aim to rebalance the economy, create growth, reduce traffic congestion, and reduce carbon emissions and resolve parking issues.

The population of Kakamega by 1997 was estimated at 383445(GoK 2004) but had increased to over 500,000 inhabitants (GOK: 2009). This created population traffic especially on the routes linking the town internally to its various villages and externally to the neighboring towns of Khayega, Eshisiru and Kambi Yamwanza. This increase was however not coincided with vehicle increase available for transport.As such the vehicles available only ferried food produced from farms to market as it seemed lucrative.An acute demand for passenger transport was created and motorcycles responded by filling the gap in Kakamega town.

An interview of Motorcycle taxis riders in Kakamega town; 20/2/2014 depicts how the motorcycle industry has thrived owing to the attitude passengers had on motor vehicle drivers. There explanation indicates how they capitalized on driver's shortcomings of not being courteous, varied prices which they used to their advantage. The government's approach on structural adjustment programme of the 1990s led to laying off many civil servants in view of reducing government expenditure. This coupled with the liberalization of the Kenyan economy soared rates of unemployment and the private sector was not sufficient to absorb workers. Urban

to rural migration became apparent to many job seekers. Majority of youth aged 15-35years opted for motorcycle taxi as a livelihood means. This was coupled with the ease of starting the business and the cheaper purchase price which is 89,000/=. The motorcycle taxi offered a means for self-employment.

Another factor which favored the activity of motorcycle taxi in Kakamega town is the relative ease in commencing this activity. Liberalization of the market encouraged imports from China into the Kenyan market and motorcycles were imported in huge numbers. They were found to have fuel efficient engines hence more economical.

### **2.3 The Environmental and structural factors and Motor Cycle Industry Growth**

The Nature of the Terrain in the sub county is uneven. High rainfall of 657mm per year interferes with movement of motor vehicles especially during rainy seasons. (GoK: 2007). Pot holes and mud flats result due to run offs that impede movement. Volcanic loamy soils also hinder movement however motorcycling seems to thrive well on such terrains. More time is therefore used on short distances using a vehicle than a motorcycle with regular tire punctures. A travel from Kakamega to Ingotse which is 60km takes 2-3 hours in dry season but in the rainy season it takes 4-5 hours. Motorcycles however take 45minutes - 1 hour as they maneuver easily in such terrains.(County Government of Kakamega 2010).Limited resources hinder progress on road maintenance a duty exercised by the County Government of Kakamega. This only paves way for land rovers and four wheeled vehicles to use the roads limiting traffic between Kakamega town and its neighbors. Motorcycling offers alternative because of its flexibility and adaptability as their small sizes permit allow them to use short cuts into the thickets to avoid these impediments.

## **2.6. Presence of Investors and Versatility of bodaboda and growth of informal transport**

Mutiso (2011) argues that bodaboda taxis offer service trips to and from work destinations being geographically distributed in Kakamega and provide 'for hire' area wide transport. Njagi (2014) in his argument notes one to two passengers could be carried transported to a destination without insurance cover for all the parties. Their ability to ply inaccessible routes by vehicles poses a challenge for new inventions to be discovered by motor vehicle and minibus operators. Bodaboda provide services on routes inaccessible to vehicular modes provide feeder services to higher capacity modes (i.e. intercity buses) or directly compete with other modes for passengers Mutiso (2011). According to Cervero (2000) informal operators can easily alter schedules, routes and operating practices in response to shifting market conditions. Private minibus and micro vehicle operators are more likely to craft new tailor made services in response to increase in Suburb commutes, trip- chaining and off peak travel than, are public authorities. Their inherent flexibility and sensitivities to changing markets stand in sharp contrast to the rigidities and unresponsiveness of protected monopolies.

According to Howe and Lyiola (1996) Bodaboda offers three types of short distance services in main urban areas competing with taxis. They are in competition with conventional taxis acting as

- i. Feeders in inaccessible routes due to the bad weather and unpleasant terrain
- ii. Feeders to main streets and highways to compliment taxis and large capacity bus services.

Bodabodas operate in areas called “stages”. Each stage has a stage master who enforces regulations having been elected by members. Stages have minimum of 10 registered operators and each village has 2-3 stages. They are committee headed to maintain discipline in area of operation. Iga (2001). The association headquarters handles cases that are beyond committee management.

According to Howe and Lyiola (1996) the terrain of an area influences whether to use a motorcycle or a bicycle bodaboda. He argues that bicycles ply short distances that are flat and rural while motorcycles ply areas of high crop production and business centres.

Terrain is the determinant factor in smaller urban areas between bicycles or motorcycle use. The motorcycles carry larger and heavier loads on the pillions twice what a bicycle would. Howe and Lyiola (1996).It seems little has been researched on their versatility though a central concern is that the sector is responsible for significant negative externalities, like traffic congestion and accidents, that harm public safety and welfare. As largely laissez faire, unrestricted services in poor cities with a high unemployment rate, critics contend that the sector breeds over- zealous competition and predatory behavior. Over competition too many operators vying for limited numbers of customers crowds streets and poses accidents risks (Cervero 2000).

### **2.5 Cost and mode of acquisition and maintenance of bodaboda and growth of informal transport**

According to Mutiso and Behrens (2011) motorcycles in East Africa emerge as a great variable at the bicycle bodaboda expense. There use has spread faster and

adopted quickly in the past decade especially Uganda. The African continent has witnessed a great influx of motorcycles over the past decade. This is owed to lack of restrictions in the market entry (West Africa), zero rated imports on motorcycles below 250cc (Kenya) to offer reliable and affordable transport solutions.

Corporate news on Toyota targets bodaboda riders with bike loan scheme by Odhiambo and Dalton (2013) cited the following. Its Tsucho capital Kenya in partnership with the Yamaha division launched a pilot scheme in Kisumu to empower the riders to own motorcycles without collateral. The scheme called crux finance to enable a number of bodaboda riders acquire their own motorbike by pooling resources and plan requires six riders to register in a group and raise shs 48,000 with each getting a bike in phases of two months.

The following case study was also cited of Yamaha and key stakeholders that have held rampant road shows in raising motorcycle brand. The campaign partners included NSSF, NHIF as well as Automobile Association of Kenya (AA). Yamaha for instance used the slogan 'Bike ya Nguvu, Bei Poa' in advocating for better financing deals to obtain motorcycles among the youth through a caravan. The caravan covered six regions Western, Nairobi, Coast, Rift valley, Central and Eastern. A 350/= a day payment deal aimed encouraging youth to obtain a crux motorcycle to enhance ownership of quality motorcycles among youth. The youth were enlightened on comprehensive licensing, proper documentation health, security, safety among others. A customized partnership with motor bank asset financing & tracking solutions for bodaboda came up with the 350 a day offer to help youth. Through this campaign

More Kenyan entrepreneurs will access quality Yamaha bikes for increased profitability.

Howe and Lyiola (1996) highlights that earnings for motorcyclists are variable with place, ownership and hiring. Hired motorcycles acquire less than owner motorcycles although hidden costs of repair and depreciation are present. On the contrary hired motorcycles fetch more than owned motorcycles in peri-urban areas weekly. Ownership patterns differ in bicycles and motorcycles. The differences are notable in Uganda for instance where bicycles are owned by self as compared to motorcycles which are hired. The persons who engage in motorcycle hire tend to have other income generating activities. In Uganda a higher percentage of bicycles bodaboda are operated by the owner compared to motorcycle bodaboda. He notes further that motorcycle hire is a profitable business that is entered into by people who are already engaged in other economic activities.

## **2.6. Political and other factors and Motor Cycle Industry Growth**

A country's economy needs good laws and environment that is friendly and encourages job creation and entrepreneurship. Edwards T. & Smith, 2008 notes motorcycle industry has tapped into it in creating employment and sustainable development. He further notes that success of a business focuses on upholding workers 'rights, skills development and better rewards for employees in up scaling economy. He states that rural areas need to be addressed with regards to job creation. Climate change agenda forms center stage as the need to reduce carbon emissions is paramount. The motorcycling industry stays in line with this objective as it has fewer emissions compared to other motorized vehicle making it attractive. The climate



change forms a bench mark for every economy's growth. The UK for instance has had major considerations in charting ways to improve infrastructure. The whole package of cost, quality, and reliability has been weighed upon. Notably the government becomes a key player as they help define country's visions, plan and approaches to achieve goals. Similarly continuous review of tax regimes and reforms ensure growth as they touch on every business aspect.

Climate change is enhanced though efficient energy use enhancing carbon neutrality albeit in a sustainable way. The UK government has set a target for 2020 of cutting carbon emissions to 34% below 1990 levels. Motorcycles offer integrated approach to reduce pollution and enhance climate change. The reluctance of Kenyan government in drafting laws to enforce fair play has led to mushrooming of riders at all levels. Lack of regulations are highly to blame as riders do not adhere to rules especially Kakamega County where only a handful are taken into consideration. There is no display of valid documentation while some drive minus insurance cover. This is a menace and affects road safety as the local County Government does not instill stringent measures. It tends to have a lukewarm attitude over this activity which procures revenue to its coffers. Police on the other hand lack keenness on checking riders. Ngome Ewang, (2009) argues that motorcycle riders are never asked to present any papers at the road controls abnormally speed past at every traffic control or check points. The state's laxity is owed to the notion that it offers youth job opportunities thus social crisis would occur if hard lines are established.

### **2.6.1. Government Policies and Motor Cycle Industry Growth.**

The government in UK for example offers recognition to the manufacturing and motorcycle industry in achieving economic and employment objective. The motorcycle manufacturers are involved in policy development they form part of the automotive council body. Their invaluable advice contributes in the technological development, social inclusion and economic growth. Inclusivity of the motorcycle industry helps in streamlining the transport sector as they form an Automotive Council body that acts as trade body for motorcycle growth and governance. The policies formulated design programs such as “Wheels to Work” that are recognized by Dft which address the motorcycle industry. This cooperation with the government by the industry helps the government achieve the set objectives like reduced congestion, carbon emissions among others. There are designed regulations by the government to protect environment and public health by introducing tax regimes, bans and laws that all affect economic and business activities in the society.

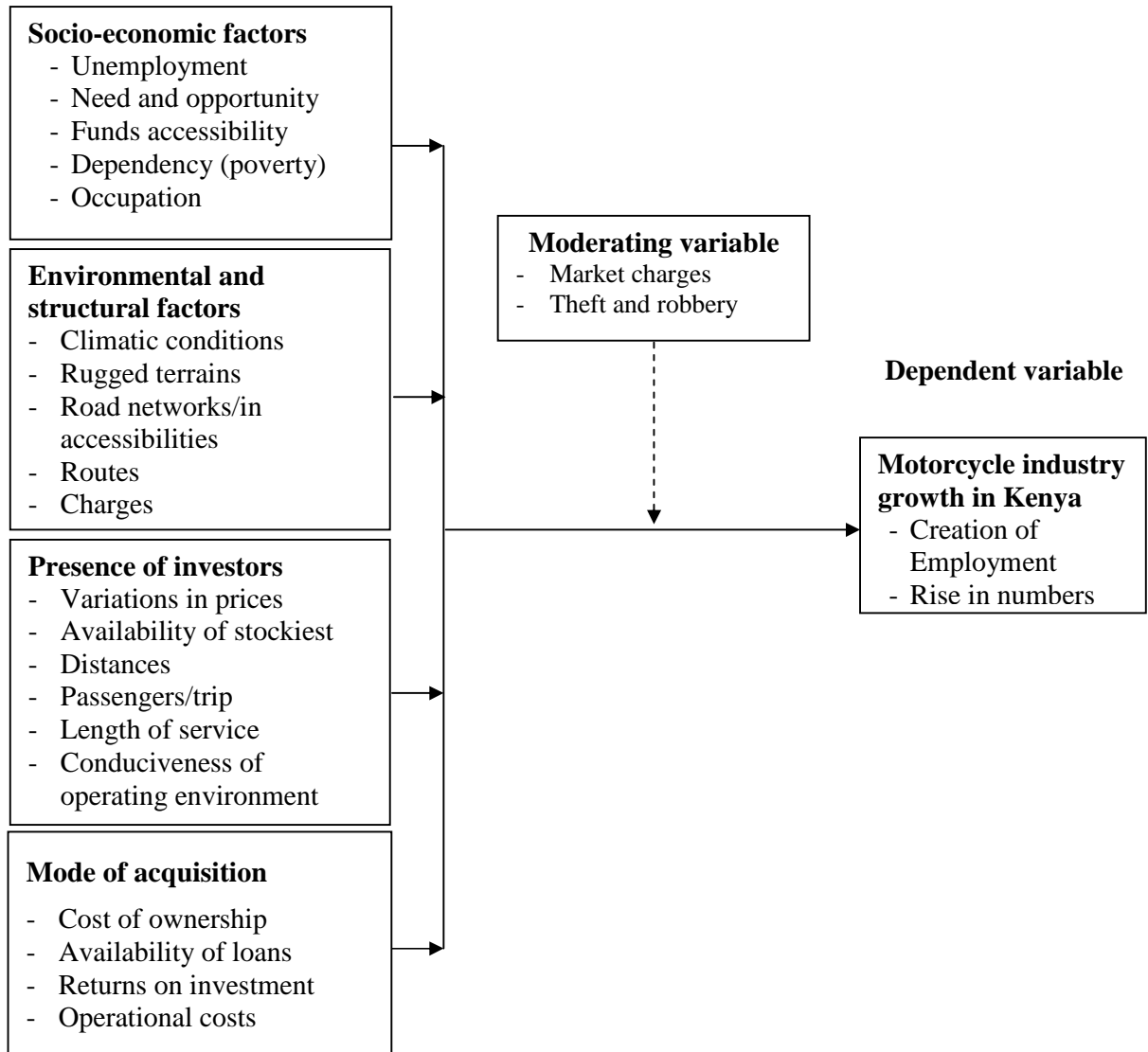
In UK, the commitment to train & develop Motor Cycle Riders is achieved upon by having formal trainings by staff that differs from large operators to small organizations in the motorcycle industry. Large operators boast of structured trainings compared to smaller ones. The smaller ones are trained by between 2 and 10 people who offer informal trainings, while providing opportunities for development. (UK Institute of Motor Industry, 2010). The government funds programs to enhance apprenticeship in the Motorcycle industry through Skills Funding Agency, Skills Development Scotland and the Welsh Assembly Government. Vocational courses are offered by Institute of Motor Industry (IMI) and Retail Motor Industry (Remit) Limited.

Colleges and home study courses offer trainings on service, repair and maintenance training. Manufacturers such as Honda, BMW and Suzuki run specialist courses .There are quite a number of training schools on Highway Code in the Sub County of Kakamega Central. The fees chargeable by these driving schools are averagely not so high and can be manageable by the riders. However, motorcycle taxi riders do not bother going for training in these schools despite the fact that the training is very essential. These perhaps explain the reasons as to why there are high prevalence rates of accidents caused by the taxi cyclists in Kakamega town. Another factor that has led to uncoordinated motor motorcycle business is that the syllabuses offered by the driving schools in the Sub County are not sufficient enough to cover the Highway Code adequately. There is not even coordination in designing motorcycle Syllabus Content in the mushrooming local driving schools. This has attracted all types of quacks in this business sector.

## 2.7. Conceptual Framework

This conceptual framework shows the independent and dependent variables. The independent variables include; socio-economic factors, environmental and structural factors, investors and acquisition; coupled with moderating variables and the dependent variable that is the growth of Motorcycle industry.

### Independent variables



*Figure 2.1 Conceptual framework showing the relationship between independent Variable and Dependent Variables*

Many factors affect Motorcycle taxis business. Social setting of the people is a determinant that affects way of living basing on income as well as schooling. Socioeconomic status determines rural development as it has an impact on community as it focuses on quantitative and qualitative well being. Community demographics, housing, employment and income, market effects, public services, and aesthetic qualities of the community form the basis for evaluation in assessing development. Environmental Factors are planned or accidental changes that alter an environments appearance and cause damage in human set up. They include afforestation, volcanic eruptions for instance..

Road infrastructure and network is a major determinant of the transport means in an area, coupled with population pressure and urban planning of towns such as Kakamega, which houses the headquarters of the County and a major business hub, traffic jams are experienced, posing delays in transactions and therefore bringing about the flourishing alternate transport means, bodaboda. Investors on the other hand view Kakamega as a potential market therefore having Yamaha, TVS, Suzuki, Bajaj, Kingbird and other models readily available in Kakamega. Generally, the growth can be viable and vividly experienced when attitudes of users, government policies on traffic rules, training rules, security are well dealt with.

## **2.8 Summary of Literature Reviewed and Research Gaps**

The Literature Reviewed the following: -The Determinants of motorcycle Taxis in Kakamega Town discussed were Environmental factors as nature of the terrain; Law and order have not been enforced by the government. Reviewed also were determinants of growth of Motorcycle industry under Socio-Economic Factors that include; Traffic and population increase, varied transport fares, high unemployment

and crime Easy access to the business. Research design, Study location, target population, sample and sampling procedures and sample size, research instruments, validity and reliability of instruments, data collection procedures and data analysis techniques are detailed in the next chapter.

Despite the monumental growth of motorcycle industry on Kakamega county Roads, very little efforts have been made to streamline this promising sector of economy and up to the time this study was being conceived no research has been done in Kakamega County to establish the determinants of the growth of the business in the Sub County. This study seeks to fill this gap by establishing the determinants of performance of motorcycle business in Kakamega County. Secondly, Motorcycle taxis provide income by being an efficient and economic means of transport in the county. However knowledge dissemination and regulations have been wanting and this study addresses gaps to be filled in exploring the industry as the future of transport in the county.

## **2.9. Theoretical framework**

In this study the theory of entrepreneurship applied. (Shane and Venkataraman, 2000) describes entrepreneurial function as a new way of doing new things that were nonexistent through discovery of new strategies for making goods and offering services. Varied Entrepreneurial opportunities exist as there are vast ideas on turning resources into products that can be of value. (Alvarez and Busenitz, 2001).The entrepreneurial function can be conceptualized as the discovery of opportunities and subsequent creation of new economic activities often via the creation of a new organization (Reynolds, 2005) states how entrepreneurial function is creation of new economic activities through opportunity discovery. Inherent ability forms the pillar in

churning resources into products and exploiting opportunities. Marketing of ideas seems difficult as it is quite hard to have copyrights and patents to protect one's efforts for originality of ideas. Government tax waiver on motorcycles was an opportunity for unemployed youths to acquire motorcycles for transport services which are convenient to the users due to undeveloped infrastructure has led to growth of bodaboda industry. According to this theory although motorcycle operation is a risky business, the returns are high and worth undertaking as a business enterprise.

## CHAPTER THREE

### RESEARCH DESIGN AND METHODOLOGY

#### 3.1. Introduction

Research design, Study Location , target population, sample and sampling procedures and sample size, research instruments, validity and reliability of instruments, data collection procedures and data analysis techniques are discussed in this chapter.

#### 3.2. Research Design

A sample is a representative portion of a given population under study. When collecting the data, it's important to ensure that the sample is free from personal bias and its actual representative of the population under study there by reducing the sampling variability. The bodaboda operators were sampled using random sampling method. From the Krejcie, R.V. Morgan and Daryle W. (1970) tables, a sample size of 296 respondents was selected. Using cluster sampling bodaboda operators were conveniently selected from various trading centre which consisted of ; Ikonyero, Lurambi, Sichilayi, CBD, Maraba and Amalemba. The following formula Geoffrey et al (2000) was used to get sample size for the six trading centers totaling to 169 bodaboda operators. The Traffic Base Commander and the Sub County Revenue Officer were purposively selected because they have key information on the study. 10 bodaboda users were conveniently selected through observable schedule to give key information on some of the variables.  $P_i = \frac{k}{N} \times 100$ . Where  $p_i$  is the represented proportion of the population (sample size)  $K$  is the population of trading centre  $N=296$  (total sample size)



### **3.3. Target population**

According to the records from bodaboda registration office (Lurambi Sub County Revenue Office) there are 300 registered bodaboda operators in central division, Kakamega Central District. This formed the population. Lurambi Sub County has only 1 traffic Base commander and 1 Sub County Revenue Officer. The number of bodaboda users is not known.

### **3.4. Sample size and sampling procedure**

A sample is a representative portion of a given population under study. When collecting the data, it's important to ensure that the sample is free from personal bias and its actual representative of the population under study there by reducing the sampling variability. The bodaboda operators were sampled using random sampling method. From the Krejcie, R.V. Morgan and Daryle W. (1970) tables, a sample size of 296 respondents was selected. Using cluster sampling bodaboda operators were conveniently selected from various trading centre which consisted of; Ikonyero, Lurambi, Sichilayi, CBD, Maraba and Amalemba. The following formula Geoffrey et al (2000) was used to get sample size for the six trading centers totaling to 300 bodaboda operators. The Traffic Base Commander and the Sub County Revenue Officer were purposively selected because they have key information on the study. 10 bodaboda users were conveniently selected through observable schedule to give key information on some of the variables.  $P_i = \frac{k}{N} \times 100$ . Where  $p_i$  is the represented proportion of the population (sample size)  $K$  is the population of trading centre  $N=296$  (total sample size)

**Table 3.2 Sample size**

| <b>Cluster</b> | <b>Frequency</b> |
|----------------|------------------|
| Ikonyero       | 60               |
| Lurambi        | 46               |
| Sichilayi      | 42               |
| CBD            | 44               |
| Amalemba       | 58               |
| Maraba         | 46               |
| <b>Total</b>   | <b>296</b>       |

**Source; Lurambi sub county registry records**

### **3.5. Data Collection Methods.**

Structured interviews with questionnaires were used as the main tool for collecting data. Structured interviews are those conducted by the interviewers with a predetermined standardized list of both close and open ended questions of which are put in precisely the same format and sequence to every respondent (Patton, 1990). . Data collection is the established systematic way of gathering and measuring information on variables of interest that helps answer research questions, test hypotheses, and evaluate outcomes. The researcher will obtain official letter of introduction from University of Nairobi allowing her to seek permission from the OCS office to grant her permission to collect data from the respondents in the Sub County. A data collection method is a structured way of measuring a given phenomenon. Mugenda Mugenda, (2003) notes that it could be a paper and pencil test, questionnaire, interview, a research tool or set guidelines for observation. The researcher will use questionnaires; interviews schedules and Document Analysis to

research and capture the appropriate information in accordance with the objectives set for the study.

### **3.5.1 Validity of instruments**

Validity according to Mugenda and Mugenda (2003) refers to the scale of accuracy and meaningfulness of inferences which are result based. It forms actual representation of the analyzed data for the phenomena under study. To enhance validity of the questionnaire, the researcher sought advice from the supervisor on validity and relevance of the questions to the topic under study. Comments and suggestions were considered in formulating the final copy.

### **3.5.2 Reliability of the instrument**

According to Henson (2010), reliability of the measurement refers to the achievement of similar results while using a procedure repeatedly. Reliability of the items in the questionnaire was affirmed using split-halves method in this study. Two administrations of the same or an alternative form test was not necessary as it was effective. In the split-halves method, the total number of items in the questionnaire was divided into halves (odd numbers and even numbers), then those two total scores were correlated using spearman correlations. The questionnaire was found to be reliable with a reliability index of 87.3%.

### **3.6 Data collection procedure**

Data collection forms a fundamental part of the research design as it is from collected data that a researcher can analyze and conclusions and make recommendations. The questionnaires were administered by the research to bodaboda operators and

bodaboda users and used interview guide to get relevant information from traffic base commander and sub-county revenue officer. Primary and Secondary data was utilized. In primary data the researcher was able to collect firsthand information from the respondents. Each interview lasted for 30 Minutes.

### **3.7 Data analysis techniques**

After collecting the data, it was edited to familiarize with the data, check for completeness and accuracy. It was organized in terms of research instruments. Questionnaires, documentary analysis, interviews and observation research was arranged in terms of various research questions to facilitate analysis. Qualitative and quantitative data analysis technique was used. Statistical package of social scientists (SPSS) was the tool used for analysis. Cross tabulation analysis was done to determine relationships among the dependent and independent variables within the objectives guiding the study and to explore their implication for cause and effect. Descriptive statistics such as percentages were used and information was presented in form of tables.

### **3.8 Ethical considerations**

The researcher informed the respondents on the topic of her study before administering the questionnaires and interviews to them. This ensured that the respondents consent was not ignored as they contribute to the study. Confidentiality was upheld among respondents.

### 3.9 Operational definition of variables

This is the Operationalization of the research concepts to make them measurable. The research topic was translated to observable and measurable objectives, the variables were identified and measurable indicators specified. This is as shown;

### 3.9. Operationalization of variables

**Table 3.2: Operational definition of variables**

| <b>Research Question</b>   | <b>Indicators of variables</b>   | <b>Measurement scales</b>                                   | <b>Tools of Analysis</b>  |
|--|--|---|---|
| Socio-economic factors and growth of informal transport sector               | <ul style="list-style-type: none"> <li>- Unemployment</li> <li>- Need and opportunity</li> <li>- Funds accessibility</li> <li>- Dependency</li> <li>- Occupation</li> </ul>  | <ul style="list-style-type: none"> <li>• Ordinal</li> </ul> | <ul style="list-style-type: none"> <li>- Frequenciestables and percentages</li> <li>- Cross tabulation</li> <li>- Chi-square</li> </ul> |
| Environmental and structural factors and growth of informal transport sector | <ul style="list-style-type: none"> <li>- Climatic conditions</li> <li>- Rugged terrains</li> <li>- Road networks</li> <li>- Routes</li> <li>- Charges</li> </ul>   | <ul style="list-style-type: none"> <li>• Ordinal</li> </ul> | <ul style="list-style-type: none"> <li>- Frequenciestables and percentages</li> <li>- Cross tabulation</li> <li>- Chi-square</li> </ul> |
| Presence of investors and growth of informal transport sector                | <ul style="list-style-type: none"> <li>- Variations in prices</li> <li>- Availability of stockiest</li> <li>- Distances</li> <li>- Passengers/trip</li> <li>- Length of service</li> <li>- Conduciveness of opening</li> </ul> | <ul style="list-style-type: none"> <li>• Ordinal</li> </ul> | <ul style="list-style-type: none"> <li>- Frequenciestables and percentages</li> <li>- Cross tabulation</li> <li>- Chi-square</li> </ul> |
| Acquisition and growth of informal transport sector                          | <ul style="list-style-type: none"> <li>- Cost of ownership</li> <li>- Availability</li> <li>- Returns on investment</li> <li>- Operational costs</li> </ul>  | <ul style="list-style-type: none"> <li>• Ordinal</li> </ul> | <ul style="list-style-type: none"> <li>- Frequenciestables and percentages</li> <li>- Cross tabulation</li> <li>- Chi-square</li> </ul> |

## CHAPTER FOUR

### DATA ANALYSIS, INTERPRETATION AND DISCUSSION

#### 4.1. Introduction

This chapter presents data in various themes; response rate, demographic data results of data analysis is presented in this chapter. Data has been organized and interpreted as per the thematic indicators of the study and socio-economic status of the respondents.

#### 4.2. Questionnaire return rate

The researcher was interested in knowing the response rate because a good response rate determines the reliability of the instruments used in the research. After data collection, the response rate was tabulated as shown in table 4.1.

**Table 4.1 response rate**

| <b>Cluster</b> | <b>Sample population</b> | <b>Response rate</b> |
|----------------|--------------------------|----------------------|
| Ikonyero       | 60                       | 42                   |
| Lurambi        | 46                       | 38                   |
| Sichilayi      | 42                       | 42                   |
| CBD            | 44                       | 39                   |
| Amalemba       | 58                       | 47                   |
| Maraba         | 46                       | 38                   |
| <b>Total</b>   | <b>296</b>               | <b>246</b>           |

Table 4.1 demonstrates that there was 82.5% response rate which according to Mugenda and Mugenda (2009) a response rate above 70% is good. The high return rate is attributed to the fact that the researcher administered the questionnaires himself with assistance from one research assistance.

### 4.3. Demographic factors

#### 4.3.1. Gender

The study was interested in establishing whether gender as a component within demographic factors influence growth of motorcycle transport industry in Lurambi Sub-county of Kakamega county, respondents were asked to state their gender and the results were as follows;

**Table 4.2: Frequency distribution on respondents gender**

|       |              | <b>Frequency</b> | <b>Percent</b> | <b>Valid<br/>Percent</b> |
|-------|--------------|------------------|----------------|--------------------------|
| Valid | Male         | 203              | 82.5           | 82.5                     |
|       | Female       | 43               | 17.5           | 17.5                     |
|       | <b>Total</b> | 246              | 100.0          | 100.0                    |

Results from table 4.2. revealed a majority of males than females who participated in the study, this is as represented by 203 (82.5%) and 43 (17.5%) respectively. The study also wanted to establish the age of the respondents that participated in the study and the results were as shown in table 4.3;

#### 4.3.2. Respondents Age

**Table 4.3: Frequency distribution on respondents age**

|       |                | <b>Frequency</b> | <b>Percent</b> | <b>Valid<br/>Percent</b> |
|-------|----------------|------------------|----------------|--------------------------|
| Valid | below 20 years | 6                | 2.4            | 2.4                      |
|       | 21 - 30 years  | 21               | 8.5            | 8.5                      |
|       | 31 - 40 years  | 87               | 35.4           | 35.4                     |
|       | 41 - 50 yrs    | 132              | 53.7           | 53.7                     |
|       | <b>Total</b>   | 246              | 100.0          | 100.0                    |

The study established a majority of respondents were between 41 – 50 years of age (53.7%), followed by 31 – 40 years (35.4%), 21 – 30 years (8.5%) and lastly those that were below 20 years came at 2.4%.

#### 4.3.3. Respondents’ Marital status

Table 4.4: Frequency distribution on respondent’s marital status and the results were as presented in table 4.4

**Table 4.4: Frequency distribution on marital status**

|       |              | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|--------------|------------------|----------------|----------------------|
| Valid | Married      | 201              | 81.7           | 81.7                 |
|       | Single       | 45               | 18.3           | 18.3                 |
|       | <b>Total</b> | 246              | 100.0          | 100.0                |

Results from table 4.4. Revealed a majority of married operators than singles who participated in the study, this is as represented by 201 (81.7%) and 45 (18.3%) respectively. The study also wanted to establish education qualification of the respondents that participated in the study and the results were as shown in table 4.5;

**Table 4.5: Frequency distribution on respondents education qualification**

|       |                   | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|-------------------|------------------|----------------|----------------------|
| Valid | Semi-literate     | 9                | 3.7            | 3.7                  |
|       | Primary level     | 87               | 35.4           | 35.4                 |
|       | K.C.S.E (O level) | 75               | 30.5           | 30.5                 |
|       | Diploma graduate  | 75               | 30.5           | 30.5                 |
|       | <b>Total</b>      | 246              | 100.0          | 100.0                |



Results established that majority of riders (operators) were primary level qualifiers, 35.4%, followed by a joint majority of diploma graduates and K.C.S.E qualifies at 30.5%, and a minority were semi-literate with a 3.7% representation.

**Table 4.6: Frequency distribution on respondents economic status**

|       |                           | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|---------------------------|------------------|----------------|----------------------|
| Valid | Low-class income          | 114              | 46.3           | 46.3                 |
|       | Lower-middle class income | 117              | 47.6           | 47.6                 |
|       | Middle-level income       | 15               | 6.1            | 6.1                  |
|       | <b>Total</b>              | 246              | 100.0          | 100.0                |

On economic status, the study identified that majority of respondents hailed from lower-middle class income levels 117 (47.6%), followed closely by low-class incomes 114 (46.3%) and lastly middle-level income earners at 15 (6.1%).

#### **4.4. Socio-economic factors**

##### **4.4.1. Unemployment**

The study sought to establish whether unemployment as a facto within socio-economic factors influenced growth of this informal motorcycle transport sector in Lurambi Sub-county of Kakamega County. Mostly, bodaboda service provision is viewed as the main occupation by the operators. This is due to inadequate job opportunities among the youth. It was also revealed that they have a few numbers of dependents given the not so high income generated from the business. Therefore the study solicited responses from respondents and the results were as shown in table 4.7;

**Table 4.7: Frequency distribution on unemployment led one to begin boda boda transport service**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 109              | 44.3           | 44.3                 |
|       | Very satisfied       | 69               | 28.0           | 28.0                 |
|       | Moderately satisfied | 51               | 20.7           | 20.7                 |
|       | Slightly satisfied   | 17               | 6.9            | 6.9                  |
|       | <b>Total</b>         | 246              | 100.0          | 100.0                |

Results from table 4.7 depict 109 (44.3%) majority accepting at an extreme level of satisfaction the influence unemployment had on leading one to begin a boda-boda transport service, this was followed by 69 (28.0%) who opined to be very satisfied, 51 (20.7%) that were moderately satisfied and a 17 (6.9%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.8;

**Table 4.8: Cross tabulation showing growth of motorcycle transport and unemployment led one to begin boda-boda transport service**

|                                |              |   | <b>unemployment led one to begin boda-boda transport service</b> |              |              |              | <b>Total</b>  |
|--------------------------------|--------------|---|--|--------------|--------------|--------------|---------------|
|                                |              |   | <b>E.S</b>   | <b>V.S</b>   | <b>M.S</b>   | <b>S.S</b>   |               |
| Growth of motorcycle transport | <b>Yes</b>   | Count% within unemployment led one to begin bodaboda transport service  | 83<br>72.2%  | 43<br>65.2%  | 27<br>62.8%  | 16<br>72.7%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within unemployment led one to begin boda-boda transport service | 32<br>27.8%  | 23<br>34.8%  | 16<br>37.2%  | 6<br>27.3%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within unemployment led one to begin boda-boda transport service | 115<br>100.0%  | 66<br>100.0% | 43<br>100.0% | 22<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between unemployment led one to begin boda-boda transport service and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 1.896 at  $df = 3$  showing a .594 likelihood in association thereby revealing a non-significant relationship between the variables.

#### 4.4.2. Need and opportunity

The study sought to establish whether need and opportunity as a factor within socio-economic factors influenced growth of this informal motorcycle transport sector in Lurambi Sub-county of Kakamega County. This was viewed as a catalyst that saw motorcycling transport becoming an opportunity to get into the lucrative transport business. Many bought the motorbikes for their children or brothers to do business with. Others bought these motorbikes and hired the idle youth to do business with it and give them a certain amount of money at the end of the day Gladys (2013). The results were as presented in table 4.9;

**Table 4.9: Frequency distribution on need and opportunity available drove one to begin the business**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 112              | 45.5           | 45.5                 |
|       | Very satisfied       | 69               | 28.0           | 28.0                 |
|       | Moderately satisfied | 45               | 18.3           | 18.3                 |
|       | Slightly satisfied   | 20               | 8.1            | 8.1                  |
|       | <b>Total</b>         | 246              | 100.0          | 100.0                |

Results from table 4.9 depict 112 (45.5%) majority accepting at an extreme level of satisfaction the influence unemployment need and opportunity available drove one to begin the business, this was followed by 69 (28.0%) who opined to be very satisfied, 45 (18.3%) that were moderately satisfied and a 20 (8.1%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.10;

**Table 4.10: Cross tabulation showing growth of motorcycle transport and need and opportunity available drove one to begin the business**

|                                      |              |  | <b>need and opportunity available<br/>drove one to begin the business</b> |                      |                      |                      | <b>Total</b>          |
|--------------------------------------|--------------|--|---|----------------------|----------------------|----------------------|-----------------------|
|                                      |              |  | <b>E.S</b>  | <b>V.S</b>           | <b>M.S</b>           | <b>S.S</b>           |                       |
| growth of<br>motorcycle<br>transport | <b>Yes</b>   | Count% within need<br>and opportunity<br>available drove one<br>to begin the business                    | 88<br>79.3%   | 43<br>62.3%          | 21<br>46.7%          | 17<br>81.0%          | 169<br>68.7%          |
|                                      | <b>No</b>    | Count% within need<br>and opportunity<br>available drove one<br>to begin the business                    | 23<br>20.7%   | 26<br>37.7%          | 24<br>53.3%          | 4<br>19.0%           | 77<br>31.3%           |
|                                      | <b>Total</b> | <b>Count % within<br/>need and<br/>opportunity<br/>available drove one<br/>to begin the<br/>business</b> | <b>111<br/>100.0%</b>   | <b>69<br/>100.0%</b> | <b>45<br/>100.0%</b> | <b>21<br/>100.0%</b> | <b>246<br/>100.0%</b> |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between need and opportunity available drove one to begin the business and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 18.709 at  $df = 3$  showing a .004 likelihood in association thereby revealing a very significant relationship between the variables.

#### 4.4.3. Funding channels in the county

The study sought to establish whether funding channels in the county as a factor within socio-economic factors influenced growth of this informal motorcycle transport sector in Lurambi Sub-county of Kakamega County. Respondents were asked to state on a scale of extremely satisfied, very satisfied, moderately satisfied, and slightly satisfied their levels of satisfaction and their respondents were as shown in table 4.11;

**Tale 4.11: Frequency distribution on funding channels in the county enable proper disbursement of funds**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 109              | 44.3           | 44.3                 |
|       | Very satisfied       | 78               | 31.7           | 31.7                 |
|       | Moderately satisfied | 42               | 17.1           | 17.1                 |
|       | Slightly satisfied   | 17               | 6.9            | 6.9                  |
|       | <b>Total</b>         | <b>246</b>       | <b>100.0</b>   | <b>100.0</b>         |

Results from table 4.11 depict 109 (44.3%) majority accepting at an extreme level of satisfaction the influence funding channels in the county enable proper disbursement of funds, this was followed by 78 (31.7%) who opined to be very satisfied, 42 (17.1%) that were moderately satisfied and a 17 (6.9%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.12;

**Table 4.12: Cross tabulation showing growth of motorcycle transport and funds acquisition channels in the county enable proper disbursement of funds**

|                                |              | funding channels in the county enable proper disbursement of funds               |               |              |              | Total        |               |
|--------------------------------|--------------|--|---------------|--------------|--------------|--------------|---------------|
|                                |              | E.S  | V.S           | M.S          | S.S          |              |               |
| Growth of motorcycle transport | <b>Yes</b>   | Count% within funding channels in the county enable proper disbursement of funds | 84<br>79.2%   | 49<br>62.0%  | 21<br>50.0%  | 15<br>78.9%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within funding channels in the county enable proper disbursement of funds | 22<br>20.8%   | 30<br>38.0%  | 21<br>50.0%  | 4<br>21.1%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within funding channels in the county enable proper disbursement of funds | 106<br>100.0% | 79<br>100.0% | 42<br>100.0% | 19<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between funds acquisition channels in the county enable proper disbursement of funds and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 14.876 at  $df = 3$  showing a .002 likelihood in association thereby revealing a very significant relationship between the variables.

#### 4.4.4. Occupation

**Table 4.13: Frequency distribution on occupation**

|              |                      | Frequency | Percent | Valid Percent |
|--------------|----------------------|-----------|---------|---------------|
| Valid        | Extremely satisfied  | 125       | 50.8    | 50.8          |
|              | Very satisfied       | 49        | 19.9    | 19.9          |
|              | Moderately satisfied | 37        | 15.0    | 15.0          |
|              | Slightly satisfied   | 35        | 14.2    | 14.2          |
| <b>Total</b> |                      | 246       | 100.0   | 100.0         |

Results from table 4.13 depict 125 (50.8%) majority accepting at an extreme level of satisfaction with the influence occupation had on the business, this was followed by 49 (19.9%) who opined to be very satisfied, 37 (15.0%) that were moderately satisfied and a 35 (14.2%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.14 where the study established variable associations and their respective significance;

**Table 4.14: Cross tabulation showing Growth of motorcycle transport and occupation**

|                                |              | occupation               |               |              |              | Total        |               |
|--------------------------------|--------------|--------------------------|---------------|--------------|--------------|--------------|---------------|
|                                |              | E.S                      | V.S           | M.S          | S.S          |              |               |
| Growth of motorcycle transport | <b>Yes</b>   | Count% within occupation | 92<br>73.6%   | 31<br>63.3%  | 20<br>54.1%  | 26<br>74.3%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within occupation | 33<br>26.4%   | 18<br>36.7%  | 17<br>45.9%  | 9<br>25.7%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within occupation | 125<br>100.0% | 49<br>100.0% | 37<br>100.0% | 35<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between occupation and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 6.267 at  $df = 3$  showing a .099 likelihood in association thereby revealing a very significant relationship between the variables.

#### 4.5. Environmental and structural factors

The study sought to establish whether environmental and structural factors influenced growth of this informal motorcycle transport sector in Lurambi Sub-county of Kakamega County. Results were categorically analyzed following sub-thematic elements as follows;

##### 4.5.1. Climatic conditions

**Table 4.15: Frequency distribution on climatic conditions provided opportunities for motorbike transport services**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 109              | 44.3           | 44.3                 |
|       | Very satisfied       | 49               | 19.9           | 19.9                 |
|       | Moderately satisfied | 38               | 15.4           | 15.4                 |
|       | Slightly satisfied   | 50               | 20.3           | 20.3                 |
|       | <b>Total</b>         | 246              | 100.0          | 100.0                |

Results from table 4.15 depict 109 (44.3%) majority accepting at an extreme level of satisfaction the influence climatic conditions had on providing opportunities for motorbike transport services, this was followed by 50 (20.3%) who opined to be slightly satisfied, 49 (19.9%) that were very satisfied and a 38 (15.4%) minority that



were moderately satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.12;

**Table 4.16: Cross tabulation showing Growth of motorcycle transport and climatic conditions provided opportunities for motorbike transport services**

|                                |              |   | climatic conditions provided opportunities for motorbike transport services |              |              |              | Total         |
|--------------------------------|--------------|---|---|--------------|--------------|--------------|---------------|
|                                |              |   | E.S   | V.S          | M.S          | S.S          |               |
| growth of motorcycle transport | <b>Yes</b>   | Count% within climatic conditions and opportunities | 80<br>73.4%   | 32<br>65.3%  | 23<br>60.5%  | 34<br>68.0%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within climatic conditions and opportunities | 29<br>26.6%   | 17<br>34.7%  | 15<br>39.5%  | 16<br>32.0%  | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within climatic conditions and opportunities | 109<br>100.0%   | 49<br>100.0% | 38<br>100.0% | 50<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between climatic conditions provided opportunities for motorbike transport services and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 2.572 at  $df = 3$  showing a .462 likelihood in association thereby revealing a non-significant relationship between the variables.

#### 4.5.2. Poor road networks

**Table 4.17: Frequency distribution on poor road network demanding easier means of transport**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 118              | 48.0           | 48.0                 |
|       | Very satisfied       | 72               | 29.3           | 29.3                 |
|       | Moderately satisfied | 39               | 15.9           | 15.9                 |
|       | Slightly satisfied   | 17               | 6.9            | 6.9                  |
|       | <b>Total</b>         |                  | 246            | 100.0                |

Results from table 4.17 depict 118 (48.0%) majority accepting at an extreme level of satisfaction with the influence poor road network demanding easier means of transport, this was followed by 72 (29.3%) who opined to be very satisfied, 39 (15.9%) that were moderately satisfied and a 17 (6.9%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.18 where the study established variable associations and their respective significance;

**Table 4.18: Cross tabulation showing Growth of motorcycle transport and poor road network in my area called for easier means of transport**

|                                |              | poor road network in my area called for easier means of transport               |               |              |              | Total        |               |
|--------------------------------|--------------|---|---------------|--------------|--------------|--------------|---------------|
|                                |              | E.S   | V.S           | M.S          | S.S          |              |               |
| Growth of motorcycle transport | <b>Yes</b>   | Count% within poor road network in my area called for easier means of transport | 92<br>78.0%   | 44<br>61.1%  | 19<br>48.7%  | 14<br>82.4%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within poor road network in my area called for easier means of transport | 26<br>22.0%   | 28<br>38.9%  | 20<br>51.3%  | 3<br>17.6%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within poor road network in my area called for easier means of transport | 118<br>100.0% | 72<br>100.0% | 39<br>100.0% | 17<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between poor road network in my area called for easier means of transport and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 15.355 at  $df = 3$  showing a .002 likelihood in association thereby revealing a very significant relationship between the variables.

### 4.5.3. Routes

**Table 4.19: Frequency distribution on routes**

|       |                      | Frequency | Percent | Valid Percent |
|-------|----------------------|-----------|---------|---------------|
| Valid | Extremely satisfied  | 158       | 64.2    | 64.2          |
|       | Very satisfied       | 43        | 17.5    | 17.5          |
|       | Moderately satisfied | 28        | 11.4    | 11.4          |
|       | Slightly satisfied   | 17        | 6.9     | 6.9           |
|       | <b>Total</b>         | 246       | 100.0   | 100.0         |

Results from table 4.19 depict 158 (64.2%) majority accepting at an extreme level of satisfaction with the influence of routes, this was followed by 43 (17.5%) who opined to be very satisfied, 28 (11.4%) that were moderately satisfied and a 17 (6.9%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.20 where the study established variable associations and their respective significance;

**Table 4.20: Cross tabulation showing Growth of motorcycle transport and routes**

|                                |              |               | routes |        |        |        | Total  |
|--------------------------------|--------------|---------------|--------|--------|--------|--------|--------|
|                                |              |               | E.S    | V.S    | M.S    | S.S    |        |
| Growth of motorcycle transport | <b>Yes</b>   | Count%        | 117    | 22     | 16     | 14     | 169    |
|                                |              | within routes | 74.1%  | 51.2%  | 57.1%  | 82.4%  | 68.7%  |
|                                | <b>No</b>    | Count%        | 41     | 21     | 12     | 3      | 77     |
|                                |              | within routes | 25.9%  | 48.8%  | 42.9%  | 17.6%  | 31.3%  |
|                                | <b>Total</b> | Count%        | 158    | 43     | 28     | 17     | 246    |
|                                |              | within routes | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of

association of between routes and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 11.467 at  $df = 3$  showing a .009 likelihood in association thereby revealing a very significant relationship between the variables.

#### 4.5.4. Charges

**Table 4.21: Frequency distribution on charges**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 117              | 47.6           | 47.6                 |
|       | Very satisfied       | 33               | 13.4           | 13.4                 |
|       | Moderately satisfied | 61               | 24.8           | 24.8                 |
|       | Slightly satisfied   | 35               | 14.2           | 14.2                 |
|       | <b>Total</b>         | 246              | 100.0          | 100.0                |

Results from table 4.21 depict 117 (47.6%) majority accepting at an extreme level of satisfaction with the influence of charges, this was followed by 61(24.8%) who opined to be moderately satisfied, 35 (14.2%) that were slightly satisfied and a 33 (13.4%) minority that were very satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.22 where the study established variable associations and their respective significance;

**Table 4.22: Cross tabulation showing Growth of motorcycle transport and charges**

|                                |              | charges               |               |              |              | Total        |               |
|--------------------------------|--------------|-----------------------|---------------|--------------|--------------|--------------|---------------|
|                                |              | E.S                   | V.S           | M.S          | S.S          |              |               |
| growth of motorcycle transport | <b>Yes</b>   | Count% within charges | 87<br>74.4%   | 19<br>57.6%  | 43<br>70.5%  | 20<br>57.1%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within charges | 30<br>25.6%   | 14<br>42.4%  | 18<br>29.5%  | 15<br>42.9%  | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within charges | 117<br>100.0% | 33<br>100.0% | 61<br>100.0% | 35<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between charges and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 5.907 at  $df = 3$  showing a .116likelihood in association thereby revealing a very significant relationship between the variables.

#### **4.6. Presence of investors and industry growth**

The study sought to establish whether investors and stockiest influenced growth of this informal motorcycle transport sector in Lurambi Sub-county of Kakamega County. Results were categorically analyzed following sub-thematic elements as follows;

#### 4.6.1. Variations in prices

**Table 4.23: Frequency distribution on variations in prices of available motorbike models enhanced acquisition**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 112              | 45.5           | 45.5                 |
|       | Very satisfied       | 66               | 26.8           | 26.8                 |
|       | Moderately satisfied | 48               | 19.5           | 19.5                 |
|       | Slightly satisfied   | 20               | 8.1            | 8.1                  |
|       | <b>Total</b>         |                  | 246            | 100.0                |

Results from table 4.23 depict 112 (45.5%) majority accepting at an extreme level of satisfaction with the influence variations in prices of available motorbike models enhanced acquisition, this was followed by 66 (26.8%) who opined to be very satisfied, 48 (19.5%) that were moderately satisfied and a 20 (8.1%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.24 where the study established variable associations and their respective significance;

**Table 4.24: Cross tabulation showing growth of motorcycle transport and variations in prices of available motorbike models enhanced acquisition**

|                                |              | variations in prices of available motorbike models enhanced acquisition |               |              |              | Total        |               |
|--------------------------------|--------------|---|---------------|--------------|--------------|--------------|---------------|
|                                |              | E.S   | V.S           | M.S          | S.S          |              |               |
| growth of motorcycle transport | <b>Yes</b>   | Count% within variations in motorbike prices                            | 90<br>80.4%   | 41<br>62.1%  | 24<br>50.0%  | 14<br>70.0%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within variations in motorbike prices                            | 22<br>19.6%   | 25<br>37.9%  | 24<br>50.0%  | 6<br>30.0%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within variations in motorbike prices                            | 112<br>100.0% | 66<br>100.0% | 48<br>100.0% | 20<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between variations in prices of available motorbike models enhanced acquisition and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 16.228 at  $df = 3$  showing a .001 likelihood in association thereby revealing a very significant relationship between the variables.

#### 4.6.2. Multiple stockiest

**Table 4.25: Frequency distribution on availability of multiple motorbike stockiest**

|       |                      | Frequency | Percent | Valid Percent |
|-------|----------------------|-----------|---------|---------------|
| Valid | Extremely satisfied  | 109       | 44.3    | 44.3          |
|       | Very satisfied       | 72        | 29.3    | 29.3          |
|       | Moderately satisfied | 42        | 17.1    | 17.1          |
|       | Slightly satisfied   | 23        | 9.3     | 9.3           |
|       | <b>Total</b>         | 246       | 100.0   | 100.0         |



Results from table 4.25 depict 109 (44.3%) majority accepting at an extreme level of satisfaction with the influence availability of multiple motorbike stockiest had, this was followed by 72 (29.3%) who opined to be very satisfied, 42 (17.1%) that were moderately satisfied and a 23 (9.3%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.26 where the study established variable associations and their respective significance;

**Table 4.26: Cross tabulation showing growth of motorcycle transport and availability of multiple motorbike stockiest**

|                                |              | availability of multiple motorbike stockiest               |               |              |              | Total        |               |
|--------------------------------|--------------|--|---------------|--------------|--------------|--------------|---------------|
|                                |              | E.S  | V.S           | M.S          | S.S          |              |               |
| growth of motorcycle transport | <b>Yes</b>   | Count% within availability of multiple motorbike stockiest | 86<br>78.9%   | 46<br>63.9%  | 20<br>47.6%  | 17<br>73.9%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within availability of multiple motorbike stockiest | 23<br>21.1%   | 26<br>36.1%  | 22<br>52.4%  | 6<br>26.1%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within availability of multiple motorbike stockiest | 109<br>100.0% | 72<br>100.0% | 42<br>100.0% | 23<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between availability of multiple motorbike stockiest and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 15.019 at  $df = 3$  showing a .002 likelihood in association thereby revealing a very significant relationship between the variables.

### 4.6.3. Distances

**Table 4.27: Frequency distribution on distances**

|       |                      | Frequency | Percent | Valid Percent |
|-------|----------------------|-----------|---------|---------------|
| Valid | Extremely satisfied  | 106       | 43.1    | 43.1          |
|       | Very satisfied       | 78        | 31.7    | 31.7          |
|       | Moderately satisfied | 42        | 17.1    | 17.1          |
|       | Slightly satisfied   | 20        | 8.1     | 8.1           |
|       | <b>Total</b>         | 246       | 100.0   | 100.0         |

Results from table 4.27 depict 106 (43.1%) majority accepting at an extreme level of satisfaction with the influence of distances, this was followed by 78 (31.7%) who opined to be very satisfied, 42 (17.1%) that were moderately satisfied and a 20 (8.1%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.28 where the study established variable associations and their respective significance;

**Table 4.28: Cross tabulation showing growth of motorcycle transport and distances**

|                                |              |        |                  | Distances     |              |              |              | Total         |
|--------------------------------|--------------|--------|------------------|---------------|--------------|--------------|--------------|---------------|
|                                |              |        |                  | E.S           | V.S          | M.S          | S.S          |               |
| growth of motorcycle transport | <b>Yes</b>   | Count% | within distances | 84<br>79.2%   | 48<br>61.5%  | 21<br>50.0%  | 16<br>80.0%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% | within distances | 22<br>20.8%   | 30<br>38.5%  | 21<br>50.0%  | 4<br>20.0%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% | within distances | 106<br>100.0% | 78<br>100.0% | 42<br>100.0% | 20<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between distances and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 15.360 at  $df = 3$  showing a .002 likelihood in association thereby revealing a very significant relationship between the variables.

#### 4.6.4. Passengers per trip

**Table 4.29: Frequency distribution on no. of passengers per trip**

|       |                      | Frequency | Percent | Valid Percent |
|-------|----------------------|-----------|---------|---------------|
| Valid | Extremely satisfied  | 158       | 64.2    | 64.2          |
|       | Very satisfied       | 49        | 19.9    | 19.9          |
|       | Moderately satisfied | 22        | 8.9     | 8.9           |
|       | Slightly satisfied   | 17        | 6.9     | 6.9           |
|       | <b>Total</b>         | 246       | 100.0   | 100.0         |

Results from table 4.29 depict 158 (64.2%) majority accepting at an extreme level of satisfaction with the influence no. of passengers per trip, this was followed by 49 (19.9%) who opined to be very satisfied, 22 (8.9%) that were moderately satisfied and a 17 (6.9%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.26 where the study established variable associations and their respective significance;

**Table 4.30: Cross tabulation showing Growth of motorcycle transport and no. of passengers per trip**

|                                |              |  | <b>no. of passengers per trip</b> |              |              |              | <b>Total</b>  |
|--------------------------------|--------------|--|-----------------------------------|--------------|--------------|--------------|---------------|
|                                |              |  | <b>E.S</b>                        | <b>V.S</b>   | <b>M.S</b>   | <b>S.S</b>   |               |
| growth of motorcycle transport | <b>Yes</b>   | Count% within no. of passengers per trip | 118<br>74.7%                      | 28<br>57.1%  | 10<br>45.5%  | 13<br>76.5%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within no. of passengers per trip | 40<br>25.3%                       | 21<br>42.9%  | 12<br>54.5%  | 4<br>23.5%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within no. of passengers per trip | 158<br>100.0%                     | 49<br>100.0% | 22<br>100.0% | 17<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between no. of passengers per trip and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 11.680 at df = 3 showing a .009 likelihood in association thereby revealing a very significant relationship between the variables.

#### **4.6.5. Length of service (motorcycle)**

**Table 4.31: Frequency distribution on length of service**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 119              | 48.4           | 48.4                 |
|       | Very satisfied       | 46               | 18.7           | 18.7                 |
|       | Moderately satisfied | 43               | 17.5           | 17.5                 |
|       | Slightly satisfied   | 38               | 15.4           | 15.4                 |
|       | <b>Total</b>         | 246              | 100.0          | 100.0                |

Results from table 4.31 depict 119 (48.4%) majority accepting at an extreme level of satisfaction with the influence length of service had, this was followed by 46 (18.7%) who opined to be very satisfied, 43 (17.5%) that were moderately satisfied and a 38 (15.4%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.32 where the study established variable associations and their respective significance;

**Table 4.32: Cross tabulation showing growth of motorcycle transport and length of service**

|                                |              |                                 | length of service |              |              |              | Total         |
|--------------------------------|--------------|---------------------------------|-------------------|--------------|--------------|--------------|---------------|
|                                |              |                                 | E.S               | V.S          | M.S          | S.S          |               |
| Growth of motorcycle transport | <b>Yes</b>   | Count% within length of service | 89<br>74.8%       | 28<br>60.9%  | 25<br>58.1%  | 27<br>71.1%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within length of service | 30<br>25.2%       | 18<br>39.1%  | 18<br>41.9%  | 11<br>28.9%  | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within length of service | 119<br>100.0%     | 46<br>100.0% | 43<br>100.0% | 38<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between length of service and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 5.692 at df = 3 showing a .128 likelihood in association thereby revealing a very slight significant relationship between the variables.

#### 4.6.6. Operating Environment

**Table 4.33: Frequency distribution on conduciveness of operating environment**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 119              | 48.4           | 48.4                 |
|       | Very satisfied       | 52               | 21.1           | 21.1                 |
|       | Moderately satisfied | 35               | 14.2           | 14.2                 |
|       | Slightly satisfied   | 40               | 16.3           | 16.3                 |
|       | <b>Total</b>         | 246              | 100.0          | 100.0                |

Results from table 4.33 depict 119 (48.4%) majority accepting at an extreme level of satisfaction with the conduciveness of operating environment, this was followed by 52 (21.1%) who opined to be very satisfied, 40 (16.3%) that were slightly satisfied and a 35 (14.2%) minority that were moderately satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.34 where the study established variable associations and their respective significance;

**Table 4.34: Cross tabulation showing growth of motorcycle transport and conduciveness of operating environment**

|                                |              | conduciveness of operating environment               |               |              |              | Total        |               |
|--------------------------------|--------------|--|---------------|--------------|--------------|--------------|---------------|
|                                |              | E.S  | V.S           | M.S          | S.S          |              |               |
| Growth of motorcycle transport | <b>Yes</b>   | Count% within conduciveness of operating environment | 85<br>71.4%   | 37<br>71.2%  | 27<br>77.1%  | 20<br>50.0%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within conduciveness of operating environment | 34<br>28.6%   | 15<br>28.8%  | 8<br>22.9%   | 20<br>50.0%  | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within conduciveness of operating environment | 119<br>100.0% | 52<br>100.0% | 35<br>100.0% | 40<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between conduciveness of operating environment and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 8.223 at  $df = 3$  showing a .042 likelihood in association thereby revealing a very significant relationship between the variables.

#### **4.7. Acquisition**

The respondents were asked to state the ownership of the bodabodas, the cost of acquiring them, the daily income from the bodaboda and the monthly operational costs. These are important factors to consider in the study as they are critical in the business. The findings revealed the following;

#### 4.7.1. Cost of ownership of a motorbike

**Table 4.35: Frequency distribution on cost of ownership of a motorbike**

|       |                      | Frequency | Percent | Valid Percent |
|-------|----------------------|-----------|---------|---------------|
| Valid | Extremely satisfied  | 167       | 67.9    | 67.9          |
|       | Very satisfied       | 46        | 18.7    | 18.7          |
|       | Moderately satisfied | 25        | 10.2    | 10.2          |
|       | Slightly satisfied   | 8         | 3.3     | 3.3           |
|       | <b>Total</b>         | 246       | 100.0   | 100.0         |

Results from table 4.35 depict 162 (67.9%) majority accepting at an extreme level of satisfaction with the influence cost of ownership of a motorcycle, this was followed by 46 (18.7%) who opined to be very satisfied, 25 (10.2%) that were moderately satisfied and a 8 (3.3%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.36 where the study established variable associations and their respective significance;

**Table 4.36: Cross tabulation showing Growth of motorcycle transport and cost of ownership of a motorbike**

|                                |              |  | cost of ownership of a motorbike |              |              |             | Total         |
|--------------------------------|--------------|--|----------------------------------|--------------|--------------|-------------|---------------|
|                                |              |  | E.S                              | V.S          | M.S          | S.S         |               |
| Growth of motorcycle transport | <b>Yes</b>   | Count% within cost of ownership of a motorbike | 125<br>74.9%                     | 25<br>54.3%  | 12<br>48.0%  | 7<br>87.5%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within cost of ownership of a motorbike | 42<br>25.1%                      | 21<br>45.7%  | 13<br>52.0%  | 1<br>12.5%  | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within cost of ownership of a motorbike | 167<br>100.0%                    | 46<br>100.0% | 25<br>100.0% | 8<br>100.0% | 246<br>100.0% |



Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between cost of ownership of a motorcycle and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 13.641 at  $df = 3$  showing a .003 likelihood in association thereby revealing a very significant relationship between the variables.

#### 4.7.2. Availability of loans to acquire motorcycles

**Table 4.37: Frequency distribution on availability of loans**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 122              | 49.6           | 49.6                 |
|       | Very satisfied       | 55               | 22.4           | 22.4                 |
|       | Moderately satisfied | 37               | 15.0           | 15.0                 |
|       | Slightly satisfied   | 32               | 13.0           | 13.0                 |
|       | <b>Total</b>         | 246              | 100.0          | 100.0                |

Results from table 4.37 depict 122 (49.6%) majority accepting at an extreme level of satisfaction with the influence of availability of loans, this was followed by 55 (22.4) who opined to be very satisfied, 37 (15.0%) that were moderately satisfied and a 32 (13.0%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.38 where the study established variable associations and their respective significance;

**Table 4.38: Cross tabulation showing growth of motorcycle transport and availability of loans**

|                                |              | availability of loans               |               |              |              | Total        |               |
|--------------------------------|--------------|-------------------------------------|---------------|--------------|--------------|--------------|---------------|
|                                |              | E.S                                 | V.S           | M.S          | S.S          |              |               |
| growth of motorcycle transport | <b>Yes</b>   | Count% within availability of loans | 89<br>73.0%   | 36<br>65.5%  | 20<br>54.1%  | 24<br>75.0%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within availability of loans | 33<br>27.0%   | 19<br>34.5%  | 17<br>45.9%  | 8<br>25.0%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within availability of loans | 122<br>100.0% | 55<br>100.0% | 37<br>100.0% | 32<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between availability of loans and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 5.576 at  $df = 3$  showing a .134 likelihood in association thereby revealing a very slight significant relationship between the variables.

#### 4.7.3. Returns on investment

**Table 4.39: Frequency distribution on returns on investment**

|       |                      | Frequency | Percent | Valid Percent |
|-------|----------------------|-----------|---------|---------------|
| Valid | Extremely satisfied  | 173       | 70.3    | 70.3          |
|       | Very satisfied       | 40        | 16.3    | 16.3          |
|       | Moderately satisfied | 25        | 10.2    | 10.2          |
|       | Slightly satisfied   | 8         | 3.3     | 3.3           |
|       | <b>Total</b>         | 246       | 100.0   | 100.0         |

Results from table 4.39 depict 173 (70.3%) majority accepting at an extreme level of satisfaction with the returns on investment, this was followed by 40 (16.3%) who opined to be very satisfied, 25 (10.2%) that were moderately satisfied and an 8 (3.3%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.40 where the study established variable associations and their respective significance;

**Table 4.40: Cross tabulation showing growth of motorcycle transport and returns on investment**

|                                |            | Returns on investment               |               |              |              | Total       |               |
|--------------------------------|------------|-------------------------------------|---------------|--------------|--------------|-------------|---------------|
|                                |            | E.S                                 | V.S           | M.S          | S.S          |             |               |
| growth of motorcycle transport | <b>Yes</b> | Count% within returns on investment | 127<br>73.4%  | 23<br>57.5%  | 12<br>48.0%  | 7<br>87.5%  | 169<br>68.7%  |
|                                | <b>No</b>  | Count% within returns on investment | 46<br>26.6%   | 17<br>42.5%  | 13<br>52.0%  | 1<br>12.5%  | 77<br>31.3%   |
| <b>Total</b>                   |            | Count% within returns on investment | 173<br>100.0% | 40<br>100.0% | 25<br>100.0% | 8<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between returns on investment and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 10.415 at df = 3 showing a .015 likelihood in association thereby revealing a very significant relationship between the variables.

#### 4.7.4. Operational costs

**Table 4.41: Frequency distribution on operational costs**

|       |                      | Frequency | Percent | Valid Percent |
|-------|----------------------|-----------|---------|---------------|
| Valid | Extremely satisfied  | 119       | 48.4    | 48.4          |
|       | Very satisfied       | 55        | 22.4    | 22.4          |
|       | Moderately satisfied | 40        | 16.3    | 16.3          |
|       | Slightly satisfied   | 32        | 13.0    | 13.0          |
|       | <b>Total</b>         | 246       | 100.0   | 100.0         |

Results from table 4.41 depict 119 (48.4%) majority accepting at an extreme level of satisfaction with the influence on operational costs, this was followed by 55 (22.4%) who opined to be very satisfied, 40(16.3%) that were moderately satisfied and a 32 (13.0%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.42 where the study established variable associations and their respective significance;

**Table 4.42: Cross tabulation showing Growth of motorcycle transport and operational costs**

|                                |              |                                 | Operational costs |              |              |              | Total         |
|--------------------------------|--------------|---------------------------------|-------------------|--------------|--------------|--------------|---------------|
|                                |              |                                 | E.S               | V.S          | M.S          | S.S          |               |
| Growth of motorcycle transport | <b>Yes</b>   | Count% within operational costs | 88<br>73.9%       | 35<br>63.6%  | 22<br>55.0%  | 24<br>75.0%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within operational costs | 31<br>26.1%       | 20<br>36.4%  | 18<br>45.0%  | 8<br>25.0%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within operational costs | 119<br>100.0%     | 55<br>100.0% | 40<br>100.0% | 32<br>100.0% | 246<br>100.0% |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between operational costs and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 6.363 at  $df = 3$  showing a .099 likelihood in association thereby revealing a slight significant relationship between the variables.

#### 4.7.5. Accessibility of funds

**Table 4.43: Frequency distribution on funds are accessible through groups and/or individuals**

|       |                      | Frequency | Percent | Valid Percent |
|-------|----------------------|-----------|---------|---------------|
| Valid | Extremely satisfied  | 124       | 50.4    | 50.4          |
|       | Very satisfied       | 60        | 24.4    | 24.4          |
|       | Moderately satisfied | 48        | 19.5    | 19.5          |
|       | Slightly satisfied   | 14        | 5.7     | 5.7           |
|       | <b>Total</b>         | 246       | 100.0   | 100.0         |

Results from table 4.43 depict 124 (50.4%) majority accepting at an extreme level of satisfaction with the influence funds are accessible through groups and/or individuals, this was followed by 60 (24.4%) who opined to be very satisfied, 48 (19.5%) that were moderately satisfied and a 14 (5.7%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.44 where the study established variable associations and their respective significance;

**Table 4.44: Cross tabulation showing growth of motorcycle transport and funds are accessible through groups and/or individuals**

|                                |              |   | funds are accessible through groups and/or individuals |                      |                      |                      | Total                 |
|--------------------------------|--------------|---|--|----------------------|----------------------|----------------------|-----------------------|
|                                |              |   | E.S  | V.S                  | M.S                  | S.S                  |                       |
| growth of motorcycle transport | <b>Yes</b>   | Count% within funds are accessible through groups         | 98<br>79.0%  | 37<br>61.7%          | 23<br>47.9%          | 11<br>78.6%          | 169<br>68.7%          |
|                                | <b>No</b>    | Count% within funds are accessible through groups         | 26<br>21.0%  | 23<br>38.3%          | 25<br>52.1%          | 3<br>21.4%           | 77<br>31.3%           |
|                                | <b>Total</b> | <b>Count % within funds are accessible through groups</b> | <b>124<br/>100.0%</b>                                  | <b>60<br/>100.0%</b> | <b>48<br/>100.0%</b> | <b>14<br/>100.0%</b> | <b>246<br/>100.0%</b> |

Results from the conducted contingency table revealed a test for probability of association using chi-square tests and the results and established a slight probability of association of between funds being accessible through groups/and or individuals and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 17.813 at  $df = 3$  showing a .001 likelihood in association thereby revealing a very significant relationship between the variables.

#### **4.8. Other Factors**

The study was further interested in establishing other factors that could influence the growth of the industry and respondents were asked on their opinions on the same. The factors include; market charges and theft and robbery. Results were outlined as presented in the tables that follow;

**Table 4.45: Frequency distribution on market charges**

|              |                      | Frequency  | Percent      | Valid Percent |
|--------------|----------------------|------------|--------------|---------------|
| Valid        | Extremely satisfied  | 149        | 60.6         | 60.6          |
|              | Very satisfied       | 51         | 20.7         | 20.7          |
|              | Moderately satisfied | 29         | 11.8         | 11.8          |
|              | Slightly satisfied   | 17         | 6.9          | 6.9           |
| <b>Total</b> |                      | <b>246</b> | <b>100.0</b> | <b>100.0</b>  |

Results from table 4.45 depict 149 (60.6%) majority accepting at an extreme level of satisfaction with the influence market charges, this was followed by 51 (20.7) who opined to be very satisfied, 29 (11.8%) that were moderately satisfied and a 17 (6.9%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.46 where the study established variable associations and their respective significance;

**Table 4.46: Cross tabulation showing growth of motorcycle transport and market charges**

|                                |              |                              | market charges |              |              |              |               |
|--------------------------------|--------------|------------------------------|----------------|--------------|--------------|--------------|---------------|
|                                |              |                              | E.S            | V.S          | M.S          | S.S          | Total         |
| growth of motorcycle transport | <b>Yes</b>   | Count% within market charges | 112<br>75.2%   | 27<br>52.9%  | 16<br>55.2%  | 14<br>82.4%  | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within market charges | 37<br>24.8%    | 24<br>47.1%  | 13<br>44.8%  | 3<br>17.6%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within market charges | 149<br>100.0%  | 51<br>100.0% | 29<br>100.0% | 17<br>100.0% | 246<br>100.0% |

A test for probability of association was conducted using chi-square tests and the results established a slight probability of association of between market charges and

growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 12.730 at  $df = 3$  showing a .005 likelihood in association thereby revealing a very significant relationship

**Table 4.47: Frequency distribution on theft and robbery**

|       |                      | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> |
|-------|----------------------|------------------|----------------|----------------------|
| Valid | Extremely satisfied  | 160              | 65.0           | 65.0                 |
|       | Very satisfied       | 44               | 17.9           | 17.9                 |
|       | Moderately satisfied | 36               | 14.6           | 14.6                 |
|       | Slightly satisfied   | 6                | 2.4            | 2.4                  |
|       | <b>Total</b>         | 246              | 100.0          | 100.0                |

Results from table 4.47 depict 160 (65.0%) majority accepting at an extreme level of satisfaction with the influence of theft and robbery, this was followed by 44 (17.9) who opined to be very satisfied, 36 (14.6%) that were moderately satisfied and a 6 (2.4%) minority that were slightly satisfied with the same. A further contingency comparison test was conducted to establish categorical variable association and the results were as shown in table 4.38 where the study established variable associations and their respective significance;



**Table 4.48: Cross tabulation showing growth of motorcycle transport and theft and robbery**

|                                |              | <b>Theft and robbery</b>        |               |              |              |              |               |
|--------------------------------|--------------|---------------------------------|---------------|--------------|--------------|--------------|---------------|
|                                |              | <b>E.S</b>                      | <b>V.S</b>    | <b>M.S</b>   | <b>S.S</b>   | <b>Total</b> |               |
| Growth of motorcycle transport | <b>Yes</b>   | Count% within theft and robbery | 119<br>74.4%  | 27<br>61.4%  | 19<br>52.8%  | 4<br>66.7%   | 169<br>68.7%  |
|                                | <b>No</b>    | Count% within theft and robbery | 41<br>25.6%   | 17<br>38.6%  | 17<br>47.2%  | 2<br>33.3%   | 77<br>31.3%   |
|                                | <b>Total</b> | Count% within theft and robbery | 160<br>100.0% | 44<br>100.0% | 36<br>100.0% | 6<br>100.0%  | 246<br>100.0% |

A test for probability of association was conducted using chi-square tests and the results established a slight probability of association of between theft and robbery and growth of motorcycle transport in Kakamega, Lurambi sub-county as a chi-square test drew a value of 7.753 at  $df = 3$  showing a .051 likelihood in association thereby revealing a very significant relationship between the variables.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

The summary of findings of the study, conclusion discussions and recommendations are documented in this chapter. The study involved the assessment of the bodaboda operations in order to find out how unemployment, cost of acquisition and maintenance of bodabodas, versatility and ease of operation affects the growth of informal transport sector. The study also examined the users of bodaboda services. In addition to that, the Traffic base commander was interviewed to give the state of affairs regarding bodaboda operations and services.

#### **5.2 Summary of the findings**

Generally a large number of the bodaboda service providers are men with interestingly females as the major clients for the bodaboda services (male operators: 95.1% while the female users: 60%). Most of the bodaboda operators are in age bracket of 21-30yrs which are mostly youths of the employable age, having their number leading as the main bodaboda service providers (46.5%) points out the fact that there are no employment opportunities or no industries to use them as source of labour. The age bracket also explains why majority of the operators are married (61.8%). The bodaboda operators cut across all the levels of education with operators being university graduates, O level, A levels and KCPE holders. Surprisingly university graduates forming part of the bodaboda operators is 5.6% meaning the main reason why they would settle for the job is just because there are no jobs even for the graduates.

### **5.2.1 Unemployment and growth of bodaboda transport**

Mostly, bodaboda service provision is viewed as the main occupation by the operators. This is due to inadequate job opportunities among the youth. It was also revealed that they have a few numbers of dependants given the not so high income generated from the business.

### **5.2.2 Cost of acquisition and maintenance of bodabodas and growth of bodaboda transport**

It was revealed that most operators ride their own motorcycles and the main source of the capital used to acquire them comes through their own savings and bank loans. This is possible due to the rise in the number of affordable motorcycles from China and the competition resulting in reduced prices. Bodaboda operations are more versatile as was found from the study that they could traverse all forms of roads; convenient at any time of the day and their charges are negotiable.

### **5.2.3 Ease of operation and growth of bodaboda transport**

The findings revealed that the distance per trip is short with a carriage capacity of around one to two passengers or one passenger with a load. Most of the operators have an operation length of less than four years. The operation environment was found to be non-conducive for quite a good number of operators.

## **5.3 Discussion of the results**

It was found out that most of bodaboda operators do not agree (53.5%) that the operating environment is conducive enough for their operations. This might be due to harassment from traffic offices or the state of roads they operate from. Notably

lethargy on cyclists is witnessed in addition to the dangerous operating environment, violence and theft stress. The take up of motorcycling business results from lack of alternatives in job market.

### **5.3.1 Unemployment and growth of bodaboda transport**

The study revealed that bodaboda operation was the main occupation for the cyclist and this is attributed to the high unemployment rates among the youths. The operators also had few dependants given that the income they make isn't enough to support large families. This concurred with Gladys (2013) that youth development in Kenya is critical with an estimated 64% of the unemployed persons being youth. This hence calls for the government of Kenya to provide more job opportunities as was iterated by Kenya's former president Moi in his speech at the national leaders' conference K.I.A 1980 that "perhaps the greatest challenge to leadership both in government and in the private sector is to provide more employment opportunities. These opportunities should be well distributed among the youth from all levels of education since most of the unemployed youth have attained either primary or secondary education as their highest academic qualifications.

Cost of acquisition and maintenance of bodabodas and growth of bodaboda transport. The research showed that most cyclists operate their own bodabodas and the main source of capital used to acquire the bodabodas come from bank loans and borrowing from Sacco's. This concurred with the crux finance scheme by Odhiambo and Dalton(2013) to enable a number of bodaboda riders acquire their own motorbike by pooling resources and plan requires six riders to register in a group and raise shs 48,000 with each getting a bike in phases of two months. Offers were also made to

help people acquire the bodabodas easily and cheaply for instance the one made by Yamaha to let youths purchase crux motorcycles for just sh. 350 a day. These findings also coincide with that of Howe et al (1996) which highlights that bodaboda offer services by acting as feeders to roads that are inaccessible roads with poor terrain and main streets, highways to complement conventional taxis and buses.

### **5.3.2 Ease of operation and growth of bodaboda transport**

Findings from the research showed that the distance per trip was short with a carriage capacity of around one to two passengers or one passenger with a load. This renders the operations flexible hence the high rate of investments in the business. Also most of the operators had an operation length of less than four years. The operation environment was found to be non-conducive for quite a good number of operators. This is in harmony with Mutiso (2011) who argues that challenges exist among current and new operators. They include high entry cost, limited credit, minimal access to spares and high maintenance costs. In spite of these challenges, bodaboda operations have increased also due to poor rules and regulations that even give operators with no licenses a chance to operate. This proves to be difficult for the government.

### **5.4 Conclusions**

From the analysis above it can be concluded that the informal transport sector is growing at a faster rate. The study results indicated that the main factors contributing to the growth of bodaboda business which is part of the informal transport sector are the unemployment rates especially amongst the youth, the versatility of the operations, ease of operation and the ease of acquiring and maintaining bodabodas.

The bodaboda industry has contributed significantly in the social and economic sphere where other means of transport are unavailable, making use of the roads and keeping youth engaged in some form of income generating activity hence reducing the crime rate and drug abuse among other factors.

The services are so successful among users because of their availability and ability to satisfy demand for short door to door trips. The services are also easy to use given that prices are negotiable hence can cater both for the rich and poor. The Lurambi Sub-county revenue officer indicated that bodaboda industry has improved social economic well-being of Lurambi Sub-county community through creation of jobs, earning income, improvement of social welfare and reduction of criminal activities. Despite the growth of bodaboda industry and its benefits, negative impacts have also been realized. The country has experienced numerous accidents and mugging. No wonder the majority of the bodaboda operators are youth who are inexperienced. The accidents can also attributed to inadequate road safety training given the loose regulations. In addition, the cyclists do not adhere to rules and regulation of road travel causing fatal accidents.

### **5.5 Recommendations**

From this study, it is clear that the four factors are very important in contributing towards the growth of informal transport sector measures should be put in place to ensure that the growth impacts positively to those involved. The government should offer subsidies to those who want to start the business and put strict regulations to control the provision of these services. It was recommended that motorcycle operators should go to riding schools to improve on their competency. In addition to that, all

bodaboda operators should be forced to form Sacco's just like Matatus to handle matters concerning bodaboda operations. On the reduction of bodaboda related accidents, it can be stated briefly that frequent raids and ambushes should be done to arrest and prosecute those bodaboda operators who do not observe the law as suggested by the Traffic Base commander.

### **5.6 Suggestions for further study**

The growth of the informal sector is important as it creates job opportunities to people who would otherwise engage in anti-social activities like crime. But everything has an advantage and a disadvantage. Therefore a research should be carried out to assess the impact the growth has on the environment which supports lives of many different creatures including mankind, these notwithstanding pollution and scrap metals and dumping sites.

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## APPENDICES

### APPENDIX I: QUESTIONNAIRE FOR THE MOTOR MOTORCYCLE USERS

Dear Respondent,

You have been identified as a participant in this study entitled “Determinants of Performance of Motorcycle Business in Kakamega County”.

I kindly request you to take a few minutes of your time and answer the questions that follow. All the information provided will be treated confidentially. Do not write your name or the name of your Motor motorcycle on the questionnaire.

#### INSTRUCTIONS

Place a tick ( ) where applicable. Where an explanation is required use the space provided.

#### PART A: PERSONAL DATA

- i. Gender: Male [ ] Female [ ]
- ii. Age: 18 - 25yrs [ ] 26 – 33 yrs [ ] Over 34 yrs [ ]
- iii. Academic qualification(s)
- |                     |     |                            |     |
|---------------------|-----|----------------------------|-----|
| Post graduate       | [ ] | Diploma                    | [ ] |
| O level certificate | [ ] | Standard Eight Certificate | [ ] |
- iv. Riding Experience: 1-5yrs [ ] 6-10 yrs [ ] Over 10yrs [ ]

**PART B: CHARACTERISTICS OF THE USERS: (WHO ARE THE MAIN USERS OF MOTOR MOTORCYCLE TAXIS?)**

| S/N | Respondents       | SA | A | UN | SDA | D |
|-----|-------------------|----|---|----|-----|---|
| 1   | Workers           |    |   |    |     |   |
| 2   | Traders           |    |   |    |     |   |
| 3   | Community leaders |    |   |    |     |   |
| 4   | Patients          |    |   |    |     |   |
| 5   | Students          |    |   |    |     |   |

**OPERATIONAL CHARACTERISTICS**

| S/N | Statement  | SA | A | UN | SDA | D |
|-----|--|----|---|----|-----|---|
| 1   | Motorcycle taxis taxi Business is run by individuals   |    |   |    |     |   |
| 2   | Motorcycle taxis taxi business is run by cooperative societies/companies   |    |   |    |     |   |
| 3   | Motorcycle taxis Riders Pick and Drop Their Customers At Shopping Malls, Road Junctions, Markets, Bus Terminuses, Residential Area And Other Floating Places |    |   |    |     |   |
| 4   | The Main Motorcycle taxis Riders are Males   |    |   |    |     |   |
| 5   | Motorcycle taxis Riders take about 12 working hours a day  |    |   |    |     |   |
| 6   | An average of 30 to 50 Motorcycle taxis Riders operate on same routes.   |    |   |    |     |   |
| 7   | Motorcycle taxis Riders earn approximately Sh.500 a day  |    |   |    |     |   |
| 8   | A motor motorcycle consumes about sh.200 a day.  |    |   |    |     |   |
| 9   | Motorcycle taxis Riders ply short distance routes/journeys.  |    |   |    |     |   |

## DETERMINANTS OF MOTORCYCLE TAXIS BUSINESS IN KAKAMEGA TOWN

### A. ENVIRONMENTAL FACTORS

| S/N | Statement   | A | UN | SDA | D |
|-----|---|---|----|-----|---|
| 1   | The landscape of Kakamega County is uneven hence only Motorcycle taxis can penetrate into the interiors.  |   |    |     |   |
| 2   | Kakamega County is located in modified humid sub tropical climate that receives rains that make most earthen roads impassable by most vehicles. |   |    |     |   |
| 3   | Most roads in Kakamega County are earthen and not murramed.   |   |    |     |   |
| 4   | The locations of most residential areas are in interior reserves and only motor motorcycles can access the areas easily and cheaply.            |   |    |     |   |
| 5   | Most market areas are in townships where farm products are brought in for sale by Motor motorcycle Taxis.                                       |   |    |     |   |
| 6   | Kakamega County infrastructure is underdeveloped thus the mainstream transport system has been rendered impracticable.                          |   |    |     |   |

### B. POLITICAL /ADMINISTRATIVE FACTORS

| S/N | Statement  | SA | A | UN | SDA | D |
|-----|--|----|---|----|-----|---|
| 1   | There are legal procedures put in place for one to meet before joining Motorcycle taxis taxi Business.   |    |   |    |     |   |
| 2   | There is elaborate training procedures put in place for one before and after joining Motorcycle taxis taxi Business.   |    |   |    |     |   |
| 3   | There are regular and refresher course mechanisms put in place for Motorcycle taxis taxi riders to ensure regular conformity with legal requirements in the sector.        |    |   |    |     |   |
| 4   | The GoK has not fully enforced traffic regulations on Motorcycle taxis taxi Business because the sector has created enormous socio economic development in the rural areas |    |   |    |     |   |
| 5   | The GoK is not strict in enforcing traffic regulations on Motorcycle taxis taxi riders because the sector has created employment for the youth in the rural areas.         |    |   |    |     |   |

**c. SOCIO ECONOMIC FACTORS**

**KEY**

**SA: Strongly Agree      A: Agree      SDA: Strongly Disagree      D: Disagree**

| S/N | Statement  | SA | A | UN | SDA | D |
|-----|--|----|---|----|-----|---|
| 1   | The population of Kakamega County is tremendously growing with each progressive year.  |    |   |    |     |   |
| 2   | Since Motorcycle taxis Riders ply short distance routes/journeys they carry perishable goods to the local market from farms.   |    |   |    |     |   |
| 3   | Motorcycle taxis have made it easy to connect Kakamega town with its township areas thus boosting business among the towns.  |    |   |    |     |   |
| 4   | Kakamega employees live relatively far from town centre since the taxis comfortably help them to reach their offices within time notwithstanding the demographic structure of Kakamega Sub County. |    |   |    |     |   |
| 5   | Motorcycle taxis have made it easy for Kakamega employees live far from town centre thus expanding and decongesting the town.  |    |   |    |     |   |
| 6   | During the market days Motorcycle taxis are seen very busy ferrying both people and goods to and from the market centres.  |    |   |    |     |   |
| 7   | The fares charged by Motorcycle taxis are relatively low and affordable by most customers.   |    |   |    |     |   |
| 8   | The establishment of Motorcycle taxi Business has attracted most youth because it has created ready employment in rural areas.   |    |   |    |     |   |
| 9   | Uncontrolled fares, increased rate of unemployment, easy start or access to the business are the main attractors of youth to the business.   |    |   |    |     |   |
| 10  | There are no specific entry requirements to the business hence it is an open market entity that depends on the riders' personal finances, organizational skills and relations with the customers.  |    |   |    |     |   |

**C. TRAINING (TECHNOLOGICAL FACTORS)**

| S/N | STATEMENT  | A | UN | SDA | D |
|-----|--|---|----|-----|---|
| 1   | There are quite a number of training schools on Highway Code in the Sub County.  |   |    |     |   |
| 2   | The fees chargeable by the driving schools are manageable by the motor motorcycle riders.  |   |    |     |   |
| 3   | Motor motorcycle Taxi Riders do not bother going for training in despite the fact that the training is very essential.                           |   |    |     |   |
| 4   | Lack of training is the reason why there are many accidents caused by the Motor motorcycle Taxi Riders.  |   |    |     |   |
| 5   | The syllabus offered by the driving schools in the Sub County is sufficient enough and cover the highway code adequately.                        |   |    |     |   |
| 6   | There is coordination in Motor motorcycle Syllabus Content in many mushrooming local driving schools thus each school develops its own syllabus. |   |    |     |   |



**APPENDIX II. INTERVIEW SCHEDULES FOR THE BODABODA RIDERS/  
CUSTOMERS**

**A. ENVIRONMENTAL FACTORS**

1. How does the landscape of Kakamega County facilitate Motorcycle taxis business?
2. Does the climate of Kakamega County contribute to growth of Motorcycle taxis business?
3. What is the nature of most roads in Kakamega Central Sub?
4. Which are the locations of most Kakamega residential areas?
5. In which areas are the peripheral markets?
6. Why the mainstream transport system is rendered impracticable?

**B. POLITICAL /ADMINISTRATIVE DETERMINANTS FACTORS**

1. Are there legal procedures put in place for one to meet before joining Motorcycle taxis taxi Business?
2. Is there elaborate training procedures put in place for one before and after joining Motorcycle taxis taxi Business?
3. Are there regular and refresher course mechanisms put in place for Motorcycle taxis taxi riders to ensure regular conformity with legal requirements in the sector?
4. Has The GoK fully enforced traffic regulations on Motorcycle taxis taxi Business?

**C. SOCIO ECONOMIC FACTORS**

1. What is the growth of the population of Kakamega County in recent years?
2. What distances or routes/Journeys do Motorcycle taxis Riders ply in the Kakamega County?
3. Have Motorcycle taxis made it easier to connect Kakamega town with its township areas?
4. What are the residential areas of most of the Kakamega employees/residents?
5. Have Motorcycle taxis made it easy for Kakamega employees to live far from town centre thus expanding and decongesting the town?

#### **D. TRAINING OR TECHNOLOGICAL FACTORS**

1. Are there quite a number of training schools on Highway Code in the Sub County?
2. Are the fees chargeable by the driving schools manageable by the motor motorcycle riders?
3. Do motor motorcycle Taxi Riders bother going for training despite the fact that the training is very essential?
4. Is Lack of training is the reason why there are many accidents caused by the Motor motorcycle Taxi Riders?
5. Is the syllabus offered by the driving schools in the Sub County sufficient enough and covering the Highway Code adequately?
6. Is there coordination in designing Motor motorcycle Syllabus Content the mushrooming local driving schools?

### APPENDIX III: BUDGET FOR THE STUDY

| ITEM                      | PRICE (KSHS.)    |
|---------------------------|------------------|
| Flash disk                | 1,000.00         |
| Stationery                | 5,000.00         |
| Transport and subsistence | 30,000.00        |
| Computer work             | 12,000.00        |
| Internet                  | 4,000.00         |
| Contingencies             | 9,000            |
| <b>Total</b>              | <b>60,000.00</b> |

#### **APPENDIX IV: DURATION FOR THE STUDY**

| <b>Activity</b>                   | <b>Timeframe</b> |
|-----------------------------------|------------------|
| Project Writing/Presentation      | June – Aug 2015  |
| Project Corrections and Amendment | October 2015     |
| Pilot Study                       | Dec 2015         |
| Data Collection                   | Feb 2016         |
| Data Analysis                     | March 2016       |
| Submission of Project Report      | November 2016    |

## APPENDIX V: RESEARCH AUTHORIZATION



### NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,  
2241349, 3310571, 2219420  
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9<sup>th</sup> Floor, Utalii House  
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P.O. Box 30623-00100  
NAIROBI-KENYA

Ref. No. **NACOSTI/P/16/65323/14984**

Date: **25<sup>th</sup> November, 2016**

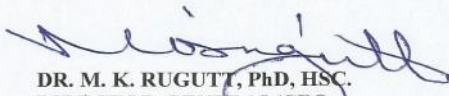
Alice Nzavaye Indiatsi  
University of Nairobi  
P.O. Box 30197-00100  
**NAIROBI.**

#### **RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on “*Factors influencing growth of informal transport sector: A case of motorcycle industry in Lurambi Sub County, Kakamega County, Kenya,*” I am pleased to inform you that you have been authorized to undertake research in **Kakamega County** for the period ending **25<sup>th</sup> November, 2017**.

You are advised to report to **the County Commissioner and the County Director of Education, Kakamega County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

  
**DR. M. K. RUGUTT, PhD, HSC.**  
**DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner  
Kakamega County.

The County Director of Education  
Kakamega County.