

**FACTORS INFLUENCING GROWTH OF INFORMAL  
TRANSPORT SECTOR: A CASE OF BODABODA TRANSPORT  
IN CENTRAL DIVISION, EMBU WEST DISTRICT.**

**BY**

**GITONGA VERONICA WAWIRA**

**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL  
FULFILLMENT FOR THE REQUIREMENT OF MASTERS OF  
ARTS DEGREE IN PROJECT PLANNING AND MANAGEMENT  
AT THE UNIVERSITY OF NAIROBI.**

**2014**

## DECLARATION

I hereby declare that the work contained in this research project report is my original work and has not been presented previously in any other university for a degree.

Signature .....

Date .....

GITONGA VERONICA WAWIRA

L50/66304/2013

This research project report is presented for examination with my approval as university supervisor.

Signature.....

Date .....

Prof. Harriet J Kidombo

School of continuing and Distance

Education

University of Nairobi

### **DEDICATION:**

This work is dedicated to my family. To my husband Peter Munene, who has been a great source of inspiration and hope in many facets of my life. My Son Brian Murimi and my daughter Ivy Mumbi. Your love for me has become an encouragement to serve humanity and challenged me to go beyond my comfort zone. Thanks a lot for your presence in my life.

## **ACKNOWLEDGEMENT**

I feel humbled by the contribution of various people towards the completion of this report without whom this work could have been a mirage. To my supervisor, Prof. Harriet Kidombo for her guidance and advice throughout all the phases of doing this work. I am highly indebted for her insightful observations. I appreciate the efforts of all lecturers who took me through the course at one point or the other. My gratitude also goes to the University for providing enabling environment for me to pursue this degree. My heartfelt thanks go to bodaboda operators, bodaboda users Manyatta sub county base commander and Manyatta sub county revenue officer whom I called upon to give insightful contribution to this work by providing the relevant information that formed the basis of this report and sparing their precious time to respond to questionnaires and interviews. Lastly to Mr. Mbithi for assisting in data analysis, your contribution is highly appreciated.

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## **ACRONYMS AND ABBREVIATIONS**

G.O.K - Government of Kenya

I.F.A.D-International Fund for Agricultural Development

ITDP –Institute for Transport and Development Policy

MDGS - Millennium development Goals.

MTP – Medium term plan

UN – United Nations

## ABSTRACT

The purpose of this study was to establish the factors influencing growth of informal transport sector, with reference to *bodaboda* service provision in central division, Embu west district, Kenya. The objectives of the study were to establish how unemployment influences growth of informal transport sector, to access how the cost of acquisition and maintenance of *bodaboda* influence growth of informal transport sector in, Embu west. To establish how versatility of *bodaboda* influence growth of informal transport sector in Embu and to determine how ease of operation of *bodaboda* influence growth of informal transport sector. The study was important as it helped unearth the factors influencing the growth of informal transport sector. The findings formed basis upon which recommendation were made which may help cut down the number of *bodaboda* related accident and death. The findings will also help ministry of transport and traffic police on management of *bodaboda* operators in Embu west district. The study will be useful to future scholars as it will also add to the existing body of knowledge. The study used descriptive survey design which helped to gather information about the present existing condition. The target population was 312 comprising of 300 *bodaboda* operators, 10 users of *bodaboda*, 1 traffic base commander and 1 Manyatta sub county revenue officer. A sample size of 169 was selected using krejcie and Morgan tables (1970), user sample size was conveniently sampled through observable schedule. Purposive sampling method was used to pick traffic base commander and sub county revenue officer. Split half technique was used to establish the reliability of the research instruments. The study found that a large number of the *bodaboda* service providers are men at (95.1%) with females as the major clients for the *bodaboda* services at (60%) Most of the *bodaboda* operators are in age bracket of 21-30yrs and are married (61.8%) Most *bodaboda* service provision is viewed as the main occupation by the operators. The study also found 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. The operators earn an average income of Ksh. 300 to Kshs. 500 per day with maintenance costs of about Kshs. 1000 to Kshs. 3000 per month. *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 were negotiable. Lastly, findings from the study showed that the distance per trip was short with a carriage capacity of one to two passengers or one passenger with a load. This renders the operations flexible and easy to operate, hence the high rate of investments in the business.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the study

Transport is defined as a service that creates place utility by moving people and goods from one geographical location to another Gerishon and Mary {2010}. They further argue that in many developing cities, informal public transport is an important component of its overall transport service. Motorcycles are one of the most affordable forms of motorized transport in many parts of the world and for most of the world's population; they are also the most common types of motor vehicle Minju (2011). There are approximately 200 Million motor cycles (including mopeds, motor scooters and other powered two and three wheelers) in use world wide or about 33 motor cycles per 1000 people. As of 2002, India Mopeds was one of the largest numbers of motorized two wheelers in the world. China a close second with 34 million motor cycles/mopeds Broughton (2005).Cervero (2010) echoes the above sentiments by arguing that in Asia, Africa and Latin American cities, it is perhaps the most common and widely used form of urban public transport. It's a demand response service and its known by various local names in different locations such as matatus, dalladalla minibus, microbus, tuktuk, bodaboda extra.

According to Layton et al (2008) informal transport is the most successful form of suitable transport in the world, although transport sector in Africa are generally underdeveloped and this constitute a major challenge to the development of the continent. More significantly is the fact that most of transport investments in Africa focus on promoting motorized transport. Accordingly less than 1% of the households in Africa have access to private motorized transport which has enormous costs Layton et al (2008).

Majority of Africans have to work. This wastes a lot of time and severely limits their opportunities to participate in economic Activities. Bodaboda which includes bicycles and motorbikes are low cost mode of transport which can drastically improve people's mobility and have realistically been made accessible to most Africans Otuya et al (2011). He further argues that for the enterprise to make positive contribution to the

transport sector there is need for proper operational and management skills in such aspects of motorcycle proficiency, enterprise management, traffic rules and first Aid. However, Empirical evidence suggests that due to lack of entry behavior, many Kenyans jump at opportunity to purchase a bodaboda with view to start a bodaboda tax business irrespective of skill status.

The motor cycle market in Kenya is expanding rapidly. Motor cycles registered rose from 2084 units in 2003 to 16293 in 2007 then to 51412 in 2008. In 2009, an average of 7000 motor cycles was being registered every month according to the government economic survey 2009 (GOK 2009). The study therefore will focus on the factors influencing the growth of informal transport sector with reference to bodaboda transport in Manyatta sub-county, Embu County, Kenya. The factors will include unemployment, cost of acquisition and maintenance of bodabodas, versatility of bodabodas and ease of operations of bodabodas.

### **1.2: Statement of the problem**

Institute for transport and development policy(ITDP) (2009) argue that in most developing countries in Asia, Motorized two and three wheelers have initiated and led the process of mass motorization as they are inexpensive to manufacture, sell, operate and repair when compared to cars, and they provide excellent mobility solutions in a range up to several dozen kilometers. White et al (2002) echoes the above sentiments by noting that informal minibus paratransit vehicles have become the most common form of urban transport in many African cities. However the paratransit vehicles are unregulated, environmentally harmful, unsafe and unpredictable. According to Burke (2010) Indian capital looks to phase out famous green and yellow motorized three wheelers citing pollution and rude drivers. According to Njagi (2014). The number of motorcycles rose sharply in Kenya since government abolished the tax on vehicles under 250cc in 2008 almost cutting their price by half. He further notes that the enterprise has become not only a popular method of transport for resident but also proved to be a popular new business in Central Division Embu town and its environs. However, the numbers of accidents appear to be spiraling out of control. So dire is the situation that hospitals in parts of Kenya have dedicated entire wings to motorcycle

accidents victims. Those lucky to escape with their lives nurse fractured bones, spines, skulls or life threatening injuries Njagi (2014).

However the bodaboda enterprise is sustainably growing despite the many life threatening accidents. Very scanty research has been done to probe this scenario with a view to establish factors influencing the growth of bodaboda industry despite the setbacks of the many bodaboda accidents.

### **1.3 Purpose of the study**

The purpose of study was to establish the factors influencing growth of informal transport sector; With reference to Bodaboda transport in central division, Embu west district.

### **1.4 Objectives of the study**

- i. To establish how unemployment influences growth of informal transport sector in central division, Embu west district.
- ii. To access how the cost of acquisition and maintenance of Bodabodas influences growth of informal transport sector in central division, Embu west district.
- iii. To establish how versatility of bodaboda influences growth of informal transport sector in central division, Embu west district.
- iv. To determine how ease of operation of Bodaboda influences growth of informal transport sector in central division, Embu west district.

### **1.5 Research questions**

- i. How does unemployment influence growth of informal transport sector in central division, Embu west district?
- ii. Does the cost of acquiring and maintenance of bodaboda influence the growth of informal transport sector in central division, Embu west district?
- iii. To what extent versatility of bodaboda influence growth of informal transport sector in central division, Embu west district?
- iv. How does ease of operation of bodaboda influence growth of informal transport sector in central division, Embu west district?

### **1.6 Significance of the study**

The study was important as it helped unearth the factors influencing the growth of informal transport sector. The findings formed a base upon which recommendations were made which may help cut down the number of bodaboda related accident and death. The findings will also help ministry of transport and traffic police on management of bodaboda operators in central division, Embu west district and its environs. The study will be useful to future scholars as it will also add to the existing body of knowledge.

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

The study focused on factors influencing growth of informal transport sector, a case of bodaboda. The study was conducted in central division, Embu west district which included Embu central Business zone and sub urban estates comprising of Gakwegori, kangaru, Majengo, Majimbo and Bluevalley. The study involved bodaboda operators who worked during the day.

### **1.8 Limitations of the study**

The study focused on bodaboda operators in central division, Embu west district and was limited to sample population due to time and finance constraints. The research focused on variables identified in the study though there could be other factors besides unemployment, cost of acquiring and maintaining bodabodas, versatility of bodabodas in terms of movement and ease of operation of bodaboda thus limiting the study. Some bodaboda operators were illiterates and therefore needed to find someone to read, interpret the questions as well as write responses for them.

### **1.9 Assumptions of the study**

It was assumed that all the respondents would give the correct answers without any bias. All respondents were expected to be honest, co-operate and provide reliable responses. It was also assumed that all the bodaboda operators and users who were to be issued with the questionnaires would respond.

### **1.10 Definitions of significant terms:**

**Bodaboda** – Motorcycle/ bicycle taxis.

**Cost of acquisitions and maintenance of bodabodas**- it is the price of buying and operational expenses of bodabodas

**Government policy**-the term is used to describe any course of action which intends to change a certain situation.

**Growth** – an increase in number of bodaboda operators over a period of time.

**Informal transport**-the term is used to reflect the context in which this sector operates informally and illicitly. Somewhat in the background and outside the officially sanctioned public transport sector. It involves more vehicles for hire services such as taxis and can be found in most cities of the world.

**Operation of bodaboda**– work in a particular way or a particular place. Provision of bodaboda services on short distances and from a stage. Bodaboda associations used to regulate activities of bodaboda operators.

**Unemployment** – State of not having a job although able to work. (Jobless. Being dependent.

**Versatility of bodabodas** – Able to move in different places. Able to penetrate many areas where other transport means may not penetrate. Flexible in term of; no fixed schedules, No fixed routes, No fixed charges.

### **1.11 Organization of the study**

The research study was organized in five chapters: Chapter One comprise general background of study which include: statement of the problem, purpose of study ,objective of study, research questions, significance of study, delimitation and limitations, assumptions, definition of significant terms and organization of study.

Chapter Two include literature review alongside study variables .i.e. unemployment, cost of acquiring and maintaining bodaboda, versatility of bodabodas and ease of operation of bodaboda. It also contains theoretical framework, conceptual framework, and summary and research gaps of chapter two.

Chapter Three comprise of methodology of study, which include:



Research design, site of study, target population, sampling procedure, sample size, method of data collection, validity and reliability of research instrument, Operationalisation of variables, method of data analysis, ethical considerations.

Chapter Four covers data analysis, presentation and interpretation while Chapter Five includes summary of findings, discussion of findings and conclusion and recommendations.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter presents the literature review alongside study variables which includes growth of informal transport sector, unemployment, cost of acquiring and maintaining bodaboda, versatility in terms of movement and operations of bodaboda. The chapter summarizes the information from other researchers who have carried out their research in the same field of study. It explains the theoretical framework in which the study will be based. It will also contain conceptual framework and summary of chapter two.

#### 2.2 Growth of Informal transport sector: global overview

Plying the streets of Bangkok, Lagos, Sao Paulo and other cities of the developing world are fleets of small, low performance vehicles driven by private operators that serve low income neighborhoods Cervero (2000). He further notes that in some places, environmental friendly, pedal powered modes. Like the pedicabs of mamila, provide lifts between markets and squatters whose narrow alleys and walkways are impenetrable by motor vehicles. In other places, like Kingston, Jamaica, station wagons and mini vans fiercely compete head to head with public buses, providing curb to curb delivery for premium fare Roth and Wyne (1982).

And in increasing numbers of cities and towns around the world, dozens of young men on mopeds and motorcycles Congregate at major intersections, offering feeder connections between mainline bus routes and nearby neighborhood for a reasonable fare Cervero (2000). He further echoes these sentiments that these privately operated small scale services are varyingly referred to as “ par transit”, “low cost transport”, “intermediate technologies,” and “third world transport.” Cervero (2000) used the term informal sector to reflect the context in which this sector operates informally and illicitly, somewhat in the background, and outside the officially sanctioned public transport sector. While private, small vehicle, for- hire services, such as taxis, can be found in all cities of the world, what separates informal transport operators from others is that they lack, to some degree, official and proper credentials. That is they

are unsanctioned. He further note that some instances, operators lack the necessary permits or registration for market entry in what is a restricted, regulated market place. In other instances, operators fail to meet certification requirements for commercial common. Carrier vehicles, such as minimum vehicle size, maximum age or fitness standards. Cervero (2000) noted other violations which include lack of liability insurance, absence of a commercial driving permit, and operation of an unclassified or substandard vehicle.

According to Cervero (1998) informal transport services are also notable for their role as “gap filers”. They assist in large part to fill service voids left unfilled by formal public transport operators. Rapid motorization, poor road facilities, inability to strategically plan for the future have given rise to horrendous levels of traffic congestion and air pollution Cervero (1998).In many mega-cities of developing world, Formal public transport operators exist as protected monopolies, and accordingly lack the incentive to contain costs, operate efficiently, innovate, or respond to shifting market demands. He further argues that buses are often old, break down periodically and get stock in slow moving traffic. Fares are frequently kept low to help the poor, however this reduces revenue intake which in turn precludes service improvements. All too often throughout the developing world, public transit finds itself in a free fall of deteriorating service and shrinking incomes. It is only because regulations and rules are laxly enforced that unlicensed operators are “informally” able to step in and pick up where public transport operators have left off (Cervero 2000)

### **2.2.1 Challenges of informal sector**

According to Cervero (2000) withstanding these benefits the informal transport sector is blamed for a long list of problem that afflicts cities of the developing word. Aggressive and unruly driving among drivers whose very livelihoods depend on filling empty seats all too often causes serious accidents. Excessive competition has produced too many idling and slow moving vehicles that jam critical intersections. Traffic tie ups, along with poorly maintained vehicles and slow stroke engine designs have worsened air pollution. Often times, the sector is chaotic and disorganized.

Cervero (2000) Transport decision makers at all levels need strategies and approaches that will better rationalize and when called for, coordinate and integrate informal transport services. An important challenge is to incorporate the informal sector into the mix of legitimate transport offerings and larger public interests. Illegal van operators hire touts to hang around bus terminals and coax waiting customers to hop aboard a nearby van. This is poaching. Another common form of poaching is for illegal vans, pick up, and sedans to stop and solicit customers at bus stops, location where even taxi cabs are normally, prohibited from stopping.

According to Cervero Perhaps nowhere have the repercussions of cut throat competition been more serious than in South Africa. There intense rivalries over turf among private minibus operators have led to full- fledged gang warfare. Sometimes with lethal consequences. In Johannesburg, private operators have gone to such extreme to eliminate competition as boarding back seats of legitimate minibuses and shooting their rivals, in what has been dubbed the “death from the back seat’ strategy.

### **2.2.2 Kenya vision 2030 and bodaboda**

The Kenyan government emphasizes on the development of youth as stipulated in constitution of Kenya. The second Kenyan Vision 2030 MTP (2013-2017) will incorporate employment creation especially among the youth. According to vision 2030 Kenya’s population is predominantly youth with the age group of 15-35 years accounting to approximately 38% of the total population. Specific policies and interventions should be implemented to develop their potential, prepare and engage them in development of the country. Kageha et al (2012). He further argues that lack of jobs is the single largest concern of Kenyans more than 800,000 Kenyan youth enter the job market each year but only 10% of those jobs are in the formal sector while those of informal such as bodaboda operators are not fulltime or remunerative. However a socio economic benefit of the bodaboda industry is the considerable direct and indirect income generating opportunities it creates Mutiso (2011).

### **2.3 Growth of informal transport**

Nowhere have motorcycle populations, exploded more rapidly than in Asia. Currently, ownership rates exceed 150 motorcycles per 1,000 inhabitants in Taiwan, Laos, Cambodia and India Karim (1999). Taipei, has the world’s highest rate

averaging 335 motorcycles per 1000 population in 1997, a fact that anyone who has tried to navigate along Taipei's motorcycle strewn side-walks well knows Wadhra et al (1996). Rising effluence, combined with very high urban densities that severely limit parking and auto mobility have created already made market for motorcycles ownership in much of Asia. Among young men and women in their late teens and early twenties, motorcycles are often a stepping stone to eventual car ownership. Most earn enough to get bank loans to purchase a motorcycle. Carrying passengers for a fee becomes sideline business. A way for owners to cover their monthly loan payments. The desire of young men & women to supplement their income by operating a sideline motorcycle taxi business has led to oversupply problems in many instances. In phenomena, where some 125,000 motor-dub have gradually replaced the Pedi cab cycle, drivers sit in front of hotel, schools, temples, markets and busy street corners, raising their hands and yelling "mo-to". Many wait for hours at a time for customers. Motorcycles have similarly gained popularity as for hire carriers in Asian cities like Penang, Malaysia and Surabaya, Indonesia because of government led phase outs of Pedi cabs.

#### **2.4 Unemployment and growth of informal transport**

The reason why some countries are more successful than others at creating employment are common factors that explain job creation according to IMF working paper 99/109, "Deconstruction job creation." Writing in the mid 1970s ironically in hindsight at the very time when the prospects for full employment were about to disappear Gregory and Sheehan (1998). The poverty commission in Australia (1999) identified unemployment as a major cause of primary poverty. About 16.6 percent of the unemployed were below the poverty line in 1972-1973.

In Finland, the combination of recession and collapse of the soviet union saw the unemployment rate double between 1991 – 1992 then doubled again the next year and rose by 50 percent the year after that. The overall increase was from an employment rate of 3.2 percent in 1991 to 16.3 percent in 1993 Saunders et al (2003).

Unemployment is the greatest determinant of poverty and exclusion and that is why the fight against unemployment is critically important. However it can only be won by

concentrating on providing jobs and opportunities rather than penalties or slogans Rapper (1999).According to Cervero (2000) informal transport provides desperately needed employment for hundreds of thousands of unskilled young men, many who have just arrived from the countryside in hopes of improving their lives. Informal transport is often a gateway to urban employment. Most hope to eventually do better, finding better Paying, safer and less physically taxing employment Silcock (1981) He further argues that informal transport often generates enough income to get them established until they can land a better job.

Cervero (2000) noted that in many poor cities, informal transport comprises as much as 15% of total employment in Dhaka, Bangladesh the figure is close to 30% with a good 100,000 plus men and boys hauling patrons and goods abroad Pedit cabs for a living. Adding in intermediate goods and services like vehicle maintenance and local vehicle production, assemblage, and parts retaining, increases the percentage even more.

Barbero (2000) critically questions whether this form of livelihood is on balance socially productive. Ultimately the market place is the mediator, if enough customers are willing to pay enough for self-employed operators to make ends meet, then society as a whole is better off. Problems only abound when there are excessive number of service providers. However, one might ask whether society would fare for the worst if many were forced out of the informal transport sector, left to tend for their own on the streets, resulting increases in crime and illicit activities which might carry even higher social cost. Soon after independence the government of Kenya launched session paper number 10 of, 1965 which declared poverty, ignorance and diseases as the priority items that was to be dealt with by the new independent country.

However many years after independence, poverty has been on the rise in Kenya I.F.A.D (2010).The fund notes further, Kenya was ranked 148<sup>th</sup> among 177 countries in the united nations Development index. UN uses this index to measure a country's development projects in terms of life expectancy, education attainment and standard of living. According to government of Kenya, Employment act 2007, Chapter 226,

Employee is an individual employed for wages or salary and includes an apprentice and an indentured learner.

In 1982 government appointed a presidential committee on unemployment and Chairmanship of Wanjigi with a broad mandate to devise measures to combat unemployment. The committee's report (Report of the presidential committee on unemployment 1982/83) highlighted the growing disparities in incomes equality, and job opportunities between different Socio economic groups. The committee thus took a broad view of the employment problem going beyond the issue of job opportunities. The committee also looked at prospects for increasing productive employment in all the major sectors of the economy and made far – reaching recommendations for this.

His excellence retired president Hon Daniel T. Arap MOI in his speech at the national leaders' conference K.I.A 1980 stated that “perhaps the greatest challenge to leadership both in government and in the private sector is to provide more employment opportunities. Every year we need to provide nearly 250,000 new jobs for the young people who join our labor force. This is not an easy task particularly in time of austerity. Wage employment outside agriculture is small, and the number of new non-agricultural jobs created each year can satisfy only a fraction of the people seeking employment..... with a mushrooming population growth, there will be need to answer basic questions of what such a large population would mean to the nation in terms of food supply, employment, housing pressures etc. This looming problem is a real threat to our future.”

According to Gladys (2013) in Kenya youth unemployment is a serious development issue. It is estimated that 64% of unemployed persons in Kenya are youth. Interestingly only 1.5 % of the unemployed youth have formal education beyond secondary school level and the remaining over 92% have no vocational or professional skills training. This group either idle all day long, others get into crime while others try anything else to make ends meet.

According to economic survey 2010, the total number of units (vehicles) registered on 32.8 percent increase to stand at 161813 in 2009. The increase is mainly attributed to higher registration of motor and auto cycles which rose significantly accounting for 56.3 percent of total registered units. Motorcycles and auto cycles have become popular across the country. In rural areas they have provided relief to limited transport options while in the urban areas they have supplemented both passenger transport and mail delivery GOK (2010). In Kenya majority of the bodaboda riders do not have another form of employment after the zero rating of all motor cycles below 250 cc, the motor cycles prices went down.

Therefore for some motor cycles became 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)

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

According to Mutiso and Behrens (2011) over the past two decades, motorcycle taxis have emerged in East Africa as a motorized variant and at the expense of bicycle bodaboda. As in the case of bicycle bodaboda innovation and diffusion motorcycle bodaboda emerged earlier and spread faster in Uganda. Following the deregulation of motorcycle imports in 1994 Kamuhanda and Schmidt (2009) .Motorcycles taxis in West Africa emerged a decade earlier in response to poorly served passengers market and relatively unrestricted market entry, and have grown into a poorly served passengers market and relatively unrestricted market entry and have grown into a dominant travel mode known locally as ganzemidjan in Benin, bendskin in Cameroon, kabukabu in Niger Okada in Nigeria. Mahlstein (2009) many medium sized Nigerian cities, for instance, rely solely on okada for intra city transport services cervero (2000). In comparison, Kenyan motorcycle taxis have emerged very recently stimulated by the introduction of a zero rated import duty on motorcycles below 250 cc in the 2006 national budget, but despite spreading fast, would appear from anecdotal reports to be less numerous than bicycle bodaboda at this point in time.(Mutiso 2010).



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 other key campaign partners NSSF, NHIF who were to join the Caravan by Peninah (2013).

Nairobi 16<sup>th</sup> October, In a bid to raise the profile of the motorcycle transport business commonly referred to as bodaboda, Yamaha Toyota Kenya's two wheeler wing has embarked on a National promotional road show dubbed 'Bike ya Nguvu Bei poa.' Spanning six regions namely Western, Nairobi, Coast, Rift valley, Central and Eastern. Through the road show Yamaha will also encourage the youths and other entrepreneurs to take advantage of a unique financing deal that will enable customers to purchase a crux motorcycle for Kshs 350 a day.

The Kshs 350 a day offer is specifically customized through a partnership with motor bank asset financing & tracking solutions for bodaboda operators who make an estimated kshs 500 profit on leased bikes in a day. Through this campaign more Kenyan entrepreneurs will be able to access Yamaha quality bikes for increased profitability.

With partners such as the automobile association of Kenya (AA),the campaign also focuses on educating operators on road safety, with the goal of reducing motorcycle related accidents and fatalities among bodaboda operators in Kenya. The association will also be sensitizing the operators on the comprehensive licensing which is a mandatory but often lacking documentation among the riders. The 2 day ambitious campaign aims to transform the bodaboda sector by addressing prevailing welfare, health and safety licensing, security and financing challenges that have to date crippled the progressive business.

According to Howe and Lyiola (1996) stated earnings for motorcycles operations differ for owners and hirers and by location. Because of small sample sizes not too much significance can be read into the differences. Owner earnings in Kampala are almost double those of hirers but they do have additional costs especially vehicle depreciation and major repairs. Peri-urban areas yield substantially lower earnings for owners per week but contrary to logic hirers appear to earn more per week.

He further argues there are clear differences in the ownership patterns of bicycles and motorcycle bodaboda. 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. However it is not obvious why there is a greater prosperity to hire out motorcycles. Unfortunately the data on operating cost and earnings are not sufficiently robust to establish if they provide a better return on investment than bicycles.

## **2.6 Versatility of bodaboda and growth of informal transport**

According to Mutiso (2011) bodaboda taxis provide 'for hire' area wide transport services operating out of "stages which are fairly evenly geographically distributed in Embu town and its environ operators indicated that the majority of their service trips are to carry passengers to or from work activity destinations. Njagi (2014).

Typically only one passenger is carried but occasionally two passengers are transported operators sometimes wait for their passengers to conclude their activities in order to provide a return trip service .According to Njagi (2014) majority operate without an insurance cover for either themselves or their passenger. 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 primarily provide three types of predominantly short distance services with the main urban areas, where they compete with conventional hire taxis and taxis; (ii) as feeders to urban areas on routes that, due either to low density of demand or the roughness of the route are unattractive to taxis; and (iii) as feeders to main roads in which role they tend to compliment taxis and large capacity bus services.

The area of operation of a bodaboda is called a 'stage'. Each one has a stage master appointed by the association or selected by the members providing services on that stage who enforces their regulations. A village might have 2-3 stages with a minimum of 10 registered operators Iga (2001). He further notes that at each stage there is a committee headed by the stage master to instill discipline into operations. If the committee cannot handle a particular case it is referred to the association headquarters.

According to Howe and Lyiola (1996) bicycle bodaboda are restricted to favorable (flat) terrain. Comparatively short distances (Normally 5 km) and where the volume of motorized traffic does not militate against their use. They are also more common in the poorer rural areas and small towns. Conversely motorcycles feed off areas where business concentrate or incomes are boosted by cash crop production.

In smaller urban areas terrain seems to be the main factor dictating either bicycles or motorcycle use. Motorcycles are said to have a greater accompanied load carriage capacity a passage and goods can be carried on the long pillion seat that in some cases would otherwise necessitate two bicycles. Similarly they have been observed carrying a passenger load of an adult and two children. 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).

### **2.7 Ease of operation of bodaboda and growth of informal transport**

According to Leyland (1999) Bicycle bodaboda have spread to most areas of Uganda and parts of Kenya where the terrain permits operations.

They operate on only a few flat parts of the capital Kampala in competition with motorcycles, but traffic and terrain bar them from most of the area. He further notes that in the cities where the terrain is flat. They predominate and far outnumber motorcycles, mainly due to the cheaper fares they are able to offer and dominate short distance trips.

According to Cervero (2000) fierce competition for customers invites chaotic and collectively damaging driving behavior. Informal operators frequently head run on scheduled services, getting in front and arriving first at busy pick up points. The drive to maximize personal gain, regardless of how others might be impacted leads to such unscrupulous behavior.

It has proved difficult for the government to regulate the bodaboda industry. However some operational discipline is provided by the “associations” to which the majority of bodaboda operators belong, although most have only a local jurisdiction. Attempts to form a national organization have been defeated by the chronic instability that plagues most association. Howe andLyiola (1996)

He further notes that the association represents them in cases of harassment by security personnel, traces members in cases of theft or their relatives. If there is an accident and through their “stage committees ‘enforce discipline and hygiene through fines, suspension of membership and the right to operate, and other sanctions. In some cases the associations also has semi-banking (savings and credit role for members)

There is an unfortunate history of instability attached to the associations that most operators belong to, with recurrent take over's, financial mismanagement and organizational collapse. They have been formed from within the industry and by local authority officials but still instability persists (Mutiso 2011).

He further argues that existing and would be owners and operators face a number of problems. The main ones are the high cost of entry to the industry, lack of credit facilities, difficulty in obtaining spares and poor maintenance facilities and skills outside of the main cities.

Despite the best efforts of their associations both types of bodaboda operators have a poor profile among users. Men complain of reckless inexperienced driving and disdain for traffic rules dishonesty in over charging not having changed and actively thieving, poor appearance and personal hygiene and abusive and arrogant treatment of clients, and course behavior towards women. Amino (2001) and echoes these sentiments by noting that the casualties resulting from accidents involving bodaboda occur disproportionately to women. It is not obvious why this should be the case other than their propensity to sit side saddle, which implies they are more easily ejected from the vehicles (Iga 2002).

Operation of service is an exclusively male preserve. The strenuous nature of the occupation perhaps justifies this with bicycle based services, but there is no obvious reason why women should not operate motorcycles other than custom and culture, although the long working hours away from home must also be a deterrent. The harassment that operators complain of from some customers and their professed and very real fear of being robbed may be ancillary reasons that deter women from operating such services. Howe and Lyiola(1996).

## **2.8 Theoretical framework**

In this study the theory of entrepreneurship applied. The entrepreneurial function implies the discovery, assessment and words, new products, services or production process, new strategies and organization forms and new markets for products and inputs that did not previously exist (Shane and Venkataraman, 2000). The

entrepreneurial opportunity is an unexpected and as yet unvalued economic opportunity.

Entrepreneurial opportunities exist because different agents have different ideas on the relative values or resource or when resources are turned from inputs to outputs. The theory of the entrepreneur focuses on the heterogeneity of beliefs about the value of resources (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).

Due to the fact that there is no market for “opportunities”, the entrepreneur must exploit them, meaning that he or she must develop his or her capabilities to obtain resources as well as organize and exploit opportunities. The downside to the market of “ideas” or “opportunities” lies in the difficulty involved in protecting ownership rights of ideas that are not associated with patents or copyrights of the different expectations held by entrepreneurs and investors on the economic value of ideas and business opportunities and of the entrepreneurs need to withhold information that may affect the value of the project.

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.

## 2.9 Conceptual frame work

A conceptual framework describes how main variables in research studies are related.

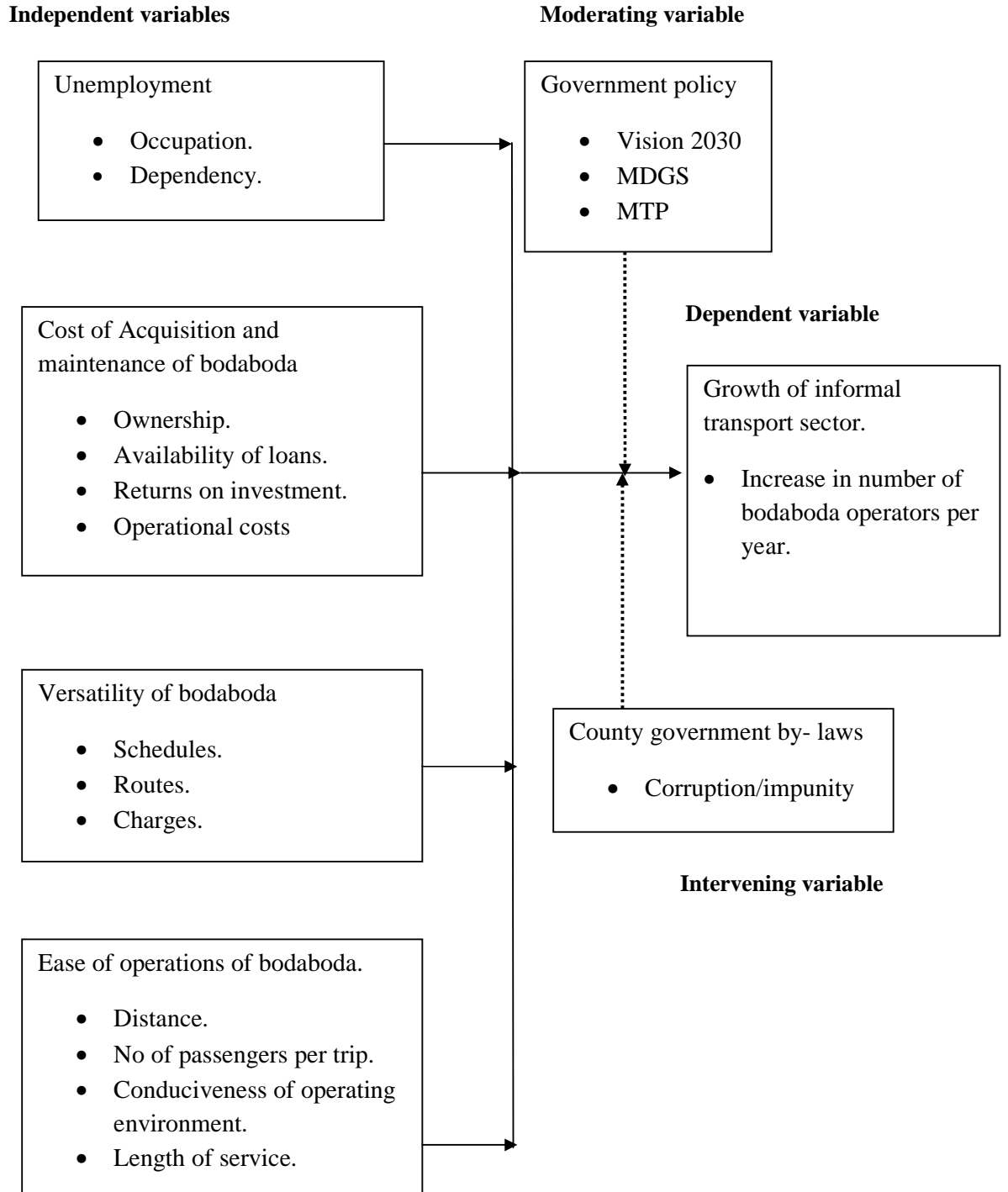


Figure 1: Conceptual frame work.

From the conceptual framework it is noted that there is a relationship between unemployment and the growth in the number of bodaboda operators. It is also noted there could be cost effectiveness on the bodaboda investment thus cause of acquisition and maintenance influencing growth of bodaboda operators. Versatility of the bodaboda and their ease of operation could also be cause of the growth of bodaboda industry. The factors are independent in themselves and their independence influencing growth of informal sector.

### **2.10 Summary and gaps**

The chapter provides literature based on the previous studies that had been conducted by other people directly or indirectly related to this study. The chapter has elaborated on factors that influence growth of informal transport sector which include unemployment, cost of acquisition and maintenance of bodaboda, versatility of bodaboda and ease of operations of bodaboda. However, the bodaboda enterprise is sustainably growing despite the many life threatening accidents. Very scanty research has been done to probe this scenario with a view to establish factors influencing the growth of bodaboda industry despite the setbacks of the many bodaboda accidents.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The chapter discussed the research methodology that was used in the study. It details research design, population of the study, sampling techniques and sample size, research instrument, validating and reliability of instrument. It will also explain data collection techniques and methods of data analysis. Ethical consideration and operational definition of variables is also included.

#### **3.2 Research design**

The study used descriptive survey which uses observation and surveys. The purpose of employing this method is to describe the nature of a situation, as it exists at the time of the study and to explore the cause(s) of particular phenomena. The information was collected without changing the environment (nothing is manipulated). The researcher interacted with the participants through surveys and interviews to collect the necessary information.

#### **3.3 Target population**

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

**Table 3.1 population distribution of bodaboda operators**

Population	Frequency
Majimbo	60
Majengo	47
Gakwegori	42
Blue valley	45
Kangaru	58
Embu central business zone	48
Total	300

### **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 Krejicie, R.V. Morgan and Daryle W. (1970) tables, a sample size of 169 respondents was selected (See appendix vi) Using cluster sampling bodaboda operators were conveniently selected from various trading centre which consisted of ; Majimbo, Majengo, Gakwegori, Blue valley, Kangaru and Embu central business zone. 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=169(total sample size)

**Table 3.2 Sample size**

Cluster	Population	Sample size
Majimbo	60	35
Majengo	47	27
Gakwegori	42	24
Blue valley	45	26
Kangaru	58	34
Embu central business zone	48	23
Total	300	169

Source; Manyatta sub county registry records

### **3.5 Data collection instruments**

Three different research instruments were used to collect data that enabled the researcher to come up with responses for the research questions. The instruments were questionnaires, interview guides and documentary analysis. The questionnaires were administered to bodaboda operators and bodaboda users while the traffic base commander and sub-county revenue officer were interviewed. Questionnaires were divided into different sections which covered different variables under the study. Interview guides were scheduled to cover different variables under study. Documentary analysis was used as a tool to establish the trend in growth of bodaboda operators as reflected in the registry records of Manyatta Sub County Revenue records for the last five years.

#### **3.5.1 Validity of instruments**

Validity is the accuracy and meaningfulness of inferences which are based on the research results. It is degree to which results obtained from the analysis of the data actually represent the phenomenon under study. Mugenda and Mugenda (2003). 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 concerns the degree to which a particular measuring procedure gives similar results over a number of repeated trials. In this study, split-halves method was used to affirm the reliability of the items in the questionnaire. This method was found practical in that it did not require two administrations of the same or an alternative form test. 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% as indicated in the table 4.17

### **3.6 Data collection procedure**

Since collection of data is an integral part of the research design as it is from collected data that a researcher can do an analysis draw 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. The study utilized both primary and secondary data. For primary data, the researcher was able to collect first hand 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. The data was analyzed using statistical package of social scientists (spss). 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 was 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. The respondents were assured of confidentiality of the information they give

### **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. The table below shows this.

**Table 3.1 Operational definitions of variables.**

<b>Objectives</b>	<b>Variables</b>	<b>Indicators</b>	<b>Measurement scale</b>	<b>Tools of analysis</b>	<b>Type of analysis</b>
Growth of informal transport sector	dependent	Increase in the number of bodabodas operators per year	nominal	Frequency percentage	descriptive
To establish how unemployment Influences growth of Informal transport sector in Manyatta Sub-county Embu	unemployment	-Occupation – Dependency	Nominal Ordinal	Frequency percentage	descriptive
To access how the cost of acquisition and maintenance of bodaboda influence growth of informal transport sector in Manyatta Sub-county Embu	Cost of Acquisition and maintenance	-Ownership -Availability of loans to acquire -Returns on investment -Operational cost	Nominal	Frequency Percentage	Descriptive
To establish how versatility of bodaboda influence growth of informal transport sector in Manyatta Sub-county Embu	versatility	-No fixed schedule -Schedules -Routes -Charges	Nominal Interval	Frequency Percentage	Descriptive
To determine how ease of operation of bodaboda influence growth of informal transport sector in Manyatta Sub-county Embu	Ease of Operations	-Distance -Number of passengers per trip -Conduciveness of operating environment -Length of service	Ordinal Nominal	Frequency Percentage	descriptive

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION AND INTERPRETATION

#### 4.1 Introduction

The study assessed the factors that influence the growth of informal transport sector with reference to the bodaboda transport in Central Division, Embu West district. It establishes the influence of unemployment on the growth of informal transport sector; examines how the cost of acquisition and maintenance of bodabodas influence this growth; establishes the influence of bodaboda versatility and ease of operation to the growth of informal transport sector. Data was collected from all areas within Central division of Embu where a total of 169 questionnaires were distributed. However, 25 questionnaires were not returned and we were left with 144 questionnaires which translated to 85.20% return rate as presented in table 4.1

**Table 4.1 Questionnaire Return Rate**

Questionnaires distributed	Questionnaires returned	Percentage
169	144	85.20%

This rate of return was considered adequate..

#### 4.2 Demographic characteristics of the respondents

The study first sought to know the demographic characteristics of the respondents. Therefore the demographic distribution of the respondents was established in terms of Gender, Age, Marital status and Level of education and the results are as shown in the table 4.2

**Table 4.2 Demographic characteristics of the respondents**

Study group	Demographic factors	Variable	Frequency	Percentage
<b>Bodaboda operators</b>	Gender	Male	137	95.1%
		Female	7	4.9%
	Age	Less than 20 yrs	11	7.6%
		21-30 yrs	67	46.5%
		31-40 yrs	39	27.1%
		41-50 yrs	14	9.7%
		50 & above	13	9.0%
	Marital status	Married	89	61.8%
		Single	53	36.8%
		Other categories	2	1.4%
Level of education	University		8	5.6%
			75	52.1%
	O levels (K.C.P.E/KC.E.)			38.8%
	Primary	56	3.5%	
	Any other	5		
<b>Bodaboda Users</b>	Gender	Male	4	40%
		Female	6	60%
	Age	Less than 20 yrs	1	10%
		21-30 yrs	6	60%
		40-50 yrs	3	30%
		50 yrs & above	0	0%

The table 4.2 shows that out of the total 144 bodaboda operators, 137 (95.1%) were males while 7 (4.9%) were females. Therefore this operation is an exclusively male preserve. The strenuous nature of the occupation perhaps justifies this even though there is no obvious reason why women should not operate the bodabodas other than custom and culture although the nature of the job that is the long working hours away from home must also be a deterrent and that the bodaboda operations are mostly done by men due to their nature that is men are more masculine and aggressive than women and this is important in the bodaboda operations. Women fear harassment, a common



trend in the bodaboda operations especially from some customers, and being robbed, and these are ancillary reasons that deter women from operating such services.

The gender distribution of the users reveal that females form the highest percentage of the clients for the bodaboda services that is 60% (6) with 40% (4) of the users as their male counterparts. This exposes women to manipulation as most of them fall victims of rape by the operators. Also some bodaboda operators sometimes take advantage of their situations to offer free services to women hence luring and winning them over.

The Table also shows that most (67) of the bodaboda operators were aged in between and including 21 and 30 years (46.5%). They were followed by those aged between 31-40 years (27.1%). 14 (9.7%) of them had in between 41-50 years, 13 (9%) had 50 and above and the least number 11 (7.6%) had less than 20 years. This shows that most of the bodaboda operators are either middle aged or in their 20's. Bodaboda business therefore provides a living mostly for young drivers between 18 and 35 years as also observed in Douala, West and Central Africa. This is due to the fact that it is a youthful age and the operators are able to perform their duties well since the energy (for instance to wake up early and sleep late) is there. The SLAM survey data (2001) concurs well with this as it birthed the often-alleged 'youth' of bodaboda. In addition to that, most of the people who engage in this business are those who are looking for money to supplement their living for instance students in their holidays. Most people do operate the business as a stepping stone to other opportunities which might come later.

From the traffic base commander interview, the mandatory age of a Class FG license holder is 16 years hence the small number of operators less than 20 years.

From the table 4.2, the users' age details can also be revealed. The majority age group for the bodaboda users is 20-40 years with 60% (6) followed by age group 40-50 years using the service at 30%. Lastly the teenagers are the least users of the bodaboda services at 10%. The majority age group falls under the working class bracket hence could find the bodaboda services more reliable for daily movement to work and in the course of doing business. The main income generating activity in Central Embu is agriculture (for instance potatoes, maize, and beans) and bodabodas are used to transport their produce to market places and activities involving the same.

In the neighboring area to Embu, the highly perishable *Catha edulis* that is Khat (commonly known as 'Miraa') is also transported via bodabodas to the nearby markets including this region.

The study then attempted to find the marital status of the respondents and from the findings in the table above, most of the bodaboda operators are married that is 89 (61.85%) out of the total 144 respondents. This is because they wake up very early to cater for early morning clients and close their business late after serving evening clients, which is possible if one has a partner to help perform other home duties. It can also mean that the bodaboda operators' direct contact with many people exposes them to friendships and partnerships leading to marriage. Furthermore, from the age distribution, the leading is 21-30yrs which fits under the marriage age. 53 (36.8%) were single and other categories for those who were not sure of their marital status consisted of only 1.4% (only 2 respondents).

Apart from that, the researcher also desired to know the distribution of the bodaboda operators according to their level of education. Mostly, a bodaboda operator has the popular image of a poor person's 'school dropout' job which is supported by the description in Annex A and survey data. In the findings, university respondents consisted of 5.6% (8). This shows that despite the level of education, finding jobs is difficult and some end up cycling in such of a living. The largest percentage consisted of the O level (especially K.C.S.E) 52.1% (75) followed by K.C.P.E 38.8% (56). At this low level, employability rate is low especially for school dropouts. Other education levels not represented among the above, which the study didn't go deeper into getting the specifications, accounted for about 3.5% (5)

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

Motorbike/ bicycle bodaboda business is a source of employment to many youths who can't find jobs elsewhere especially those who haven't attained the levels of education necessary to compete with the educated people in the job market. They therefore engage in bodaboda operations to earn a living since no comprehensive skills are required to operate them. Some even operate without licenses hence causing numerous accidents on the roads. The traffic commander stated that the main reason for growth of the bodaboda operations is the high rate of unemployment especially

among the youth. One bodaboda operator pointed out that this is the main reason he decided to engage in the business as reported in News and Views on Africa from Africa. “There being scant employment opportunities, and I have to live or die, I opted for bodaboda”, he says.

We explored the bodaboda operator’s view on the importance of bodaboda that is if it’s their main occupation and the number of dependants they had.

The responses were tabulated as shown in table 4.2.

**Table 4.3: Unemployment Factors influencing the growth of bodaboda**

Unemployment factor	Variable	Frequency	Percentage
<b>Whether bodaboda is the main occupation</b>	Yes	77	53.5%
	No	67	46.5%
<b>Number of dependants</b>	0-3	88	61.1%
	4-5	45	31.2%
	6-8	8	5.6%
	Above 8	3	2.1%

From the table 4.3 it can be seen that 53.5 % (77) view bodaboda as their major occupation; this explains the fact that most people, especially the youth, are unemployed hence engage in bodaboda business to be able to cater for their basic needs. It’s evident that those who are doing other businesses or whatever employment are not also able to get all their needs from their jobs so they venture into bodaboda business as part time contributing to 46.5%(67).

As far as the number of dependants is concerned, it is evident that majority of the operators don't have many dependants with 60.8% (87) having a range of 0-3 dependants followed by 4-5 dependants at 31.5%. Therefore, it is clear that majority of the operators cannot manage a great number of dependants given that the business is more competitive nowadays and sometimes little income is generated which cannot support larger families.

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

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.

**Table 4.4 Ownership of the bodaboda by the operator**

<b>Ownership</b>	<b>Frequency</b>	<b>Percentage</b>
Your Own	101	70.1%
Employed	43	29.9%
<b>Total</b>	<b>144</b>	<b>100%</b>

Table 4.4 Shows that 70.1% (101) of the respondents use their own motorbikes while 29.9% (43) a number less than the average 50%. This could be an indication on the ease to acquire a motorbike and to operate it compared to other means of transport. Also many operators prefer to source for capital (in form of loans) from Sacco's and banks to reap maximum benefits from the business as compared to hiring the bodabodas.

**Table 4.5 Source of capital used to acquire the bodabodas for those who own them**

<b>Capital source</b>	<b>Frequency</b>	<b>Percentage</b>
Through Sacco's	24	16.6%
Through Bank	56	38.9%
Own savings	62	43.1%
Any other	2	1.4%
<b>Total</b>	<b>144</b>	<b>100%</b>

From table 4.5 Most of the respondents at 43.1% acquired the bodabodas through their own savings although closely followed by financial institutions at 38.9%. Those who obtained money to buy from Sacco's constitute 16.6% while the other sources take 1.4%. The fact that a large percentage gets capital to start the business from their own savings can be attributed to the operator's need to be independent. Hiring bodaboda or working for someone is expensive given the little incomes that are

**Table 4.6 Daily incomes from the bodaboda service provision per day**

<b>Income</b>	<b>Frequency</b>	<b>Percentage</b>
Less than Kshs. 300	9	6.3%
Kshs. 300-500	104	72.2%
Kshs. 600-800	23	15.9%
Kshs. 900-1100	4	2.8%
1100 and above	4	2.8%
<b>Total</b>	<b>144</b>	<b>100%</b>

From table 4.6 the majority of the bodaboda service providers earn ksh 300-500 daily income as per 72.2% (104) of the respondents, 15.9% (23) earn ksh 600-800 daily while 6.3% (9) earn below ksh 300 and a negligible 5.6 percent (4) are earning 900 and above. The income is not high enough and this could be as result of high cost of fuel and maintenance incurred. That's why this business can only support a small number of dependants. However this is far higher than the average earnings of most people in the area. More than 50 percent of Kenyans earn and live on less than one dollar a day, according to the government's Poverty Reduction Strategy Paper 2001. The monthly operational costs in were assessed and the results tabulated as shown below.

**Table 4.7 Average monthly operational costs**

<b>Costs</b>	<b>Frequency</b>	<b>Percentage</b>
Less than Kshs.1000	36	25.0%
Kshs. 1000-3000	57	39.6%
Kshs. 3000-5000	28	19.4%
Kshs. 5000-7000	16	11.1%
Kshs. Above 7000	7	4.9%
<b>Total</b>	<b>144</b>	<b>100%</b>

Table 4.7 shows that the operational costs per month by the majority is ksh 1000-3000 at 39.6% (56) while at 25.0% (36) use an operational cost less than ksh 1000 monthly. 19.4% (28) use between 3000-5000, 11.1% (16) uses ksh 5000-7000 per month while 4.9% (7) use above Kshs. 7000. The operational cost of bodaboda stands at Kshs. 3000 and below. This can be attributed mainly to fuel costs and repair/maintenance. Fines imposed by traffic officers also form part of the costs and most of the operators who don't have licenses, which is a requirement by law as indicated by the Traffic base commander, are charged even more than the normal rates leading to increased operational costs. It is a requirement for every bodaboda operator to have a license, insurance cover, reflective jacket and helmet as revealed

from the traffic base commander interview and this forms part of the expenses incurred. Those who lack any of the above face strict penalties and sometimes are mistreated by the traffic officers.

#### **4.5 Versatility and growth of bodaboda**

One of the major reasons contributing to the growth of the bodaboda operations are the nature of the job. The job has no restrictions and fixed departure times and rates charged. The study sought to explore the bodaboda operations in terms of the time of convenient for operations, areas where they can operate from and the basis upon which services are provided and the following were the findings.

**Table 4.8 Time of day most convenient for bodaboda operation**

<b>Time</b>	<b>Frequency</b>	<b>Percentage</b>
Morning	24	16.7%
Midday	10	6.9%
Evening	29	20.1%
At night	1	0.7%
Any time on demand	80	55.6%
<b>Total</b>	<b>144</b>	<b>100%</b>

From the table 4.8 most bodaboda service providers don't have a fixed time schedule for operation. 55.6% (80) find any time convenient for the service while evening is convenient for 20.1% (29) of the operators closely followed by morning preference at 16.7% (24).The service provision at night is negligible at 0.7% (1). The findings show that bodaboda service provision is highly flexible hence versatile because the operators can serve their customers any time when needed and they are even willing to wake up early and sleep late just to serve and generate income. These early and late hours are also the times when there are no other means of transport to take care of people who go to or come from work early or late respectively. The condition of the roads in Central Embu Division is poor and most of them are feeder roads which are

not suitable for other means of transport like matatus. The bodaboda operators hence get the opportunity to serve people in these areas due to their easy maneuverability. The following information was revealed by the operators on the areas of business operation and the basis of service provision.

**Table 4.9 Areas of business operation and Basis of service provision**

<b>Versatility factor</b>	<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Areas of business operation</b>	Paired roads	2	1.4%
	Tarmac roads	4	2.8%
	Feeder roads	30	20.8%
	Dirt roads		
	All the above	7	4.9%
		101	70.1%
<b>Basis of service provision</b>	Fixed charges	7	4.9%
	Negotiable charges	136	94.4%
	Free services	1	0.7%

Table 4.9 shows that 70.1% (101) don't have fixed area of business operation. This also explains how versatile bodaboda service provision is. They can operate from any route and offer door to door services. They provide short distant services within towns and urban areas where they compete with conventional taxis and matatus. They also provide services as feeders to urban areas and towns on routes that due to low density of demand or roughness of the route, are unattractive to taxis. They complement taxis and matatus in serving all people. The challenge here is the fact that the bodabodas



wear out quickly when they operate on bad roads for sometime hence increasing maintenance costs. This is also likely to cause accidents hence leading to loss of life.

Majority of bodaboda service providers provide their services at negotiable charges as shown in table 4.9 above by a majority of 94.4% (136) of the respondents. Around 4.9% (7) provide the service at fixed charges while only 0.7% (1 respondent) agrees of providing a free service. Negotiable prices make the bodaboda services thrive an indication of its versatility. This is because negotiation can lead to cheaper amounts than those charged by taxis.

#### **4.6 Ease of operation and growth of bodaboda**

The study also sought to discover how the ease of bodaboda operations impact on their growth. The following factors were analyzed: average distance per trip, carriage per trip, conduciveness of the environment and the length of service. The findings were as given below.

**Table 4.10 Average distance per trip and carriage per trip**

<b>Ease of operation factor</b>	<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Average distance per trip</b>	Less than 2 km	8	5.6%
	3-5 km	47	32.6%
	6-9 km	49	34.0%
	9-12 km	31	21.5%
	12 and above	9	6.3%
<b>Carriage capacity per trip</b>	1 passenger	44	30.5%
	2 passengers	41	28.5%
	1 passenger and a load	22	15.3%
	Any other category	37	25.7%

As shown in the table 4.10 above, many bodaboda operators cover an average distance of 6-9 km (34.0%) per trip. This contributes to the growth of the bodaboda service provision since short distances are covered per trip as compared to other means of transport like the matatus. It also increases their flexibility to serve many people within a given period of time. Other respondents cover distances close to this. 32.6% (47) cover 3-5 km per trip while 21.5% (31) cover a distance of 9-12 km per trip. Few operators cover large distances as only 6.3% (9) responded positively to distances of 12 and above km per trip. At the same time, very short distances are not preferred that much as only 5.6% (8) could cover a distance of less than 2 km.

Bodaboda(motorcycles) are said to have a greater accompanied load carriage capacity as they can carry a passenger and goods can be put on the long pillion seat. Similarly, it has been observed that carrying a passenger load of an adult and two children or three school children is possible with the motorcycles. The assessment of carriage per trip as shown in the above table revealed 30.5% (44 respondents) carry 1 passenger at a time for every trip. This makes them more versatile since they don't have to wait for clients to come by as is it happens for other means of transport such as matatus and buses. If many clients have to be served, then 2 passengers per trip explained by 28.5% (41) could be served or 1 passenger and a load as explained by 15.3% (22) of the respondents. Any other category respondents were 37 (25.7%) explaining the use of motorcycle for purposes not stated above, hence the versatility of the bodaboda service provision.

From the information given by the traffic commander, the bodaboda should carry 1 passenger at a time. He emphasized that “There’s a direct relationship between accidents and lack of requirements...and that only 1 passenger should be served at a time”. That’s why the government conducts tests before awarding licenses, as he confirmed.

For any business to thrive, the environmental conditions play a vital role. This can be attributed to the rules of operations within the area of operation. The conduciveness of the environment was analyzed and the following was revealed.

**Table 4.11 whether the operating environment has been conducive**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Agree	64	44.4%
Strong agree	3	2.1%
Disagree	73	50.7%
Strong disagree	4	2.8%
<b>Total</b>	<b>144</b>	<b>100%</b>

Table 4.11 shows most bodaboda operators do not agree the operating environment is conducive enough for their operations. This is explained by the 50.7% (73) of the respondents who disagreed. This might be due to the harassment from the traffic officers or the state of the roads they operate from. However 44.4% (64) agree that the environment is conducive for their operations. 2.8% (4) of the respondents strongly disagree that the operating environment has been conducive with a sharp contrast of 2.1% (3) strongly agreeing that the environment has been conducive.

**Table 4.12: Length of Service**

<b>Length of service</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 2 years	37	25.7%
2-4 years	82	56.9%
5 years	21	14.6%
6-7 years	3	2.1%
Above 7 years	1	0.7%
<b>Total</b>	<b>144</b>	<b>100%</b>

Table 4.12 shows that majority of the bodaboda operators have served for a period of about 2-4 years as explained by 56.9% (82) followed by those who have served for less than 2 years that is 25.7% (37); third category goes to those who have served for slightly higher that is 5 years at a percentage of 14.6% (21) with around 3% (4) having served for above 6 years. This indicates there is growth in the number of bodaboda operators since those who have served for a longer time are less compared to those who have served for a shorter time. Also the physical stress imposed on cyclists is self-evident in addition to the dangerous operating environment, violence and theft threats. Lack of alternative employment and its profitability combine to compel adoption of the occupation.

The study went ahead to get to hear from the bodaboda users about the length of time bodaboda services have been used and following tables display a summary of the findings from the interviewees.

**Table 4.13: How long bodaboda services have been used**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 3 years	4	40%
4-5 years	6	60%
6-8 years	0	0
8 years	0	0
<b>Total</b>	<b>10</b>	<b>100%</b>

Table 4.13 shows that most people have used the bodaboda services for about 4-5 years which claimed more than 60% (6) of the responses. The remaining respondents 40% (4) have used the service for less than 3 years. There were no responses from 6-8 years and 8 years and above. Therefore, the bodaboda sector has been in constant growth for the last 5 or so years evident by the fact that most users have enjoyed the service within the last 5 years.

Users have different demands and preferences and we sought to assess the reasons why they prefer using bodaboda services over other means of transport. The following was realized.

**Table 4.14: Why bodaboda services are preferred over other means of transport.**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
No fixed schedules	7	70%
All of the above	3	30%
No fixed charges	0	0%
High speed	0	0%
<b>Total</b>	<b>10</b>	<b>100%</b>

From the above table 4.14 most of the respondents who were interviewed as users of the bodaboda preferred the service at 70% because of No fixed schedules evident in other means of transport while the remaining 30% of users prefers bodaboda services because of high speed, no fixed charges and no fixed schedules. This factors form part of why the use of bodaboda has largely increased with time. These findings correlate well with similar study in Uganda which showed that speed, ability to offer door-to-door services and when the user is in a hurry are more prized. Most operators are equipped with mobile phones and hence can be summoned.

**Table 4.15: Occupation of the bodaboda users**

<b>Occupation</b>	<b>Frequency</b>	<b>Percentage</b>
Wage and salaried	8	80%
Self employed	1	10%
Any other	1	10%
<b>Total</b>	<b>10</b>	<b>100%</b>

Table 4.15 shows that a bigger percentage of users of the bodaboda services are informally or formally employed that is wage and salaried at 80% while self employed use the services at 10%.

Users are therefore mainly drawn from workers and the business community. These are get and pay services hence most of the users must have cash, this explains why wage and salaried individuals top the list. Most of the people who use the services are drawn mainly from labourers, the business community, students and health facility patients. The main reasons for the use is to save money due to the short distance travelled, and no other choice especially in rural areas like Central Embu.

**Table 4.16: Rating the bodaboda service in terms of convenience**

The convenience of bodaboda use was also sought and the data bellow revealed.

<b>Rate</b>	<b>Frequency</b>	<b>Percentage</b>
Very convenient	3	30%
Convenient	5	50%
Not convenient	1	10%
Not at all	1	10%
<b>Total</b>	<b>10</b>	<b>100%</b>

Most of the users rated the bodaboda service provision as convenient as seen by the 50% of the respondents followed by 30% of the respondents that is very convenient. Only the 10% of the users feel that bodaboda services are not convenient and another 10% strongly feel it's not convenient at all.

These findings also conquer with a similar study on success factors in the motorcycle business in Nairobi, Kenya which rated convenience highly among other factors.

Furthermore, we also found out that both the county governments and the national government govern the bodaboda operations in Kenya. Government tests are carried out before awarding licenses. This however is not done efficiently because the numerous road accidents caused by the bodabodas are as a result of poor training amongst the cyclists. Some of them still are able to operate with licenses which have expired.

**Table 4.17 Reliability test index**

Cronbach's Alpha	Cronbach's Alpha Based on standardized Items	No. of Items
0.857	0.873	5

Table 4.17 shows a reliability index of 87.3%. This indicates a high level of consistency of the result obtained. Since the items used in the scale were on different metrics, I report the alpha based on standardized items.



## **CHAPTER FIVE**

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

#### **5.1 Introduction**

This chapter presents the summary of the findings of the study, conclusions, discussions and recommendations arrived at. 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. More information was sought from the Manyatta sub-county revenue officer in terms of the records in the registry regarding the requirements and general operations of the bodaboda operators.

#### **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. Therefore lack of jobs is a contributing factor to the exponential increase in the number of bodaboda even as evident in the records of the bodaboda registry (The number of bodaboda operators registered in 2013 was 300, 200 in 2012, 150 in 2011, 50 in 2010 and 20 in 2009, as indicated in their records)

### **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. They earn an average income of Ksh. 300 to Kshs. 500 per day with maintenance costs of about Kshs. 1000 to Kshs. 3000 per month. This income is enough to support small families as seen that the operators have few dependants.

### **5.2.3 Versatility and growth of bodaboda transport**

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.

### **5.2.4 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. Also the physical stress imposed on cyclist is self evident in addition to the dangerous

operating environment, violence and theft stress. Lack of alternative employment and profitability combine to compel adoption of the occupation.

### **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 in Kenya youth development is a serious development issue as an estimate of 64% of the unemployed persons are 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 K.C.P.E or K.C.S.E as their highest academic qualifications.

### **5.3.2 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.

It was also shown that the operators earn an average income of Ksh. 300 to Kshs. 500 per day (300/= and 500/= inclusive) with maintenance costs of about Kshs. 1000 to Kshs. 3000 per month. Therefore on average a bodaboda operator can make around Kshs. 7,200 to Kshs. 12,000 every month. That is a better income than many other jobs hence the growth of this industry.

### **5.3.3 Versatility and growth of bodaboda transport**

The study further noted that bodaboda operations were 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 were negotiable. These results were related to Mutiso (2011) that the bodaboda can provide services on inaccessible routes to vehicular modes, provide feeder services to higher capacity modes or indirectly compete with other modes for passengers. According to Cervero (2000), informal operators can easily alter schedules, routes, and operating practices in response to shifting market conditions. Therefore the versatility of bodaboda operations leads to the growth of the informal transport sector.

These findings also coincide with that of Howe et al (1996) which highlights that bodaboda primarily provide three types of predominantly short distance services with the main urban areas, where they compete with convectional sore hire taxis and taxis; (ii) as feeders to urban areas on routes that, due either to low density of demand or the roughness of the route are unattractive to taxis; and (iii) as feeders to main roads in which role they tend to compliment taxis and large capacity bus services.

### **5.3.4 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 argued that existing and would be owners and operators face a number of problems. The main ones are the high cost of entry to the industry, lack of credit facilities, difficulty in obtaining spares and poor maintenance facilities and skills outside of the main cities. 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 made a significant contribution to the conduct of economic and social activities which includes providing services in circumstances 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 Manyatta Sub-county revenue officer indicated that bodaboda industry has improved social economic well-being of Manyatta 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 tend to over-speed and overload their machines for quick returns and this recklessness, indiscipline and lack of respect cause 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.

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<http://www.itdp.org/ST/ST14/ST14.Pdf>.

## **APPENDICES**

### **APPENDIX I: LETTER OF TRANSMITTAL.**

VERONICA WAWIRA GITONGA

P.O BOX 72 MANYATTA, EMBU.

CELL PHONE 0722816761

Dear respondent,

### **RE: LETTER OF TRANSMITTAL.**

This is to inform you that I am carrying out a research that will lead to the award of masters of Arts degree in project planning and management of the University of Nairobi. The study focuses on factors influencing growth of informal transport sector: A case of bodaboda transport in central division, Embu West District. The information given will be treated with utmost confidentiality. Attached please find a questionnaire that requires you to provide information by answering questions relevantly, honestly and accurately. The information provided will be purely used for research purposes only. You may not record your name anywhere in the questionnaire. Your assistance will be highly appreciated.

Thank you,

Yours Faithfully

Veronica W. Gitonga

University of Nairobi,

Reg No.L50/66304/2013.

## APPENDIX II: OPERATORS QUESTIONNAIRES

Please tick or mark or fill the space provided where appropriate

Note: The information given on this questionnaire will be held in strict confidence and will be used only for the purpose of study

### SECTION A:

#### Demographic information

##### 1. Gender

a) Male [ ]

b) Female [ ]

##### 2 Age

a) Less than 20yrs [ ]

b) 21-30 yrs [ ]

c) 31-40 yrs [ ]

d) 41-50 yrs [ ]

e) 50 and above [ ]

##### 3. Marital status

a) Married [ ]

b) Single [ ]

c) Other categories [ ]

##### 4 .Level of education

a) University [ ]

b) 'A' level (KACE) [ ]

c) O level KCSE/KCE [ ]

d) K.C.P.E/C.P.E [ ]

e) Any other (specify) [ ]

**SECTION B:**

**Unemployment and growth of bodaboda transport**

v. Do you view bodaboda service provision as your main occupation?

Yes [ ]

No [ ]

i.)If No specify other income earning activities you are involved in.

.....  
.....

vi. Indicate the number of your dependents.

a) 0-3 [ ]

b) 4-5 [ ]

c) 6-8 [ ]

d) Above 8 [ ]

**SECTION C**

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

vii. Ownership of the bodaboda by the operator

a) Your own [ ]

b) Employed [ ]

viii. If the bodaboda is your own how did you raise capital to acquire it?

a) Through Sacco's [ ]

b) Through Bank loans [ ]

c) Own savings [ ]

d) Any other [ ]

ix. On average how much do you make per day from bodaboda service provision.

a) Less than Kshs 300 [ ]

b) Kshs 300-500 [ ]

c) Kshs 600-800 [ ]

d) Kshs 900-1100 [ ]

e) 1100 and above [ ]

- x. On average what are your operational costs per month.
- a) Less than Kshs 1000 [ ]
  - b) Kshs 1000 – 3000 [ ]
  - c) Kshs 3000-5000 [ ]
  - d) Kshs 5000-7000 [ ]
  - e) Kshs Above 7000 [ ]

**SECTION D:**

**Versatility and growth of bodaboda transport**

11. What time of the day is most convenient for bodaboda operation?

- a) Morning [ ]
- b) Midday [ ]
- c) Evening [ ]
- d) At night [ ]
- e) Any time on demand [ ]

12. Which areas of operations do you find business?

- a) Paved roads [ ]
- b) Tarmac roads [ ]
- c) Feeder roads [ ]
- d) Dirt roads [ ]
- e) All the above [ ]

13. On what basis do you provide bodaboda service?

- a) Fixed charges [ ]
- b) Negotiable charges [ ]
- c) Free services [ ]

## SECTION E

### Ease of operation and growth of bodaboda transport

14. What is your average distance per trip?

- a) Less than 2km [ ]
- b) 3-5 km [ ]
- c) 6-9 km [ ]
- d) 9-12 km [ ]
- e) 12 and above km [ ]

15. What is carriage capacity per trip?

- a) 1 passenger [ ]
- b) 2 passengers [ ]
- c) 1 passenger and a load [ ]
- d) Any other category [ ]

16. Has the operating environment been conducive?

- a) Agree [ ]
- b) Strong agree [ ]
- c) Disagree [ ]
- d) Strong disagree [ ]

17. Length of service

- a) Less than 2 years [ ]
- b) 2-4 yrs [ ]
- c) 5 yrs [ ]
- d) 6 -7 yrs [ ]
- e) Above 7 yrs [ ]

### APPENDIX III: USERS QUESTIONNAIRE

Please tick or mark where appropriate

1. For how long have you used bodaboda services
  - a) Less than 3 years [ ]
  - b) 4-5 years [ ]
  - c) 6-8 years [ ]
  - d) 8 years and above [ ]
2. Gender
  - Male [ ]
  - Female [ ]
3. What is your age?
  - a) Less than 19 yrs [ ]
  - b) 20-30 yrs [ ]
  - c) 40-50 yrs [ ]
  - d) 50 yrs and above [ ]
4. Why do you prefer bodaboda services over any other means of transport?
  - a) No fixed charges [ ]
  - b) No fixed schedules [ ]
  - c) High speed [ ]
  - d) All the above [ ]
5. Occupation
  - a) Wage and salaried [ ]
  - b) Self employed [ ]
  - c) Any other (specify) [ ]
6. How do you rate the bodaboda services in terms of convenience?
  - a) Very convenient [ ]
  - b) Convenient [ ]
  - c) Not convenient [ ]
  - d) Not at all [ ]



**TABLE 4.18 OBSERVABLE SCHEDULES**

CATEGORY	TIME OF THE DAY	CHARGES	DISTANCE IN KM	NO OF PASSENGER CARRIED
MALE				
FEMALE				

**APPENDIX IV: MANYATTA SUB COUNTY REVENUE OFFICER  
INTERVIEW SCHEDULE**

**Instructions**

Please respondent answer the questions below by ticking on the appropriate box or filling in the necessary information on the space provided.

**Section A**

- A. (Establish Rapport) (Shake hands) My name is \_\_\_\_\_ a student of UoN doing research on factors influencing growth of informal transport sector with reference to BodaBoda transport in Manyatta Sub-county Embu, Central Division, Embu West District.
- B. (Motivation) The information will be used to help the government and us (you and me) understand better what could be influencing the growth of Bodaboda's in Central Division Embu West District despite the setbacks e.g. accidents.
- C. (Timeline) The interview should take about 10 minutes. Are you available to respond at this time? The information will be treated as confidential since there is no name to be written on the interview schedule.

**Section B**

1. How has the nature of road infrastructure contributed to growth of bodaboda in Manyatta Sub-county community?
- a) Employment creation [ ]
  - b) Income generation [ ]
  - c) Improved Standard of living [ ]
  - d) Reduction of crime rates from the youth [ ]
  - e) All the above [ ]
2. How has bodaboda industry improved social economic well-being of Manyatta Sub-county community?
- a) Source of income. [ ]
  - b) Creating jobs. [ ]

- c) Social welfare improvement. [ ]
  - d) Reduction in criminal activities. [ ]
  - e) All the above [ ]
3. Do you offer subsidy to encourage youth venture into bodaboda industry.
- a) Yes [ ]
  - b) No [ ]
4. Do you license the bodaboda enterprises
- a) Yes [ ]
  - b) No [ ]
5. How is the operational licensing done?
- a) Per day [ ]
  - b) Per week [ ]
  - c) Per month [ ]
  - d) Per year [ ]
6. What are the basic requirements for a bodaboda operator to be registered?  
Tick the correct requirement.
- a) Hat, suit, boots and belt [ ]
  - b) License, insurance cover, Reflective Jacket, Helmet.[ ]
  - c) Overall sub county license [ ]
7. Within which areas does the sub county by laws encourage bodaboda operations?
- a) Central business district [ ]
  - b) Dirt roads [ ]
  - c) Paved roads [ ]
  - d) Feeder roads [ ]
  - e) Where there is jam [ ]
  - f) All of the above [ ]
8. Does Manyatta sub county have a policy to regulate bodaboda operators?
- Yes [ ]
  - No [ ]

9. From the records how many bodaboda operators registered in  
2013 \_\_\_\_\_

2012 \_\_\_\_\_

2011 \_\_\_\_\_

2010 \_\_\_\_\_

2009 \_\_\_\_\_

10. What are the challenges associated with bodaboda industry.

- a) Accidents.
- b) Pollution.
- c) Substance abuse.
- d) Theft.
- e) All the above.

## APPENDIX V: TRAFFIC BASE COMMANDER INTERVIEW SCHEDULE

### Instructions

Please respondent answer the questions below by ticking on the appropriate box or filling in the necessary information on the space provided.

### Section A

- A. (Establish Rapport) (Shake hands) My name is \_\_\_\_\_ a student of UoN doing research on factors influencing growth of informal transport sector with reference to BodaBoda transport in Manyatta Sub-county Embu, Central Division, Embu West District.
- B. (Motivation) The information will be used to help the government and us (you and me) understand better what could be influencing the growth of Bodaboda's in Central Division, Embu West District despite the setbacks e.g. accidents.
- C. (Timeline) The interview should take about 10 minutes. Are you available to respond at this time? The information will be treated as confidential since there is no name to be written on the interview schedule.

### Section B

- 1. What are requirements for motorcycle operators to operate?  
Please tick the appropriate respondent
  - A. License, insurance cover, reflective jacket, helmet.
  - B. Hat, suit, Boots and belt
  - C. Overall, city council license.
- 2. Which body governs the operations of a motorcycle in Kenya?
  - a) Government of Kenya [ ]
  - b) County government [ ]
  - c) Both [ ]
- 3. Do you conduct government tests before awarding licenses
  - Yes [ ]
  - No [ ]

- 4. How should motorcycle operators improve competency.
  - a) Go to riding school [ ]
  - b) Observe law [ ]
  - c) Self-discipline [ ]
  - d) All the above [ ]

5. What additional requirements the government should insist on to curb an errant motorcycle operator .Please give your comments.

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

6. What is the mandatory age of a license holder (Class FG license)

.....

7. What measures is the traffic department putting in place to curb the rate of bodaboda related accidents.

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

## APPENDIX VI: KREJCIE AND MORGAN TABLE

Determining the sample size from a given population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

NOTE: 'N' is the population size

"S" is sampling size Krejcie, Robert V., Morgan, Daryle W., "Determining Sample Size for Research Activities", (Education and Psychological Measurements), 1970.