

**COMMERCIAL CYCLISTS TRAINING AND REDUCTION OF ROAD TRAFFIC
ACCIDENTS IN KAMPALA CAPITAL CITY AUTHORITY
CENTRAL DIVISION-UGANDA**

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DECLARATION

I declare that this is my own work and this dissertation has been authored by myself and has never been presented anywhere for any academic award.

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APPROVAL

This dissertation titled “Commercial Cyclists Training and Reduction of Road Traffic Accidents in Kampala Capital City Authority Central Division-Uganda” by Upano Godfrey has been conducted under my guidance as a university supervisor and is ready for submission and examination.

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DEDICATION

This research is dedicated to my daughter Nirwoth Melissa who in one way or another made me work harder to achieve this award.

ACKNOWLEDGEMENT

I must appreciate God for the great gift He has given me to achieve this Honor.

My special thanks to my supervisor Dr. Benjamin Bella Oluka for his tireless efforts to ensure quality output is produced out of me through his professional guidance, thank you so much and not forgetting Dr. Odetha Katuramu and Dr. Muzaare Gerald.

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LIST OF ACRONYMS

ACTR	–	Annual Crime Traffic Report
DV	–	Dependent Variables
HI	–	Human Injuries
HIV/AIDS	–	Human Immune Virus/Acquired Immune Deficiency Syndrome
ICC	–	Injury Control Centre
IV	–	Independent Variables
KCCA	–	Kampala Capital City Authority
ROSA	–	Road Safety
RTI	–	Road Traffic Injuries
WHO	–	World Health Organization

ABSTRACT

The purpose of the study was to establish the effect of commercial cyclists training on reduction of road traffic accidents among commercial cyclists in Kampala Uganda. Three specific objectives guided this study and these were; investigating the effect of road safety training on reduction of cyclists head on road traffic accidents in Kampala Central division; ii) assessing the effect of traffic-signal training on reduction of motor vehicle road traffic accidents in Kampala Central division and examining the effect of multi-laned road use training on reduction of cyclist pedestrian road traffic accidents in Kampala Central division. Descriptive design was used to describe the effect between variables. The study used a population of 38,020 and a sample size of 395. Questionnaires were used for reaching respondents who were randomly selected to be part of the study and the data collected was organized and analyzed to generate information which came from the field. Regression analysis was used to analyze the data on all the study objectives. The findings revealed the following; road safety training as a commercial cyclists training strategy influences the road accidents among commercial cyclists in Kampala Uganda, traffic-signal training of commercial cyclists significantly affects the reduction of motor vehicle – cyclists road traffic accidents among commercial cyclists in Kampala Uganda, and multi-laned road use training significantly affects the reduction of cyclist – pedestrian road traffic accidents in Kampala Central division Uganda. The conclusions were that; providing road safety training can lead to reduction on the rate of road traffic accidents and increases the behaviour of commercial cyclists while on the road, road traffic accidents can be reduced once first aid training is effectively done, provision of traffic-signal training of commercial cyclists can lead to the reduction on reduction of road accidents, and although multi-laned road training has a significant effect on reduction of road accidents in Kampala Central division Uganda, there are major weaknesses of multi-laned road training for example temporally failure to use effective multi-laned road training due to traffic lights’ disconnection and failure. The recommendations were that; in respect to objective one on the road safety training on reduction of road traffic accidents. In respect of the above conclusions, Kampala Capital city authority should further empower the commercial cyclists by developing teams and give some measure of power and authority to these teams. In this way, commercial cyclists will ignite their potentials, feel part of the system and do their work effectively. Regarding objective two, the researcher recommends that there is need with immediate effect to improve the practice of first aid training, hence the government should advocate for better BodaBoda training that suite different situations on the road.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter dealt with the introduction to the study, historical, theoretical, contextual, conceptual, statement of the problem, the objectives, purpose of the study, research questions, significance and scope of the study.

1.1 Background

The background of the study was presented in four perspectives that is, historical perspective, theoretical perspective, conceptual perspective and contextual perspective.

1.1.1 Historical Perspective

Since 1990s urban transport systems in different cities have been experiencing radical change with the use of commercial motorcycles known as (Okada) becoming commercially led business and passenger public transportation system in the cities(Sakashita et al, 2012). However, according to Silcock, (2003), this has come with the cost implications which have not been addressed, the governments have been shying away from articulating the necessary policy to guide the use of the mode by the operators as also cited by Sakashita et al, (2012). The continuous rise in the fatality of the passenger using the Okada (Commercial Motorcycle) transport mode causes environmental concern as well as the quality of service provision by same Operators and part of the concern that still remains unattended to by the policy makers. The World Health Organization (WHO) estimated that 1.17 million deaths occur each year worldwide due to road traffic accident. The breakdown of this indicates that 70 percent are the developing countries because of increase in population and increased motorization especially in the developing countries.

In Uganda, for the last five or more years, many people have resorted to the use of small motorbikes popularly known as “BodaBoda” as a quick means of transport in Kampala and other parts of the country, the operators are mainly the youths. This mode of transport has been responsible for many “accidents” (Obara, 2015). According to Naddumba MMD Senior Consultant Orthopedic Surgeon Mulago Hospital, these privately owned motorcycles popularly known as BodaBoda by Ugandans a name that originated from the bicycle form of public transport that is popular at the border between Uganda and Kenya since 1960s as part

of the African bicycle cultures leading to the emergence of commercial cyclists. Road traffic injuries are the leading causes of surgical admission at Mulago Hospital according to Naddumba (2014), this is because of reckless operators like the commercial motorcycle operators that have been introduced as means of public transport in addition to taxis as form of employment for the Ugandan youths as it was also argued out by Muhumuza, (2012).

The BodaBoda (commercial cyclists) operate a 24 hour service ,but are busiest during the peak hours of the day, some of them are unlicensed and is believed that some operate (ride) under the influence of drugs or alcohol. Not only that ,but also majority of them do not take motorcycle riding course before starting the business therefore, this a result the risk factor of the BodaBoda have been visible and serious for many serious injuries which have been fatal and it is on this background that the author of this investigation decided to undertake this study.

Bodabodas business has been a booming business in Kampala, it employs a number of un employed youths who are jobless. However, it has come with a lot of challenges that face the people in and around Kampala. It has been observed by the world bank that, 1.17 million deaths occur each year in developing countries as a result of motorcycle(commmercial cyclists), that means Uganda is part of that ,since Uganda has also quite a big number of commercial cyclists especially in Kampala. A number of deaths and accidents have been reported by Uganda police crime report (2011), among others and that has led to the investigation of the problem which has a great effect on the people of Kampala Central division. The conceptual theory covers some factors which may not have been discussed by other literature like corruption among others by the law enforcers. According to (WHO) report (2012) over 90% of the road accidents occur in the low and middle income countries including Uganda, road traffic accident bear potential burden that drives families into poverty as crushed victims and their families struggle to cope with long term consequences of the event. In the conceptual theory ,the commercial cyclists (BodaBodas) training is the effect on Human Injuries (HI) or accident which is the dependent variable (DV).The motorcycle riders (BodaBodas) training is referred to as the competency of the cyclists to ride on the road without causing major accidents on the roads (Ritchey et al,(2011).

This includes, taking riding lessons from a recognized bodies under reorganized instructor, observing road signs, respect of road policies, traffic lights, avoid riding on pavement, avoid

over speeding, over loading and respect all other road users and also avoid riding under the influence of drugs.

The training is not limited to formal training ,but it can also be carried out informally by taking the rider through the various roads and physically show them how to operate and behave while using the road in order to reduce on the road accidents and injuries in Kampala Central division.

1.1.2 Theoretical Perspective

The investigation was guided by the Four-Level Training Evaluation Theory developed in 1959 by Kirkpatrick. The theory was then updated in 1975, and again in 1994. The four levels are: Reaction, Learning, Behavior and Results. Starting with Level 1 which is reaction, measures how trainees (the people being trained), reacted to the training. 1.1.3 Conceptual Perspective. Level 1: Reaction, the trainees (motorcyclists) at this level must react well to the training. Ways of making them to have positive attitudes towards training should be introduced. Competent instructor and best curriculum which include important areas to study should be applied. Level 2: Learning, as a result of good and relevant curriculum and competent instructor the knowledge, skills and positive attitude of motorcyclists will be good to trainees (motorcyclists). The aim is to make sure that knowledge, skills and positive attitude is passed to trainees (motorcyclist). Level 3: Behavior at this level, trainees need to change their behavior, based on the training they received. Specifically, this looks at how trainees apply the knowledge obtained during training. The training is considered received by motorcyclist if their behavior changes. Level 4: Results, expected outcome is minimum accidents from trainees motorcyclists in this regard (Christie, 2001). Which is the aim of the study of reducing accidents as resulted from trainees (motorcyclist) as stressed by Paden, (2004).

Good curriculum of the motorcyclists training will determine the extent of accidents reduction. If curriculum contains adequate duration and required contents of the training then accidents will be reduced in large extent. Competence of staffs providing training to motorcyclists will determine the level of accidents reduction, because the more the competent of staffs the more good training to motorcyclists then accidents reduction is high. Attitude of motorcyclists towards training will have impact in reducing road accident. Positive attitude towards training lead to more willing to train as a result of accidents reduction. A

comprehensive training program must be there so as to reduce accidents (Kobusingye et al., 2002).

1.1.3 Conceptual perspective

The commercial cyclists is the means of transport operated in some parts of the world such as India, Pakistan among other Asian countries, though there has been a little use of it basing on the technological advancement as compared to Uganda. There has been significant growth in this mode of transport in Latin America, Asia and Africa due to poor road network (Krishnan & Smith, 1994), (Kumar and Barret, 2008).

1.1.4 Contextual Perspective

Contextually, the study was proposed to take place in Kampala Central division specifically, Central Division that is part of other Divisions like Nakawa, Kawempe etc. That forms Kampala District. The study dealt with the geographical location of only Kampala Central division (Central Division), and it will include visiting the offices of the Authority, visiting various BodaBoda rider stages and their offices within the Division and other BodaBoda stakeholders like the passengers on the streets among others.

It should be noted that, road accidents are at the peak in Kampala today as a result of this problem, psychologically, emotionally among others it has a big consequence which is not properly being addressed so as to have an everlasting impact on the society. Road accident especially by the commercial riders (BodaBoda) has become a death trap as many may call it, indeed it has become a societal problem for the people of Kampala Central division and therefore, the cause and effect must be examined so as to find a lasting solution to that effect as it written by Ssenkamba Stephen, New Vision (March- 2018).

A recent study carried out by Makerere University College of Health Sciences and department of Orthopedics is the only available study on the cost of bodaboda accidents and reveals that, 62.5% of the budget allocated to the directorate of then surgeon at Mulago Hospital is spent on the victims of the bodaboda accidents, and the average cost of treating bodaboda victims has with head injuries or broken limbs is about 700,359(or 280\$), it is also important to note that, the study does not provide a full scale magnitude of the cost of bodaboda accidents because, it focuses on bone costs (Kigera et al., 2010).

Injuries due to motorcycle accidents in Kampala and Uganda at large represents a major road accident, but neglecting public health problem contributing to a significantly overall traffic, road injuries (Paden, 2004; Kobusingye et al., 2014; 2002). The available evidence from annual crime report shows that, the road safety in Uganda is poor and has deteriorated over the last 20 years. The number of people who die due to road Accidents has grown from 660 in 1991 to 2954 in 2010 and above. According to Annual Crime and Traffic Safety Report, 2011, 17.3 percent deaths were due to motorcycles, and the estimate from world health organization (WHO) shows that, by 2020 death from traffic accidents. The growth of hired/commercial motorcycles commonly known as BodaBoda in Kampala as a mode of transportation has increased the road challenges (Annual Traffic Report 2011). Given the rate of unemployment in Uganda, many players have come in the BodaBoda industry as money making activities and the numbers of the riders is expected to increase, so will the accident from the cyclists (Widyastuti, 2012).

The continued increase in the BodaBoda numbers and accidents puts pressure on necessary road safety improvement, but also the cost of BodaBoda accidents in terms of immediate hospitalization and direct cost on society in terms of labor loss, financial support to families and relatives of the victims, disabilities and death among others have not been fully taken care of and this tells us why the interventions to curb such a huge problem in Kampala is almost not possible. Therefore, this study intended to look at various practice of the BodaBoda riders such as individual behaviors riding in zigzag, overloading of passengers, over speeding, respect of other road users, patience on the road as required, law or traffic law observation among others in relations to road accident which has become a death trap in Kampala City.

1.2 Statement of the problem

Accidents of motorcycles have increased in Uganda and mostly caused by lack of training on road safety by motorcyclists. Due to lack of training, motorcyclists do not understand road safety rules and regulations for their own safety and other road users. This is evidenced with their unawareness of the road signs, careless over takings, exceeding speed limit, riding without wearing helmet and carrying of more than one passenger on the motorcycle commonly known as bodaboda (UBOS, 2017). Digital app companies like Uber, bolt and Safe boda provide training to all the app riders before allowing them to go online. The training covers both safety and earning tips on rider or passenger and rider. All the same,

with training of commercial cyclists by digital app companies, very little success has been realized as road traffic accidents caused by cyclists in Kampala Central division have not reduced as evidenced in the annual police report of September, 2012, from 2010 up to June-2012 period. The UBOS, (2017) report indicates that in 2010 the number of total accidents in Kampala central region was 652, the accidents which involved motorcycles were 58, and this is 8% of total accidents. In 2011 the number of total accidents was 633, the accidents which involved motorcycles were 147, and this is 23% of total accidents. From 2010 up to 2011 the number of accidents involved motorcycles increased by 15%. In 2012 from January to June the number of total accidents was 240, the accidents which involved motorcycles were 70, and this is 29% of total accidents (UBOS, 2017). The number of accidents involved motorcycle has increased by 6% from 2011 up to June-2012. The number of the total accidents however doubled in 2015/2016 with 4,000 people dying from accidents caused by bodabodas because they have little knowledge of road safety laws according to UBOS (2018) abstract report. That said, little research has been conducted to this cause and this research will try to fill a gap by assessing the impact that training can have towards reduction of road traffic accidents.

1.3 Purpose of the study

The study assessed the effect of commercial cyclists training on reduction of road traffic accidents in Kampala Central division.

1.4 Research Objectives

To establish how road safety training of cyclists reduces cyclist to cyclist head on accidents in Kampala Central division.

To assess how traffic signal training reduces motor vehicle and cyclist accidents in Kampala Central division.

To examine the effect of multi-laned road use training on the reduction of cyclist and pedestrian accidents in Kampala Central division

1.5 Research Questions

What is the effect of road safety training of cyclists on the reduction of cyclist head on accidents in Kampala Central division

What is the effect of traffic signal training on the reduction of motor vehicle – cyclist accidents in Kampala Central division

What is the effect of multi-laned road use training on the reduction of cyclist – pedestrian accidents in Kampala Central division

1.6 Null Hypothesis

H₀₁: There is a significant effect between Road safety training of cyclists on the occurrence of cyclists head on accidents in Kampala Central division.

H₀₂: There is a significant effect between traffic-signal training of cyclists and motor vehicle – cyclist accidents in Kampala Central division

H₀₃: There is a significant effect between multi-laned road use training on the reduction of cyclist - pedestrian accidents in Kampala Central division

1.7 Scope of the study

1.7.1 Geographical Scope

This study was conducted in Kampala Central division which is one of the five divisions that make up Kampala Capital City Authority and the capital of Uganda. The rate of accidents involved bodaboda has doubled in 2015-2016 in Kampala central, UBOS (2018). This was a justification to investigate bodaboda cyclists other than other cyclists.

1.7.2 Content Scope

Commercial cyclists training (independent variable) was measured in terms of road safety training, traffic-signal training and multi-laned road use training. Whereas accidents (dependent variable) was measured in terms of Cyclist head on Accidents, Motor vehicle – Cyclists accidents and Cyclist – Pedestrian accidents that are eventual causes of deaths and long stay in hospitals in Kampala.

1.7.3 Time Scope

The study considered a time scope of three years from 2017 to 2019, this was so because 2018 is the year when training of commercial cyclist in Kampala started by different digital app private limited companies like Safe boda, Uber, Taxify among others whose employees (riders) are trained commercial cyclists in and around Kampala according to <https://www.safeboda.com> website. The time chosen was sufficient to enable the researcher collect reliable information for the study.

1.8 Significance of the Study

Motorcyclists

Basing on these objectives the study has various significances such as; understanding the importance of training to motorcyclists and also helping these motorcyclists to have positive attitudes towards training as a way to safe guard their lives and other road users in their operational areas of Kampala Central Division.

Planners and policy makers

The study will help planners and policy makers in their process of planning and making of policies and hence will help in addressing the problem of accidents among commercial cyclists. The dissertation will be used as reference material by future researchers interested in further research on commercial cyclists and its effects on accidents.

Future researchers

The study will help future researchers on addressing the same issue or another issue related to this study. By recognizing the factors for positive attitude among motorcyclists towards training, the study will help the government to embark on ways which can have an effect to motorcyclists towards training and hence having safe roads and decongestion of the hospitals.

General Public

The General Public will benefit from the study by knowing that the motorcycles as a mode of transport is safe and thus have confidence in using it and avoid using much expensive modes of transport and increase employment to motorcyclists.

1.9 Operational Definition of Key Terms

Training; refers to the teaching (a person or animal) a particular skill or type of behavior through regular practice and instruction.

However in this study training refers to the act of imparting specific skills and knowledge among Bodaboda cyclists as a way for their observance of road safety laws.

Cyclists Training; This means teaching and imparting motorcyclists with skills on road safety and riding safely on the road as they carry out their daily operations on the road in the city through regular practice and instruction.

Road; road means the carriageway or portion of any road to which the public has right of access for vehicular traffic being that portion commonly in use for vehicular traffic, and includes the portion of any bridge used for that purpose (The Transport Licensing Act 1973).

Accidents; refers to unexpected adverse event. May be a fall, crash, collision, and explosion (Portal 2013) in case of this study are defined as collision or similar incident involving a moving vehicle, resulting in property damage, personal injury or death (Microsoft Encarta 2015).

Commercial cyclist; is a transport service that is used to transport people using a motorcycle at a given price rate. In this study it is used to mean the transport service for people from one place to another by using motorcycle.

Cyclists head on Accidents; This refers to an accident that involves two cyclists on the road colliding at the same spot, thereby causing personal injuries and damages of motorcycles involved.

Cyclist –Pedestrians Accidents; this refers to a type of accident that involves a cyclist knocking down or partly a pedestrian on the road. This may either be on specified lane for cyclists, pedestrians of general lane.

Motor vehicle –Cyclists accidents; these meant accidents where a motor vehicle knocks or crashes a cyclist on the road or either way round.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter dealt with the introduction, theoretical review, conceptual framework, empirical review on the related studies on the independent and dependent variables plus an assessment for the research gaps. It also dealt with the literature to the study.

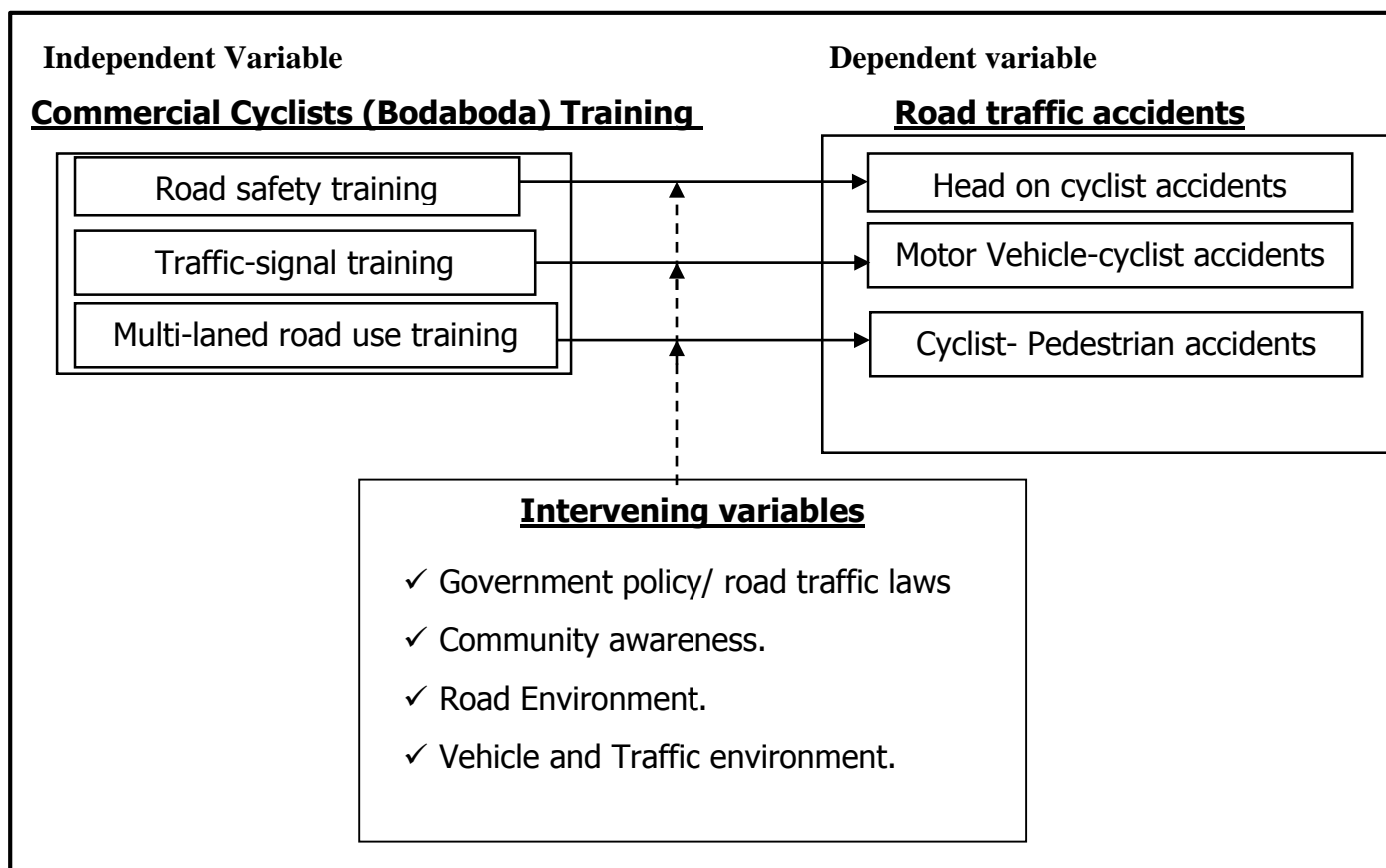
2.1 Theoretical Review

The study was guided by the Four-Level Training Evaluation Theory developed in 1959 by Kirkpatrick. The theory states that learning can be measured in different ways or levels depending on the training objectives, and whether the interests to impart knowledge, skills, or change of attitude. It's important to measure this, because knowing what trainees are learning and what they aren't will help to improve future training as cited by Pratt (2009) and Ritchey (2011). Similarly, training of cyclist if objective ought to focus on changing their road behavior so as to enhance change which would reduce on the nature of accidents caused due to lack of sufficient training on road safety laws. Level 3: Behavior evaluates how far trainees have changed their behavior, based on the training they received. Specifically, this looks at how trainees apply the information (Montoro, 2011). Relatedly, Cyclist training is key in the observance of road safety laws if well conducted and regulated by competent authority, it can greatly impact on the reduction of road accidents especially during peak hours.

Kirkpatrick (1959) as cited in Christie (2001), indicated that it's important to realize that behavior can only change if conditions are favorable. For instance, imagine measurement at the first two Kirkpatrick levels if skipped and, when looking at group's behavior, determine that no behavior change has taken place. Therefore, it assume that trainees haven't learned anything and that the training was ineffective. However, just because behavior hasn't changed, it doesn't mean that trainees haven't learned anything. Perhaps their boss won't let them apply new knowledge. Or, maybe they've learned everything you taught, but they have no desire to apply the knowledge themselves. Christie (2001), further asserts that, at Level 4: Results are considered, it analyzes the final results of the training. This includes outcomes that organizations has determined to be good for business, good for the employees, or good for the bottom line as stated by Widyastuti & Mulley, (2005). This is in agreement with Clinard (2008), who asserts that the variables for road safety education theory was whether a

driver, cyclist had graduated from a professional driving school or not as key in the determination of ones readiness to operate on the road. The application of this theory therefore, clearly rims with the variables of cyclist trainings on road safety (dependent variable) and the occurrence of road traffic accidents (independent variable) which take different forms of Head on cyclist accidents, Cyclist- pedestrian caused accidents and motor vehicle – cyclist accidents in Kampala city as illustrated in the conceptual framework.

2.2 Conceptual Framework



Source: Adopted from Sisimwo (2014).

The conceptual framework shows that the independent variable was commercial cyclists training which was measured in terms of road safety training, traffic-signal training and multi-laned road use training whereas the dependent variable was road traffic accidents which was measured in terms of head on cyclist accidents, motor vehicle – cyclist accidents and cyclist-pedestrian accidents that are lead cause of deaths, permanent disabilities of both cyclists and other road users.

The available evidence shows that Kampala central division alone is estimated to have between 20,000–38,000 BodaBoda cyclists and two patients die on average every week as a

result of BodaBoda accident (Aggrey. S et al, 2019). The National Referral Hospital (Mulago) alone receives between 10 – 20 victims of Boda Boda accidents daily. In the same evidence it is also established that, the probability of the cyclists being injured in that same accidents is higher than that of car users (Widyastuti and Bird 2004). That means that, the pain, suffering, losses of life as well as the economic burden of BodaBoda accident is equally huge on the victims and their families as well as the whole nation.

2.3 Review of related literature

This was presented following the study objectives;

2.3.1 Effects of road safety training on road accidents

This is viewed as a variable for road safety, it also looked at whether a rider or a driver has undergone proper road safety training or not (Montoro,2011).Road safety training supporters argue that, individuals should be exposed to road safety training that is, they should take courses in primary or secondary levels or professional driving schools, this knowledge will help them distinguish which road behaviors are either risky or safe to avert cyclist head on accidents or other forms of accidents.

Thomson et al. (2016), argued and proposed that, a set of principles where the link between road safety training and road accidents can be met in sociological terms, this would mean that, processes of primary or secondary level or professional driving schools will definitely have a positive impact on the road users safety behavior and hence an effect on accident in any form by cyclists. In other words when the individual's behavior is changed through road safety training, that will have an impact on the road users and therefore as a result, that will definitely have an effect on the reduction of cyclist head on road traffic accidents per say in Kampala Central Division.

Due to road safety training, the idea of wearing quality helmets is to reduce the risks of deaths caused by cyclist head on accidents or even motor vehicle – cyclist accidents at least by 40% and risks of severe injuries by 70% (world health organization) (WHO, 2013). The safety model of safe boda as a digital app company that trains it's riders seems to be working continually to the other group of BodaBoda cyclists because of the incentives of all stakeholders by facilitating road safety training (Kobusingye et al, 2014).

2.3.2 Effect of first aid training on reduction of road traffic accidents

Mckenna (2014) stated first aid is a factor that reduces damage to health and loss of life in traffic accidents. It is therefore necessary to make even the lay population ready to give at least basic first aid. Czech driving schools offer only 4-h first-aid trainings that do not provide the appropriate level of competencies. Our team has designed a new conception of a 16-h experience-based first-aid course and compared its efficacy with the standard 4-h training.

Experience-based first-aid training, focused on knowledge and skills, as well as the psychological set-up, is an effective part of a driver's education that can help to reduce the numbers of fatalities and serious damage to health caused by traffic accidents (Williams, 2006). It is an important factor of traffic safety – useful for all drivers – and should become an integral part of all driving (improvement) courses. Further research is still necessary.

It is necessary to develop effective first-aid training methods and evaluate them. Experts agree that the reduction in the amount of information is essential in order for first-aid training to be successful (Naddumba, 2014). What is necessary is only the basic knowledge. In many countries, as well as in the Czech Republic, the system of dispatcher-assisted resuscitation is well elaborated. After the emergency numbers are called, the operators are ready to provide help and advice. Therefore there are no high requirements on any special knowledge of the first-aid providers.

Mckenna (2014) stated that BodaBoda riders have become notorious for ignoring traffic regulations, overloading, risk taking and not wearing helmets. In 2010 it is observed that, at least 3,000 people died due to road accidents or crashes in Uganda of which 17% are of BodaBoda operators and majority were within Kampala City Centre (Roehler et al 2013). It is also noted that, crashes and fatalities are rampant to the extent that Mulago Hospital National Referral Hospital has dedicated specific department for BodaBoda crash. These BodaBodas operate in same parts of the country including central city of Kampala, to offer public transport for passengers and cargo. Interestingly, the BodaBodas and passengers majority do not wear protective gear for their safety, and that is quiet dangerous in case of a crash.

Quite often the Boda Bodas load more than 2 passenger plus the rider, in most cases you will realize that, the male passenger sit behind the rider and place the feet well on the footrest while the female passenger with their long dresses prefer sitting behind and the riders tend to

ride in a zigzag way not only that, but also they tend to over speed to beat the traffic jam, a situation that many cases leads to accidents in the city. Daily nation (Naddumba, 2014).

It is also believed that some of them are not licensed, they operate 24 hours service but the busiest peak hours are day time. Some of them are also believed to ride under influence of alcohol drugs that means majority do not take the riders course before joining the business. It is believed that, as a result of these risk factors, the commercial cyclists have been responsible for serious injuries and yet some of it have been leading to death (Naddumba, 2014).

2.3.3 Effect of traffic-signal training on reduction of road traffic accidents in Kampala Central division

The contemporary roadside environment in many urban and suburban areas is typified by a burgeoning visual complexity, with advertising signs, neon lights, and gaudy billboards dominating the visual landscape (Nyachieo, 2012). Although some recent studies have attempted to evaluate the impact of such development from an essentially aesthetic perspective, surprisingly little research has examined the relationship between this array of potential visual distractors in the roadside environment and traffic safety. This concern is underscored by three recent on-site accident investigation studies which have estimated that between ten and twenty-five percent of automobile accidents involve distraction as a principal causative factor (Odero, 2013).

Although ordinances exist in most local communities which regulate the placement, size, and light intensity of commercial signs, such regulations are often very vague (Nyachieo, 2012). One local regulation, for example, prohibits "any change in light intensity, motion, or color which subconsciously fixates or attracts the eyes of the motorist when they should be driving. A Very little inquiry has been directed toward visual distractors and traffic accidents in field settings, and those data that do exist are both contradictory and open to methodological criticism. Two studies have reported positive correlations between the presence of advertising devices and automobile accidents on multilane highways. In addition, two studies have indicated a positive relationship between traffic accidents and the number of elements in the roadside environment, such as commercial establishments, 6 intersections, driveways, and traffic signals. Other evidence, however has reported no relationship between highway accidents and advertising signs, (Odero 2013).

Kumar (2011) noted that the motorcyclists tend to over speed, overload their machines for a quick return. Because of the recklessness, indiscipline and lack of respect for other road users by the BodaBoda cyclists and yet mainly or the majority are the youths, the ends results is that they cause accident. Relatedly, it has been argued that victims of BodaBoda accidents are business men and women, and students because of rush through heavy traffic to get to their business and school.

Relatedly, the use of helmets has been established as one of the effective ways of protecting motorcyclists and the passengers from head injuries and fatalities resulting from motorcycle crashes. Many riders were reportedly asked whether they use helmets more than 80% out of the 882 were found not to be using the helmets and yet involved in accidents as noted by Nyachio, (2012). Thomson (2016) observed that, the Boda Boda behavior training is equivalent to driver's education for a car driver's skills, meaning that, proper training is required by the government to the motorcycle riders (BodaBoda).

Manyara argued that, same program has been implemented in Kenya, where 85% of the crashes caused by bad behavior and poor drivers behavior, and the driver's error represent 44.4%. Training is useful in that, it skills the riders to become more responsible and hence brings a lot of advantages such as discipline, reduce accident, eases their practices among others (Odero 2013).

Muhumuza (2012), observed that, the state of commercial cyclists and other users are vulnerable, thus in agreement with Naddumba's study carried out in Mulago Hospital Kampala Uganda on BodaBoda injuries. Naddumba cited, that drunk riding and other drug abuse associated with over speeding which were major courses of injuries (Naddumba (2014). Naddumba goes ahead and found out that, most of the victims of the injuries were mostly business fraternity and students rushing to work place and schools. Most of the BodaBoda riders asked whether thy attended formal driving schools to permit them riders on the roads and majority were not and did not know the consequences of drug abuse in relation to riding on the road causing major injuries (Naddumba, 2014).

2.3.4 Effect of multi-laned road training on reduction of road traffic accidents

Pedestrians involved in crashes more often sustain multiple injuries resulting in death or disability than do car occupants (Odera, 2013). In Europe, 66% of fatally injured pedestrians are struck by the fronts of cars, 11% by other parts of cars and 23% by other types of motor

vehicle. In low-income and middle-income countries, other types of motor vehicle are more often involved.

In all countries, such road users tend to sustain multiple injuries to the head, chest and legs. Head injuries contribute to most deaths and leg injuries to most cases of long-term disability. In low-income and middle-income countries, buses, minibuses and trucks – including open backed trucks for transporting passengers – are frequently involved in crashes and often do not meet the standards of crashworthiness demanded in high-income countries (Odero 2013).

Multi-laned road training of the commercial cyclists is very crucial if the mindset of the rider is to be changed, and it is important factor in mitigating the risk of motorcycle crashes. For example, in order to avoid such a crashes by the motorcycles with other road users in multi-laned roads, in United States only 3 states are allowed where riders are to be license and operated, and such include Florida, Rhode Island and Marine (Odera,2015).

According to Road Safety Act (85), multi-laned road use training will regulate and reduce on the accident that will warn and guide the road users basing on its warning signs on multi-laned road. They emphasize on motorists to leave their lights on to help them increased on easy visibility during day time, use of reflective jackets will help them further enhance their conspicuity. The graduate licensing system, the duo observed that this system is being done in Canada by Nova Scotia Registry of motor-vehicle to ensure that proper licensing of new riders that is apprehensive and cautious on the multi-laned roads. This is in line with Lund (1986) who is in agreement with Mahlstein (2009) who states that, the riders without Nova Scotia license are required to get license through the graduate motorcycle training system done by the Nova Scotia registry of motor vehicles.

Sisimwoet al.,(2014) observed that, the commercial motorcycle crashes victims are mostly the youth who were in their productive youthful ages and others involved in the crashes were the pedestrians, riders as well as the passengers on multi-laned roads. However, the most affected victims of the crashes were the riders themselves and other passengers especially the ones found not to be wearing helmets at the time. Important to note is that, most riders were found not to undergone formal training before riding the motorcycles and that pauses a serious danger to the public.

2.4 Research gaps

A critical literature review made for this study have identified several gaps that need to be addressed which this study will accomplish that task. First of all, there is an inadequate study that has researched the effect of commercial cyclists training on reduction of road traffic accidents in Uganda. At the same time few studies such as Onokala (1995),Obara(2009) conducted in Kenya reported that commercial cyclists training are ignored, but this is presented in the context of motor cycle riders who reported don't want to use helmet, ignore multi-lane road use laws and road traffic signal signs. The study therefore attempted to explore the impact created by the evolving digital app cyclist private companies like safe boda, Taxify, Uber that have invented the idea of training their cyclist with road safety skills as a way to curb road traffic accidents in all forms in the city through use of digital app to connect with passengers and strict observance of road safety laws.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter dealt with the introduction, research design, target population, sample size, sampling procedure, research instruments, validity and reliability, data gathering procedure, data analysis, ethical consideration, and limitations of the study.

3.1 Research design

The study employed descriptive correlation survey design that was aimed at giving a detailed account and in-depth description of the views of the respondents in regard to the two variables and clearly gave the significant relationship between Commercialized cyclists training on road safety and the reduction of road accidents in Kampala central division.

Both qualitative and quantitative techniques of data collection were used. In qualitative method the study based on describing correlation of the data and later on, it was backed by the statistical measurement as established from the constructs. It was also qualitative in a sense that, the respondents described various activities and characters the commercial cyclists within Kampala Central division. It used quantitative approach because, it also employed the use of statistical data to examine the trend of the accident occurrence in Kampala Central division.

3.2 Study Population.

The study population was extracted from a total population that were involved in the study investigation in Kampala City central, despite possible existence of unregistered riders which might rise the number above as stated by Aggrey et al, (2019). From that study population, 38,000 riders found in Kampala Central Division formed the target population for the study.

3.2 Target Population

The target population of the study was 38,020 respondents that comprised of 12,000 trained commercial registered cyclists, 26,000 Non Trained Registered cyclist and 20 Officials of the digital app private companies which invented cyclist trainings in Kampala (Aggrey et al,

2019). The sample size of the respondents was extracted from the said target population using the solvens formular so as to give accuracy to the data collected.

3.3 Sample Size

The study used the solvens formular to determine the sample size of 395 respondents (Amin, 2005) that comprised of trained commercial registered cyclists, Non Trained Registered cyclist and Officials of the digital app private companies. This was big enough sample to generate accurate data that was used to give a clear representation of the whole population of cyclists and the situation in Kampala central division as shown in the table below; $n = \frac{N}{1+Ne^2}$

n = sample size

N = the population size

e = level of significance, fixed at 0.05

$$n = \frac{38,000}{1 + 95 (0.005)}$$

n = 395 respondents

Table 3:1: Shows population and Sample size

Respondents	Target population	Sample size
Trained Bodaboda cyclists	12,000	123
Non Trained Bodaboda cyclists	26,000	270
Official of Digital app Companies	20	02
Total	38,020	395

Source: KCCA Bodaboda Report (2017)

3.4. Sampling procedures

Purposive sampling

The researcher used purposive sampling to obtain the respondents of both the trained Bodaboda cyclists and non-trained Bodaboda cyclists who were randomly selected so as to

get unbiased and equal representation of the respondents in the study. In that way, every respondent had an equal opportunity to be selected.

Purposive sampling

Purposive sampling was used to select the respondents from among the officials of the digital app private companies that run Bodaboda trainings and commercial cycling as a business among other respondents who directly affected by bodaboda cyclist business. This was so because, they had authoritative information about the phenomenon of study. The method was also appropriate because the sample selected comprised of persons who have the idea of the business and could provide data that was comprehensive enough to gain better insight into the problem.

3.5. Data collection tools

3.5.1 Self-administered questionnaires

The researcher used questionnaires as the main primary source of data collection. 393 Close ended questionnaires were used in the collection of data and these were distributed to the respondents mainly Bodaboda cyclists involved in the study to provide answers. The instrument was purposely selected because it sought personal views of the respondents and thus enabled the respondents to use their knowledge in providing a wide range of data as they would never shy away in any way.

3.5.2 Interviews

Interviews were conducted by the researcher mainly on the respondents from the Officials of the Digital private companies. This was aimed at further probing of the respondent's view about the topic of study and the variables identified. It also enabled the researcher to generate the qualitative findings of the study.

3.6 Validity and reliability of the instruments

3.6.1 Validity of the instruments

The validity and reliability of the instruments was obtained from the responses the researcher expected from the respondents. It is the direct observation by the researcher basing on what responses he expected from the respondents. That was examined to determine the validity and

reliability bearing in mind the objective of the study. According to Carole L. et al, (2014) validity determines whether the research instrument measures truly what it is supposed to measure or how truthful the research results are. In other words, does the research instrument allow you to hit “the bull’s eye of your research object? As Almutg, (2014) argues validity refers to the ability of an instrument to produce findings that are in agreement with theoretical or conceptual values or ability to measure what it is meant to measure. To test the content validity, the researcher used a panel of ten experienced researchers in the domain to assess their suitability and relevancy of the research objectives of the study and research questions. They were asked to assess the validity of the questions in the questionnaire by ranking them from 1 to 4 against objectives of the study and the research questions. 1-representing strongly disagree, 2-Disagree, 3-Agree, and 4 for strongly agree. From there, a Content Validity Ratio (CVR) and Content Validity Index (CVI) were calculated. CVR was calculated by subtracting the total number of items judged to strongly disagree (1), and disagree (2) from the total number of items judged to strongly agree (4) and agree (3), thereby dividing them to a half of people asked to judge the questionnaire. Then a content validity index (CVI) was computed using the following formula;

$$CVI = \frac{\text{No of items declared valid}}{\text{Total No of items in the questionnaire}}$$

$$CVI = \frac{25}{30}$$

$$CVI = 0.83$$

3.6.2 Reliability of the Instruments

If each time questions are or was asked and the answers from the respondents are similar or consistent, then the instrument was considered reliable. Reliability is the degree in which instrument is consistent. And the instrument is said to be valid when it actually measures what it is supposed to measure (Amin 2005).

Reliability of the instrument was established through a test-retest technique. If the test consists of n items and an individual's score is the total answered correctly, then the coefficient is given by the formula:

$$\alpha = \frac{n}{n-1} \left[1 - \frac{1}{\sigma^2} = \sum_{t=1}^n \sigma^2 \right]$$

Where σ^2 is the variance of the total scores and is the variance of the set of 0,1 scores representing correct and incorrect answers on item one. The theoretical range of the coefficient is zero to one. Suggested guidelines for interpretation are < 0.60 unacceptable, 0.60 – 0.65 undesirable, 0.65 – 0.75 minimum acceptable, 0.70 – 0.80 respectable, 0.80 – 0.90 very good, and > 0.90 considered shortening the scale by reducing the number of items. Table 1 shows each main constructs of the model considered acceptable since the cornbach's Alpha related to each of them exceeded 0.70, confirming a satisfactory reliability.

Table 3.7.1: Showing Cornbach's Alpha

Construct variable	Cornbach's Alpha	No. of items
Road safety training	0.92	4
Traffic-signal training	0.78	4
Multi-laned road use training	0.75	3
Cyclist head on accidents	0.83	6
Motor vehicle – Cyclists accidents	0.85	6
Cyclists – Pedestrian accidents	0.83	5
Mean	0.85	

Source: Primary data (2019)

The mean for reliability test is established at 0.85 which is well above 0.70 and therefore the internal consistency (reliability) of the instrument was confirmed.

3.7 Data gathering procedures

The researcher obtained an introductory letter from College of Higher Degree and research of Kampala International University to the selected institutions around Kampala Central division that was intended to carry out the studies authorizing him carry out the research on the selected respondents in and around selected institutions within Kampala Central division .

The questionnaire was prepared by the researcher with the guidance of the supervisor based on the research sampling technique agreed on. The researcher was asked to request the respondents to Sign the informed content.

Answering all questions without leaving some to the questionnaire and also being objective in answering was highly encouraged by the researcher. The retrieving of questionnaire took 14 days and were checked to ensure all were filled and finally data collected was coded in computer and statistically treated using SPSS software.

3.8 Data Analysis

The statistical package which was used for analysis of data in this study was SPSS version 16.0. Different statistical techniques were used namely: Data on demographic characteristics of respondents was analyzed using simple frequencies and percentage distributions. Means and standard deviations were used to determine the extent of commercial cyclists training and road accidents. An item analysis helped to identify the strengths and weaknesses of respondents in terms of Commercial cyclists training and accidents from which conclusions were derived. The following numerical values and response modes were used to interpret the means;

Table 3.8.1: Showing Mean range interpretation table

Mean range	Response mode	Interpretation
3.26-4.00	Strongly agree	Very high
2.51-3.25	Agree	High
1.76-2.50	Disagree	Low
1.00-1.75	Strongly disagree	Very low

Source: Primary data (2019)

Decision rule

The hypothesis was rejected since the significant value was found to be less than 0.05 (Sig=0.000). This led for the null hypothesis to be accepted and the alternative rejected.

Régression équation

$$y = a + b_1x_1 + b_2x_2 + b_3x_3 \text{ et} \dots\dots\dots 3.3$$

Where; y =DV (dependent variable), a =constant, b = Beta, x =independent variables (IVs)

X_1 =road safety training

X_2 = traffic-signal training

X_3 = Multi-laned road use training

y =accident

e_t =error term

3.9 Ethical Considerations

The research process was guided by sound ethical principles which included the following;

Objectivity; the researcher also ensured objectivity when carrying out the study whereby any attempt to bias results were considered unethical and therefore avoided.

Confidentiality; the respondents were also assured of confidentiality and anonymity. Their names were not written anywhere in the report and the information was given and only used for academic purposes.

Respect; the researcher ensured that respect was given to respondents. Respect was encompassed respecting and the opinion of the respondents including the opinion to terminate the interview whenever they felt uncomfortable to continue being questioned especially for very personal and sensitive questions.

3.10: Limitations of the study

The researcher claimed an acceptable (0.05 level of significance) 5% margin of error in view of the following anticipated threats to validity with relevance to this study:

Time and conditions: Differences in conditions and time when the data was obtained from respondents by different persons on different days at different hours. This was challenging but, minimized since the researcher was well conversant with the sampling techniques and data gathering procedures.

Challenge in gathering required numbers: The calculated number of respondents could not easily be reached considering the fact that, some questionnaires could not be returned due to

circumstances beyond the control of the researcher. The researcher endeavored to attain the appropriate number of respondents for reasons of representativeness.

Rain: This was a problem in that, sometime it could rain almost the whole day and that made it almost impossible to collect the necessary data. This was minimized by use of umbrellas and perseverance to make sure something id realized in that day.

Fear of uncertainty: Some members of the public were not certain of whether their views were being taken for something else or indeed for study purposes, this was a challenge. However, this was minimized by assuring them of their confidentiality and the commitment to safeguard their fear.

Extraneous: Extraneous variables beyond the researcher were controlled such as honesty of the respondents, personal biases and descriptive nature of the design. The researcher overcame this by making appropriate questionnaires.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND ANALYSIS

4.0 Introduction

This chapter shows the demographic characteristics of respondents, effect of road safety training on reduction of road traffic accidents, effect of first aid training on reduction of road traffic accidents, effect of traffic-signal training on reduction of road traffic accidents, effect of multi-laned road use training on reduction of road traffic accidents in Kampala Central division.

4.1 Demographic characteristics of respondents

Table 4.1 Showing Demographic characteristics of respondents

Category	Frequency	Percent
Age		
Below 25 years	187	47
26-35 years	129	33
46 years and above	79	20
Total	395	100
Class of operation		
Safe Boda	129	32
Taxify	52	13
Organized (staged Boda)	138	35
Mobile (non-staged Boda)	84	21
Digital app Company officials	02	0.5
Total	395	100
Marital status		
Single	206	52
Married	189	48
Total	395	100
Level of education		
Primary	155	39
Secondary	180	45
Certificate	39	11
Diploma	16	4
Degree	5	1
Total	395	100

Source: Primary data, 2019

Concerning age, results in table 4.1 indicated that most of respondents in this sample were below the age of 30 years this also implied that majority of respondents in this sample were in their early adulthood and constituted 47%, these were followed by those between 30 -45 year of age constituting 33%, hence indicating that these were in their middle adulthood, 20% were 46 years and above.

Regarding class of operation, results in table 4.1 indicated that majority of respondents in this sample were operating under organized stage (35%), these were followed by those working with Safe Boda Company (32%), 21 % are mobile (non-staged Boda) riders and 13% were riding under Taxify with 0.5 % being officials from the digital private commercial cyclist companies. Concerning marital status, results in table 4.1 indicated that majority of respondents in this sample were single 206 (52%), yet 189 (48%) were married, hence implying that majority of commercial cyclists in Kampala Central division, Uganda are single. With respect to level of education; the study further showed that those who stopped at Primary level were 155 (39%), 180 (45%) stopped at secondary level, 39 (11%) had certificate, 16 (04%) were diploma holders and 5 (1%) were degree holders. Hence observing that majority of commercial cyclists in Kampala Central division did not go far with academics.

4.2 Commercial cyclists training

The independent variable in this study was commercial cyclists training, this variable (IV) was broken into four constructs and these are; road safety training (with four items/questions), first aid training (with four questions), traffic-signal training (with four questions) and multi-laned road training (with three questions). Each of these questions was based on a four point Likert scale whereby respondents were asked to rate the commercial cyclists training by indicating the extent to which they agree or disagree with each question, and their responses were analyzed using SPSS and summarized using means and ranks as indicated in table 4.2;

Table 4.2 Showing Commercial cyclists training

Items on commercial cyclists training	Mean	Interpretation	Rank
Road safety training			
Equipping of commercial cyclists with road safety skills can reduce on number of accidents	3.28	Very high	1
Majority of Boda Bodas and passengers do not wear protective gear for their safety	2.77	High	2
Most riders did not go through formal riding schools	2.65	High	3
Training is more necessary when riding in the city than outside-the city areas	2.44	Low	4
Average mean	2.76	High	
Traffic-signal training			
Commercial cyclists are always trained about the typical sequence of colour phases	2.45	Low	1
Practical workshops on traffic-signal training are always organized in order to teach riders	2.32	Low	2
Riders are always informed on the importance of using helmets	2.20	Low	3
Short lectures traffic-signal training are always organized to the riders	1.43	Very low	4
Average mean	2.10	Low	
Multi-laned road use training			
BodaBodas are always informed not to load more than two passengers plus the rider	2.54	High	1
Commercial cyclists are always trained on how they should complete an overtaking maneuver quickly	2.38	Low	2
Commercial cyclists are always trained on when they must keep left on a multi-laned road	1.63	Very low	3
Average mean	2.18	Low	
Overall mean	2.48	Low	

Source: Primary Data, 2019

Key for Interpretation of means

Mean range	Response range	Interpretation
3.26 - 4.00	Strongly agree	Very high
2.51 - 3.25	Agree	High
1.76 - 2.50	Disagree	Low
1.00 - 1.75	Strongly disagree	Very low

Source: Primary Data, 2019

Results in table 4.2 noted that commercial cyclists training in in Kampala Central division is generally rated low and this was indicated by the overall mean of 2.48, implying that the commercial cyclists in Kampala Central division are facing relatively low levels of training.

With respect to road safety training; results indicated that road safety training was rated high and this was indicated by the average mean (mean=2.76), implying that road safety training exists and applied among commercial cyclists in Kampala, Uganda though not effectively done. Results still indicated that equipping of commercial cyclists with road safety skills can reduce on number of accidents (mean=3.28), majority of BodaBodas and passengers do not wear protective gear for their safety (mean=2.77), most riders did not go through formal riding schools (mean=2.65), training is more necessary when riding in the city than outside-the city areas (mean=2.44).

With respect to traffic-signal training; results in table 4.2 connoted that traffic-signal training was also measured using four items (questions) and it was rated low (mean=2.10). Results still indicated that commercial cyclists are always trained about the typical sequence of colour phases (mean=2.45), practical workshops on traffic-signal training are always organized in order to teach riders (mean=2.32), riders are always informed on the importance of using helmets (mean=2.20), short lectures traffic-signal training are always organized to the riders (mean=1.43).

In relation to multi-laned road training; results indicated that this was rated low and this was indicated by the average mean (mean=2.18), implying that multi-laned road use training has not been effectively done among commercial cyclists in Kampala, Uganda. Results still indicated that BodaBodas are always informed not to load more than two passengers plus the rider (mean=2.54), commercial cyclists are always trained on how they should complete an

overtaking maneuver quickly (mean=2.38), commercial cyclists are always trained on when they must keep left on a multi-laned road (mean=1.63).

4.3 Road Traffic Accidents

Road Traffic Accidents is the dependent variable in this study and was broken into two constructs and these are; Deaths (with six questions) and long stay in hospitals (with four items). Each of these questions was based on a four point Likert scale and respondents were asked to rate the accidents by indicating the extent to which they agree or disagree with each question, their responses were analyzed using SPSS and summarized using means as indicated in tables 4.3;

Table 4.3 Showing Road traffic accidents

Items on road traffic accidents	Mean	Interpretation	Rank
Head on Cyclists Accidents			
Cyclists are lead causers of Road Traffic Accidents in Kampala Central Division	3.42	Very high	1
Trained Cyclists observe Road safety laws while on the road	3.12	High	2
Training on road safety is key in reducing cyclists head on accidents.	3.12	High	3
There are clear road safety laws for all motorists in Kampala	2.94	High	4
Cyclists-Cyclist accidents occur mainly due to limited knowledge about road safety laws.	2.91	high	5
Non Trained Cyclists observe Road safety laws while on the road	2.41	Low	6
Average mean	2.97	High	
Motor vehicle – Cyclists Accidents			
Motor vehicle-cyclists accidents occur due to non-observance of Traffic signals by cyclists on the road	3.37	Very high	1
Road traffic injury is a great public health challenge and a leading cause of disabilities in Kampala	2.82	High	2

Items on road traffic accidents	Mean	Interpretation	Rank
Head on Cyclists Accidents			
Cyclists are lead causers of Road Traffic Accidents in Kampala Central Division	3.42	Very high	1
Trained Cyclists observe Road safety laws while on the road	3.12	High	2
Training on road safety is key in reducing cyclists head on accidents.	3.12	High	3
There are clear road safety laws for all motorists in Kampala	2.94	High	4
Cyclists-Cyclist accidents occur mainly due to limited knowledge about road safety laws.	2.91	high	5
Non Trained Cyclists observe Road safety laws while on the road	2.41	Low	6
Motor vehicles in Kampala Central Division highly respect Traffic signals.	2.46	Low	4
Trained cyclists respect traffic signals on the road	2.74	High	3
Non Trained cyclists respect traffic signals on the road	1.82	Low	5
All cyclist in Kampala Central Division receive trainings about Traffic signals before hitting on the road.	1.73	Very low	6
Average mean	2.59	High	
Cyclist-Pedestrian Accidents			
cyclists often knock pedestrians on Kampala Central Division roads	3.21	High	1
Trained cyclists respect pedestrians walk ways in Kampala Central Division	3.11	High	2
Trained Cyclists respect zebra crossings on the road	2.87	High	3
Pedestrians cross only at zebra crossings to avoid being knocked mainly by Cyclists	2.61	High	4
Non Trained cyclists respect pedestrian walk ways in Kampala Central Division	1.78	Low	5

Items on road traffic accidents	Mean	Interpretation	Rank
Head on Cyclists Accidents			
Cyclists are lead causers of Road Traffic Accidents in Kampala Central Division	3.42	Very high	1
Trained Cyclists observe Road safety laws while on the road	3.12	High	2
Training on road safety is key in reducing cyclists head on accidents.	3.12	High	3
There are clear road safety laws for all motorists in Kampala	2.94	High	4
Cyclists-Cyclist accidents occur mainly due to limited knowledge about road safety laws.	2.91	high	5
Non Trained Cyclists observe Road safety laws while on the road	2.41	Low	6
KCCA roads have designated lanes for each road user in Kampala Central Division	1.50	Very Low	6
Overall mean	2.78	High	

Source: Primary Data, 2019.

Key for Interpretation of means

Mean range	Response range	Interpretation
3.26 - 4.00	Strongly agree	Very high
2.51 - 3.25	Agree	High
1.76 - 2.50	Disagree	Low
1.00 - 1.75	Strongly disagree	Very low

Results in table 4.3 indicated that the level of cyclist caused accidents is generally high and this was indicated by a mean of 3.42 that was rated Very high and implied that commercial cyclists always cause most of the accidents in Kampala Central division, Uganda. It was also established that trained cyclists observed road safety law while on the road which accounted for a mean of 3.12 that was ranked high, and thus implied that if all cyclists in the city underwent organized training about road safety head on cyclist accidents would reduce. On the other hand however, the study findings showed that non trained cyclists rarely observed road safety laws given the mean average of 2.41 which was ranked low.

The study also found out that, training on road safety is a key element in reducing cyclist head on accidents with a mean of 3.12 that was ranked high and so implied that all cyclist ought to undergo a mandatory training about road safety before they hit on the road. Similarly the findings showed that there are clear road safety laws for all motorists in Kampala represented with a mean of 2.94 ranked high which implied that the relevant authority need to implement laws for enforce cyclists training on road safety laws as the get on the road. Results further revealed that cyclist-cyclist accidents occur mainly due to limited knowledge about road safety laws which accounted for a mean of 2.91 that was ranked high. It therefore implied that private digital app companies joining commercial cycling industry has a lot to do in regard to equipping their cyclists with adequate knowledge about road safety as a way to in the virgin industry of organized Boda boda cyclists.

The second construct under road traffic accidents was motor vehicle – cyclists accidents, results in table 4.3 further revealed that motor vehicle – cyclist accidents occur due to non-observance of Traffic signals by cyclists while on the road at a mean of 3.37 that was ranked very high and therefore implied that the number of cyclists knocked by motor vehicles are likely not to reduce in the nearby future if cyclists continue with their habit of non-observance of traffic signals on the road. It was also found out that Road Traffic injuries is a great public health challenge and a leading cause of disabilities in Kampala with a mean of 2.82 which was ranked high. This was backed up with a verbal narrative generated from one of the interviewees who was quoted saying “ *many people now days opt for digital app cyclists such as safe boda, because they highly respect traffic signals on the road*”, “ *I rather reach late but safe as most client say about the character of Digital app cyclists.....*”. In this regard, the study found out that motor vehicles in Kampala Central Division respected Traffic signals with a mean of 2.46 which was rated low and thus an equal attribute to the rampant increase I the occurrence of motor vehicle – cyclists accidents in Kampala Central Division. As far as Trained cyclists respecting traffic signals on the road it was found out that a mean of 2.74 rated high, respected traffic signals which accounted for the limited occurrence of such accidents especially among Digital app trained cyclists. However, for their counter parts the non-trained cyclists, respect for traffic signals accrued a mean of 1.82 and ranked low as a clear evidence that they do not care about what’s on the road, they do the contrary and further probing about all cyclist in Kampala central Division receiving trainings about Traffic signals before hitting on the road, a mean of 1.73

and ranked very low showed that majority of cyclists still lack this basic training yet it's essential.

The third and last item studied under road traffic accidents was Cyclist-Pedestrian accidents occurrences in Kampala Central Division, the study findings revealed that cyclists often knock pedestrians on Kampala road with a mean of 3.21 that was ranked high, this quantitative data was justified with the oral responses of some cyclist who were interviewed and quoted saying in a local *language* “*Owa boda boda takwatibwa jam*” which literally means a boda boda cyclist is never caught up in traffic jam. Another one said “*Pedestrians are knocked because they only focus on motor vehicles while crossing the road, and in turn a cyclist knocks him or her down*”. In regard to trained cyclists respecting pedestrians walk ways in Kampala, generated a mean of 3.11 ranked high, yet their counter parts the non-trained cyclists’ respect for pedestrians on the walk ways received a mean of 1.78 which was ranked low and thus implied that trained cyclist are the best riders that would suit riding in Kampala Central Division given their trainings and discipline on the road for other road users. This was justified with the construct which examined trained cyclist respect for zebra crossings on the road with a mean of 2.78 and ranked high. Conclusively, the study findings also showed that KCCA roads have designated lanes for each road user in Kampala Central Division with a mean of 1.50 ranked low and thus implied that multi-laned roads are still limited in the central division of Kampala.

4.4 Objective one; Effect of road safety training of cyclist on reduction of cyclist head on road traffic accidents among commercial cyclists in Kampala Uganda.

This objective intended to examine the Effect of road safety training on reduction of cyclist head on road traffic accidents among commercial cyclists in Kampala Uganda, single linear regression was used to analyze and fulfill this objective;

Table 4.4: Showing Results on Effect of road safety training of cyclist on reduction of cyclist head on road traffic accidents among commercial cyclists in Kampala Uganda.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.641 ^a	.411	.399	.36363

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.641 ^a	.411	.399	.36363

a. Predictors: (Constant), road safety training

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.338	1	4.338	32.811	.000 ^a
	Residual	6.215	47	.132		
	Total	10.553	48			

a. Predictors: (Constant), road safety training

b. Dependent Variable: Cyclist head on Accident.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.386	.256		5.421	.000
	Road safety training	.491	.086	.641	5.728	.000

Source: Primary data (2019).

Regression analysis results in the Model Summary table revealed that road safety training accounted for 41.1% on road traffic accidents among commercial cyclists in Kampala Uganda and this was indicated by r-squared of 0.411 implying that to small extent road safety training as a type of commercial cyclists training has a great impact on reduction of cyclists head on road traffic accidents among commercial cyclists in Kampala Uganda.

The ANOVA table indicated that road safety training as a strategy of commercial cyclists training significantly affects the accidents and this was indicated by the F-value=32.811 and Sig-value=.000, since the sig. value (0.000) was less than 0.05 which is the maximum level of significance required to declare a significant effect. This implied that road safety training as a system of commercial cyclists training has a great impact on road accidents among commercial cyclists in Kampala Uganda.

The coefficients table indicated that considering the standard error, road safety training significantly influences road accidents among commercial cyclists in Kampala Uganda ($\beta=0.491$, Sig=0.000). Given that the sig-value (0.000) is less than 0.05, the null hypothesis is rejected.

Decision rule

The hypothesis was rejected since the significant value was found to be less than 0.05 (Sig=0.000).

4.6 Objective two; Effect of traffic-signal training on Motor Vehicle-Cyclists road accidents

This objective established the effect of traffic-signal training of commercial cyclists on moto vehicle – cyclist road accidents in Kampala Uganda, single linear regression was used to analyze and fulfill this objective;

Table 4.5 Showing Effect of traffic-signal training on Motor Vehicle-Cyclists road accidents.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.752 ^a	.533	.279	.25252

a. Predictors: (Constant), Traffic-signal training

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.246	1	6.427	21.722	.000 ^a
	Residual	6.215	47	.132		
	Total	10.553	48			

a. Predictors: (Constant), Traffic-signal training of commercial cyclists

b. Dependent Variable: Motor vehicle –Cyclist accidents

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.497	.364		7.312	.000
	Traffic-signal training of commercial cyclists	.375	.163	.624	4.942	.002
a. Dependent Variable: Motor vehicle –Cyclist accidents						

Source: Primary data (2019).

Regression analysis results in the Model Summary table revealed that traffic-signal training of commercial cyclists accounted for 53.3% on road accidents in Kampala Uganda and this was indicated by r-squared of 0.533, implying that traffic-signal training of commercial cyclists as a strategy of commercial cyclists training has a great effect to reduction of road motor vehicle-cyclist accidents among commercial cyclists in Kampala Uganda.

The ANOVA table indicated that traffic-signal training of commercial cyclists significantly affects the reduction of road traffic accidents among commercial cyclists and this was indicated by the F-value=21.722 and Sig-value=.000, since the sig. value (0.000) was less than 0.05 which is the maximum level of significance required to declare a significant effect.

This implied that traffic-signal training of commercial cyclists highly affects the reduction of motor vehicle-cyclist road traffic accidents among commercial cyclists when cyclist observe traffic signals in Kampala Uganda. The coefficients table indicated that considering the standard error, traffic-signal training of commercial cyclists significantly influences the reduction of road accidents among commercial cyclists in Kampala Uganda ($\beta=0.375$, Sig=0.002). Given that the p-value (0.000) is less than 0.05, the null hypothesis is rejected.

Decision rule

The hypothesis was rejected since the significant value was found to be less than 0.05 (Sig=0.000).

4.7 Objective three; Effect of multi-laned road use training on cyclist pedestrian road accidents

This objective established the effect of traffic-signal training of commercial cyclists on cyclists-pedestrian road accidents in Kampala Uganda, single linear regression was used to analyze and fulfill this objective;

Table 4.6 Showing Effect of multi-laned road use training on cyclist pedestrian road accidents

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.556 ^a	.309	.305	.39698

a. Predictors: (Constant), Multi-laned road training.

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	14.227	1	14.227	90.280	.000 ^a
	Residual	31.833	202	.158		
	Total	46.060	203			

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.556 ^a	.309	.305	.39698

a. Predictors: (Constant), Multi-laned road training.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.715	.113		15.209	.000
	Multi-laned road training	.378	.040	.556	9.502	.000

a. Dependent Variable: cyclists-pedestrian.
Road accidents.

Source: Primary data (2019)

Regression analysis results in the Model Summary table indicated that multi-laned road training accounted for 30.9% on road accidents in Kampala Central division Uganda and this was indicated by r-squared of 0.309, implying that multi-laned road use training of road users like boda boda riders significantly influences 30.9% on reduction of cyclists-pedestrian road traffic accidents in Kampala Central division Uganda.

The ANOVA table indicated that multi-laned road training of boda boda riders has a significant impact on road accidents and this was indicated by the F-value=90.280 and Sig-value=.000, since the sig. value (0.000) was less than 0.05 and which is the maximum level of significance required to declare such a significant effect. This implies that multi-laned road training has a great impact on reduction of road traffic accidents in Kampala Central division Uganda. The coefficients table indicated that considering the standard error, multi-laned road training significantly affects the road accidents of boda boda riders ($\beta=0.556$, Sig=0.000).

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presented the summary discussion of findings, conclusions, recommendations, contribution to knowledge and suggested areas that need further research.

5.1 Summary of findings

This study examined the effect of commercial cyclists training on reduction of road traffic accidents in Kampala Central division, four specific objectives guided this study and these were) investigating the effect of road safety training on reduction of road traffic accidents in Kampala Central division; ii) establishing the effect of first aid training on reduction of road traffic accidents in Kampala Central division, (iii) to assess the effect of traffic-signal training on reduction of road traffic accidents in Kampala Central division and (iv) to examine the effect of multi-laned road training on reduction of road traffic accidents in Kampala Central division. The findings revealed the following; road safety training as a commercial cyclists training strategy influences road accidents among commercial cyclists in Kampala Uganda, there is a significant effect first aid training has on road accidents among commercial cyclists in Kampala Uganda, traffic-signal training of commercial cyclists significantly affects the reduction of road traffic accidents among commercial cyclists in Kampala Uganda, and multi-laned road training significantly affects the reduction of road traffic accidents in Kampala Central division Uganda.

5.2 Discussion of findings

Discussion of findings was done following the study objectives;

5.2.1. Effect of road safety training on reduction of Cyclists head on road traffic accidents in Kampala Central division Uganda

The findings indicated that road safety training significantly affects the reduction of road traffic accidents among commercial cyclists and other road users in Kampala Uganda. This effect therefore implies that road safety training as a commercial cyclists training strategy influences the reduction of road accidents among commercial cyclists in Kampala Uganda.

This finding is in line Thomson et al (2016) who argued and proposed that, a set of principles where the link between road safety and knowledge and road safety behavior can be met in sociological terms, this would mean that, processes of primary or secondary school or professional driving schools will definitely have a positive impact on the road users safety behavior and hence an effect on accident. In other words when the individuals behavior is changed through primary, secondary and professional institutes, that will have an impact on the road users and therefore as a result, that will definitely have an effect on the road or traffic accidents.

Road safety training is imparting the commercial cyclists' riders with the necessary skills for riding on public roads (Munyara 2013). The idea of wearing quality helmets is to reduce the risks of deaths at least by 40% and risks of severe injuries by 70% (world health organization) (WHO 2013). The safety model of safe BodaBoda seems to be working continually to the other BodaBoda cyclists because of the incentives of all stakeholders by increasing efficiency safety and providing environment for riders and increase their income as well, the safe boda transportation system was created for customers and support government authorities in improving transportation efficiency in Kampala Central division (Kisaalita, 2014).

5.2.3 Effect of traffic-signal training on the reduction of motor vehicle -cyclists on road in Kampala Central division Uganda

The findings indicated that traffic-signal training of commercial cyclists significantly affects the reduction of motor vehicle – cyclists road traffic accidents among commercial cyclists in Kampala Uganda, this effect therefore implies that traffic-signal training affects the reduction of road traffic accidents among commercial cyclists in Kampala Uganda. This finding is in line with Ayebare (2014) who noted that the use of helmets has been established as one of the effective ways of protecting motorcyclists and the passengers from head injuries and fatalities resulting from motorcycle crashes. Many riders were reportedly asked whether they use helmets more than 80% out of the 882 were found not to be using the helmets and yet involved in accidents (Ayebare, 2014). Manyara, (2013) observed that, the BodaBoda behavior training is equivalent to drivers education for a car driver's skills, meaning that, proper training is required by the government to the motorcycle riders (BodaBoda). The motorcyclists tend to over speed, overload their machines for a quick return. Because of the recklessness, indiscipline and lack of respect for other road users by the BodaBoda cyclists

and yet mainly or the majority are the youths, the ends results is that they cause accident. Relatedly, it has been argued that victims of BodaBoda accidents are business men and women, and students because of rush through heavy traffic to get to their business and school.

Clalya et al, (2010) observed that the state of commercial cyclists and other users are vulnerable, as also in Naddumba's study carried out in Mulago Hospital Kampala Uganda on BodaBoda injuries. Naddumba cited, that drunk riding and other drug abuse associated with over speeding which were major courses of injuries (Naddumba (2014). Naddumba goes ahead and found out that, most of the victims of the injuries were mostly business fraternity and students rushing to work place and schools. Most of the BodaBoda riders asked whether they attended formal driving schools to permit them riders on the roads and majority were not and did not know the consequences of drug abuse in relation to riding on the road causing major injuries (Naddumba, 2014). Manyara argued that, same program has been implemented in Kenya, where 85% of the crashes caused by bad behavior and poor drivers behavior, and the driver's error represent 44.4%. Training is useful in that, it skills the riders to become more responsible and hence brings a lot of advantages such as discipline, reduce accident, eases their practices among others (Odero 2013).

5.2.4 Effect of multi-laned road use training on reduction of cyclists - pedestrian road traffic accidents in Kampala Central division Uganda

The findings indicated that the multi-laned road training significantly affects the reduction of road traffic accidents in Kampala Central division Uganda, this effect therefore implies that multi-laned road training influences the reduction of road accidents in Kampala Central division Uganda. This finding is in line with Odera (2015) who noted that formal training of the commercial cyclists is very crucial if the mindset of the rider is to be changed, and it is important factor in mitigating the risk of motorcycle knocking pedestrians walking on their designated lanes in the city.

For example, in order to avoid such a crashes by the motorcycles with other road users, in United States only 3 states are allowed where riders are to be license and operated, and such include Florida, Rhode Island and Marine. This is only done when one is confirmed that he or she has indeed successfully completed riding training course with all the rules and regulations of the road, the dos and the don'ts together with their implications as part of the license

requirements. Other states provide riders road test for motorcycles and other requirements to see if they successfully completed the courses in the training and safe for motorcycle riding (Odera, 2015).

Accident involving motorcycles are on the increase in the sub Saharan Africa including Kenya, Uganda and other countries where BodaBodas are operated and this is due to lack of proper training among the riders. Overloading, over speeding and ignorant on the side of pedestrians on how they use the road. Odera, (2015), further cited that, there is limited research on motorcycle injuries and hence making it difficult to address their issues (Kenny, 2012).

5.3 Conclusions

From the findings and the corresponding discussions, the study drew the following conclusions.

5.3.1 Effect of road safety training on reduction of Cyclists head on road traffic accidents

According to the findings road safety training has a positive significant effect on road accidents among commercial cyclists in Kampala Uganda. Hence concluding that providing road safety training can lead to a reduction of road traffic accidents and improves the behaviour of commercial cyclists while on the road. This is because when the cyclists are well trained about their safety, they can be able to ride more carefully and avoid accidents on the road.

5.3.2 Effect of traffic-signal training on the reduction of motor vehicle- cyclists road traffic accidents

According to the findings of the study traffic-signal training of commercial cyclists has a positive significant effect on road accidents, majorly motor vehicle – cyclists caused accidents. There should be provision of a consistent and systematic method of traffic-signal training of commercial cyclists. Hence concluding that provision of traffic-signal training of commercial cyclists can lead to the reduction on road traffic accidents.

5.3.3 Effect of multi-laned road training on reduction of Cyclists- Pedestrian road traffic accidents

Although multi-laned road training has a significant effect on road accidents in Kampala Central division Uganda, there are major weaknesses of multi-laned road training for example temporally failure to use effective multi-laned road training due to traffic lights' disconnection and failure.

5.4 Recommendations

5.4.1 Effect of road safety training on reduction of Cyclists head on road traffic accidents

In respect to objective one on the road safety training on reduction of road traffic accidents. In respect of the above conclusions, Kampala Capital city authority should further empower the commercial cyclists by developing teams and give some measure of power and authority to these teams. In this way, commercial cyclists will ignite their potentials, feel part of the system and do their work effectively.

5.4.2 Effect of traffic-signal training on the reduction of motor vehicle- cyclists road traffic accidents

On the third objective, the researcher further recommends that it is important to designing traffic-signal training procedures that promote professional bodaboda riding. Hence reducing the recklessness, indiscipline and lack of respect for other road users by the BodaBoda cyclists.

5.4.3 Effect of multi-laned road use training on reduction of Cyclist-pedestrian road traffic accidents

The researcher re commends that if the multi-laned road training is to be improved, then the police in relation to traffic department should ensure bodaboda training both at formal and informal levels for all of them irrespective of their areas within Kampala Central division. This can be done through provision of riders' road test for motorcycles and other requirements to see if they successfully completed the courses in the training and safe for motorcycle riding.

5.5 Contribution to knowledge

One of the most prominent findings from this study is the fact that it has provided evidence to support the fact that commercial cyclists training can reduce road accidents among commercial cyclists in Kampala Central division in Uganda. The research gap that has been filled by this study, it is the fact that the study covered both the content and geographical gap of commercial cyclists training and road accidents. Another important revelation that can be attributed to this study is that it is now clear that commercial cyclists training is lacking, little is done in order to reduce road accidents among commercial cyclists in Kampala Uganda.

5.5 Areas for further research

Prospective researchers and even students are encouraged to research on the following areas;

Road safety training and quality of commercial cyclists in Kampala Uganda

First aid training and effectiveness of commercial cyclists in Kampala Uganda.

State of the roads in Kampala central division.

Also unawareness of the traffic law by the pedestrians should be looked into.

Further research should be carried out on construction accidents in Kampala among others.

Further research should also be carried out on water traffic accident, the cause and effect should be examined among others.

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APPENDICES

APPENDIX IA: QUESTIONNAIRE FOR ORGANIZED AND MOBILE CYCLISTS

I am by the names of **UPANO GODFREY, 1164-06266-09444**, a student from Kampala International University carrying out a study on **COMMERCIAL CYCLISTS TRAINING AND REDUCTION OF ROAD TRAFFIC ACCIDENTS IN KAMPALA CAPITAL CITY AUTHORITY CENTRAL DIVISION-UGANDA**. I am very glad that you are my respondent for this study. The purpose of this questionnaire was to obtain your opinion/views to be included among others in the study. This research is one of the requirements leading to the award of a Master's Degree in Business Administration of Kampala International University. It is hence an academic research and will not be used for any other purpose other than academic. Your co-operation and answers to these questions heartily and honestly will be significant to this study to gather the data needed. Thank you in advance for your cooperation

SECTION A: DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

Please tick (✓) the most appropriate box

1. Age

Below 25 ☐ 26-35 ☐
Above 36 years ☐

2. Marital status:

Married ☐ Single ☐

3. Level of education

Primary ☐ Secondary ☐
Certificate ☐ Diploma ☐
Degree ☐

4. Class of operation

Safe Boda ☐ Taxify ☐
Organized (staged Boda) ☐ Mobile (non-staged Boda) ☐

SECTION B: COMMERCIAL CYCLISTS TRAINING

Direction: Please write your rating on the space before each option which corresponds to your best choice. Kindly use the scoring system below:-

Response Mode	Rating	Description
Strongly Agree (SA)	5	Very satisfactory
Agree (A)	4	Satisfactory
Not sure (NS)	3	Neither satisfactory nor unsatisfactory
Disagree (D)	2	Unsatisfactory
Strongly Disagree(SD)	1	Very unsatisfactory

NO	Items on road safety training	SA	A	D	SD
1	Equipping of commercial cyclists with road safety skills can reduce on number of accidents				
2	Majority of BodaBodas and passengers do not wear protective gear for their safety				
3	Training is more necessary when riding in the city than outside-the city areas				
4	Most riders did not go through formal riding schools				
	Traffic-signal training				
1	Short lectures traffic-signal training are always organized to the riders				
2	Practical workshops on traffic-signal training are always organized in order to teach riders				
3	Commercial cyclists are always trained about the typical sequence of colour phases				
4	Riders are always informed on the importance of using helmets				
	Multi-laned road training				
1	Commercial cyclists are always trained on when they must keep left on a multi-laned road				
2	Commercial cyclists are always trained on how they should complete an overtaking maneuver quickly				
3	BodaBodas are always informed not to load more than 2 passenger plus the rider				

SECTION C: ROAD TRAFFIC ACCIDENTS

Direction: Please write your rating on the space before each option which corresponds to your best choice. Kindly use the scoring system below:

Response Mode	Rating	Description
Very High	5	Very High
High	4	High
Not sure	3	Neither High nor Low
Low	2	Low
Very Low	1	Very Low

Items on road traffic accidents	VL	L	N	H	VH
Cyclists head on Accidents	1	2	3	4	5
Cyclists are lead causers of Road Traffic Accidents in Kampala Central Division	1	2	3	4	5
Trained Cyclists observe Road safety laws while on the road	1	2	3	4	5
Training on road safety is key in reducing cyclists head on accidents.	1	2	3	4	5
There are clear road safety laws for all motorists in Kampala	1	2	3	4	5
Cyclists-Cyclist accidents occur mainly due to limited knowledge about road safety laws.	1	2	3	4	5
Non Trained Cyclists observe Road safety laws while on the road	1	2	3	4	5
Motor vehicle – Cyclists Accidents					
Motor vehicle-cyclists accidents occur due to non-observance of Traffic signals by cyclists on the road	1	2	3	4	5
Road traffic injury is a great public health challenge and a leading cause of disabilities in Kampala	1	2	3	4	5
Motor vehicles in Kampala Central Division highly respect Traffic signals.	1	2	3	4	5
Trained cyclists respect traffic signals on the road	1	2	3	4	5
Non Trained cyclists respect traffic signals on the road	1	2	3	4	5
All cyclist in Kampala Central Division receive trainings about Traffic signals before hitting on the road.	1	2	3	4	5

Items on road traffic accidents	VL	L	N	H	VH
Cyclists head on Accidents	1	2	3	4	5
Cyclists are lead causers of Road Traffic Accidents in Kampala Central Division	1	2	3	4	5
Trained Cyclists observe Road safety laws while on the road	1	2	3	4	5
Training on road safety is key in reducing cyclists head on accidents.	1	2	3	4	5
There are clear road safety laws for all motorists in Kampala	1	2	3	4	5
Cyclists-Cyclist accidents occur mainly due to limited knowledge about road safety laws.	1	2	3	4	5
Non Trained Cyclists observe Road safety laws while on the road	1	2	3	4	5
Cyclist-Pedestrian Accidents					
cyclists often knock pedestrians on Kampala Central Division roads	1	2	3	4	5
Pedestrians cross only at zebra crossings to avoid being knocked mainly by Cyclists	1	2	3	4	5
Trained cyclists respect pedestrians walk ways in Kampala Central Division	1	2	3	4	5
Non Trained cyclists respect pedestrian walk ways in Kampala Central Division	1	2	3	4	5
Trained Cyclists respect zebra crossings on the road	1	2	3	4	5
KCCA roads have designated lanes for each road user in Kampala Central Division	1	2	3	4	5

APPENDIX 1B: INTERVIEW GUIDE

This will be used to collect data from the key informants to support the quantitative data collected using a questionnaire.

Greetings,

I am UPANO GODFREY from Kampala International University pursuing a Masters degree in public administration currently conducting a research study on Commercial Cyclists Training and Reduction of Road Traffic Accidents in Kampala Capital City Authority Central Division-Uganda.

Kindly, I request you to be part of this study by responding to the questions which I am going to ask. Please be as honest as you can as this information will be used only for academic purposes and confidential.

For record purposes of this study, I will be recording this conversation.

Is it okay with you?

Questions

1. What is your age?
2. What is your marital status?
3. What is your level of education?
4. Why is there is non-observance of traffic is signals while on the roads by cyclists?
5. Why are pedestrians always knocked by cyclists?

Thank you for your participation.

APPENDIX II: INTRODUCTORY LETTER



**KAMPALA
INTERNATIONAL
UNIVERSITY**

Ggaba Road, Kansanga * PO BOX 20000 Kampala, Uganda
Tel: 0772365060 Fax: +256 (0) 41 - 501974 E-mail:
dhdrinquiries@kiu.ac.ug * Website: <http://www.kiu.ac.ug>

Directorate of Higher Degrees and Research Office of the Director

Our ref. 1164-06266-09444

Wednesday 21st November, 2018

Dear Sir/Madam,

**RE: INTRODUCTION LETTER UPANO GODFREY
REG. NO. 1164-06266-09444**

The above mentioned candidate is a student of Kampala International University pursuing a Masters degree in Public Administration.

He is currently conducting a research for his dissertation titled, "*Commercial Cyclists (Boda Boda) Training and Accidents in Kampala Central Division - Uganda*".

Your organization has been identified as a valuable source of information pertaining to the research subject of interest. The purpose of this letter therefore is to request you to kindly cooperate and avail the researcher with the pertinent information he may need. It is our ardent belief that the findings from this research will benefit KIU and your organization.

Any information shared with the researcher will be used for academic purposes only and shall be kept with utmost confidentiality.

I appreciate any assistance rendered to the researcher

Yours Sincerely,

Dr. Claire M. Mugasa
Director

C.c. DVC, Academic Affairs
Principal CHSS



APPENDIX III: CONSENT OF THE INFORMATION

I, Upano Godfrey give my consent truly to be a part of this study (research) to be carried out on Commercial cyclists Training and Accident in Kampala Central division – Uganda.

I therefore guarantee the privacy and confidentiality of any data required me to do so, and on any anomalies that may break the law, any of the parties will have the right to withdraw his or her participation in the involvement of the research.

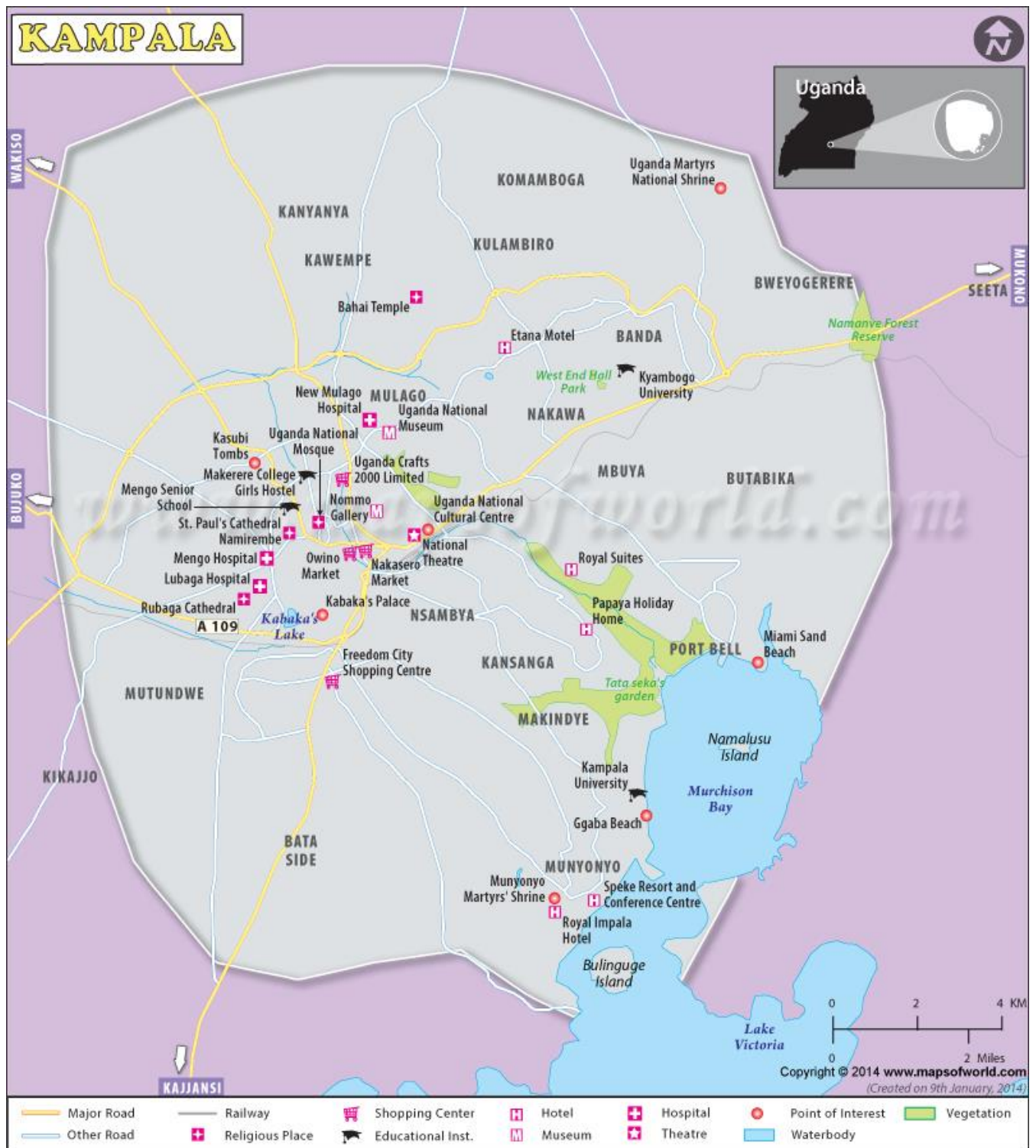
The research is therefore conducted on a voluntary basis basing on my request of the information I may ask to help in writing the thesis report.

Initials _____

Date: _____

Year _____

APPENDIX IV: A MAP OF KAMPALA CENTRAL DIVISION



APPENDIX V: CURRICULUM VITAE

Name : Upano Godfrey
Gender : Male
Marital Status : Married
Date of Birth : 23-10-1978
Nationality : Ugandan

Education Background

Year	School	Award
2017-2018	Kampala International University	Pursuing Masters in Public Administration & Management
2014-2016	Kampala International University	Bachelor of Public Administration & Management
2012-2013	Kampala International University	Diploma In Public Administration
2000-2014	Kampala High Secondary School	Advanced Certificate Of Education (U.A.C.E)
12016-1999	Kampala Modern Senior Secondary School	Uganda Ordinary Certificate Of Education (U.C.E)
1984-1990	Zeu Primary School	Living Examination Certificate (P.L.E)

Note: work experience position

2004 Havana Hotel Public relation officer
200 Speak Hotel Supervisor
2006-2018 Kawacom Uganda ltd Administration officer.
2019-2021 Kawacom Uganda ltd Ware House Supervisor.