

**LIVES BEHIND THE WHEELS: ACCIDENT PRONE DRIVING  
BEHAVIORS OF BUS DRIVERS AND STRUCTURAL FACTORS  
WITHIN SOCIOCULTURAL AND WORKING CONTEXTS**

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ABSTRACT

Road traffic accident problems are not only a major global problem but also a local problem in Myanmar. Bus accidents constitute about 10% of the total of traffic accidents in Myanmar. Bus drivers are prone to accidents, and their driving behaviors are greatly influenced by their everyday working and living contexts.

This research was to characterize the accident prone driving experiences of bus drivers and to explain how the sociocultural and structural factors within the working and living conditions influenced the accident prone driving behaviors of bus drivers. A Critical Medical Anthropology perspective was used as the framework of the study. A qualitative research method was used and the methods utilized for data collection were open-ended in-depth interviews and participant observation. 12 informants, who are bus drivers, and 3 key informants, who are managers, were selected through a purposive sampling method, available documents such as journals, news, local and international documents were reviewed as data sources.

Findings reveal differences in accident prone driving behaviors of Myanmar bus drivers; speeding, driving in the wrong lane, not stopping at appropriate places, or drinking or using drugs that occurred as a part of their daily work patterns, which, in turn, influenced working and living conditions. Poor working conditions, lack of safety equipment, a competitive driving atmosphere, complex road patterns, low career status, tight schedules, varied job payment systems, fixed amount of trips combined with the amount of individual operating cost, inadequate rest, lack of days off and long working hours, no support from management, social interaction with passengers and other road users, poor living conditions, not sleeping regularly, frequent skipping meals, and a lack of family support coupled with other family burdens were factors that had a huge influence on their driving behaviors. Thus, these structural factors are considered predisposing factors to the accident prone driving behaviors of Myanmar bus drivers.

It is, therefore, necessary to establish policies to prevent traffic accidents by reducing accident prone driving behaviors of bus drivers, which requires collaboration from all institutional sectors such as work, family and government sectors. A non-competitive driving atmosphere, an efficient administrative and supportive working structure, should also be adopted.

KEY WORDS: ACCIDENT PRONE DRIVING BEHAVIOR/ STRUCTURAL FACTORS/ WORKING CONDITION/ LIVING CONDITION

120 pages



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## **LIST OF ABBREVIATIONS**

CMA	Critical Medical Anthropology
DALY	Disability Adjusted Life Years
EST	Existing Situation of Traffic system in Myanmar
IDI	In-depth interview
KI	Key Informant Interview
LMIC	Low and Middle Income Countries
RTIs	Road traffic injuries
WHO	World Health Organization

# CHAPTER I

## INTRODUCTION

### 1.1 Background and justification

#### 1.1.1 Why study accident prone driving behaviors of Myanmar bus drivers

Victims of bus accidents constitute a high proportion of the accident victims (Downing, Baguley & Hills, 1991; Waller, 1994), while traffic crashes and related injuries belong to the most important causes of morbidity and mortality in all parts of the world (Peden, Scurfield, Sleet, Mohan, Hyder, Jarawan & Mathers, 2004).

It is estimated that 1.26 million people worldwide die annually, 50 million people being injured or become disabled every year around the world and on average 3,242 people die globally each day because of traffic accidents (WHO & UNEC, 2006). Road traffic injuries are a global phenomenon and their burden is concentrated in low and middle income countries. Rates of road traffic deaths in these countries are twice as high as those in developed countries (WHO, 2013). Between 2004 and 2020, these rates are predicted to increase by 27% in low and middle income countries (WHO, 2009), and traffic accidents will be ranked 5<sup>th</sup> from 9<sup>th</sup> as one of the global leading mortality cause. 66% of all road traffic injuries death occurred in low and middle income countries (WHO, 2013). Therefore, it can be seen that traffic accidents is a global problematic issue.

Myanmar traffic mortality rate is rising<sup>1</sup>. Fatalities caused by bus accidents is 256 people in 2011 and 234 cases in 2012 which is about 10% of the total accident mortality rate. On May 13, 2014, 14 people died and 29 were injured and on May 26, 2014, five people died and seven were deeply injured according to Myanmar website news. These numbers are recorded data by Myanmar police force department and

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<sup>1</sup> According to data from the road department of Myanmar, there were 2,264 road accidents in 2010, 2,495 in 2011 and 2,653 in 2012. The injury rate has also gone up from 14,130 in 2010 to 15,316 in 2011 and 15,720 in 2012.

there may be some unrecorded accidents. This data points out that traffic accidents are an important issue that needs to be addressed.

It is also estimated that road traffic injuries (RTI) will be one of the three leading contributors to the global burden of disease as measured by disability adjusted life years (DALYs) lost over the next two decades (Peden, Scurfield, Sleet, Mohan, Hyder, Jarawan & Mathers, 2004). In terms of economic losses, RTI were estimated to cost USD \$100 billion in the Low and Middle Income Countries (LMIC) every year, almost twice what these countries receive in aid on an annual basis, and equivalent to one percent to three percent of their gross domestic product. Within LMIC, the burden of RTI is unequally distributed across population groups. More than half of all deaths are among young adults aged 15 to 44 years, and 73% of all road traffic fatalities are male (i.e., often the most economically productive section of the population) by Hyder et.al. (2012). The financial cost of accidents include hospital treatment, possible long-term care and the inability to earn an income. Hence, traffic accidents are the most potent cause of loss of productivity and create a great economic burden to society.

Traffic mobility by buses is one of the most popular modes of public transport worldwide, and the working aged population group commonly and widely use buses as public transport. Likewise, Myanmar is still a developing country and most people in urban area especially in Yangon, need to take bus every day of their lives. Riding a bus has noticeably become the most common commodity in the modernized era and is not an avoidable condition for mobility from one place to another.

The urban transportation in Myanmar mainly depends on the bus system and a total of 310 bus routes are run by 15 main organizations with a bus fleet of 6,330. This bus fleet makes 30,876 trips per day and 3.14 million of passengers travel by buses every day according to the data from the Fourth Regional EST (Existing Situation of Traffic system in Myanmar, 2009). Therefore, traffic accidents rate caused by buses may consist of a great large portion of traffic accidents. Brenac & Clabaux (2005) studied the involvement of bus accidents on the basis of the direct involvement of buses in a collision or in injury production. Hence, it is found that the accidents caused by buses need to be addressed.

### **1.1.2 Why study working and living condition of Myanmar bus driver**

A road traffic system is a complex form of a man-vehicle-environment system. Naturally, humans use their body, especially their legs, in order to move from one place to another. But in turn, humans are so rationalized that they also used animals in order to increase their speed of mobility. By the words of Transport for London (2010), horses were the most popular way of transportation in a previous time. Horses were replaced by steam powered engines, batteries and then, fossil fuel engines. This shows that humans seek these most economic and reliable way to gain mobility. However, as stated in the first sentence of this paragraph, the traffic system is a complex system. Within this system, traffic accidents could be prevented and its effects could be minimized by modifying driving behavior, vehicle design and traveling environment. 95% of the solutions are in changing roads, streets or vehicles, according to Johansson (2009). Johansson adds that 90–95% of all accidents are caused by road users and 95% of all crashes or collisions depend on human error.

It is hard for a developing country like Myanmar to carry out expensive improvements of the road infrastructure and vehicles in order to reduce the probabilities of road traffic accidents. Hence, an identification of characteristics related to road traffic accidents such as non-technical road traffic measures may be suitable to reduce the increasing rate of road traffic accidents in developing countries (Nordfjzrn, Jorgensen & Rundmo, 2012). It is said that there is less sufficient studies related to human element than elements of road environment and vehicles because of difficulties of collecting data and some technical reasons (Kim & Lee, 2013).

Also, bus drivers are prone to traffic accidents and accident prone driving behaviors are considered as driving behavior which are prone to accidents whether the bus drivers deviate from the traffic regulation or not. Accident prone driving behaviors are driving behaviors which may lead to accidents which can result in being in accidents or not, and are also driving behaviors which might be influenced by situational factors, environmental effects and many external factors rather than psychological condition. Therefore, accident prone driving behavior is different from aggressive driving behaviors which is greatly related to personal intension.

Bus drivers are prone to traffic accidents and accident prone driving behavior which is defined by “Driving Behavior on Road Safety in Hong Kong” as:

driving too close to the vehicle in front; turning or reversing negligently; careless lane changing; driving at an inappropriate speed; failing to obey traffic signals and not using of or failing to use indicators. It is also noted that on average, about 65% of accidents in Hong Kong over the past ten years (1993 – 2002) have been related to the bus drivers. It was also pointed out that road user behavior is a primary determinant of road traffic accidents (Bannon, Carter & Mason, 1992) and, so humans are also a cause of traffic accidents. In Myanmar, Thaug Kyi (November, 2006) studied the factors that form the relationship between knowledge of road safety rules (KAPB), risk behavior, and road accidents in Yangon. This research showed that there is a positive relationship between all these variables. From this, it can be seen that bus drivers contribute to the number of road accidents in Myanmar and deserves further analysis to add to the study of road accidents (Godfrey, 2012; Kim & Lee, 2013). Additionally, bus drivers are also prone to traffic accidents because of indirect effects such as (1) inadequate rest, (2) driving for long hours, (3) using energizers such as stimulant drinks, (4) exhaustion and sleep debt and fatigue.

It is, therefore, critical to characterize the accident prone driving behaviors which are common among bus drivers for understanding and ultimately working to prevent dangerous driving behaviors. As a matter of fact, bus drivers are a large group professionals worldwide, with daily responsibility for the safety of billions of passengers; they play an important role as road users. Bus drivers are important and their work is not similar to other vehicle drivers because they need to embark and disembark passengers at every bus stop and need to communicate with passengers under tight time schedules. Bus driving is, therefore, a kind of public service work but unlike other public servants. Therefore, knowledge about factors relating to their well-being is of great value (Glaso, Bele, Nidlsen & Einarsen; 2011) because poor driving behavior and poor knowledge contributes to road traffic accidents (Downing, Baguley & Hills, 1991). Risky driving behavior is a critical factor leading to road accidents and any impairment of bus driving behavior can have undesirable consequences for passengers and bus operating companies.

In addition, it was found that the human social, physical and economic factors of drivers were the most responsible determinants for road traffic accidents in Myanmar (Yin Thanda Lwin; 1996, as cited by U Thaug Kyi; 2006). Besides,

physical and emotional conditions of bus-drivers are also causes of risky driving behavior (Rammasutr; 1989, as cited by Chanya Bamrungmuang; 2005).

According to the report supported by 50 years of research review on bus driver well-being (Tse et al., 2006), bus drivers are liable to suffer physical health problems (e.g. cardiovascular disease, gastrointestinal problems, musculoskeletal disorders, and fatigue) and psychological health (e.g. post-traumatic stress disorder). Albright et al., studied "Job Strain and Prevalence of Hypertension in a Biracial Population of Urban Bus Drivers" and they found an association between "perceived" job stress and hypertension. Also, it is mentioned in their studies that the coping mechanism of the individual under stress may also determine the development of hypertension, especially with those individuals who repress or deny the existence of the stress being more likely to develop hypertension.

Correspondingly, on the bus drivers' side, their physical and psychological illnesses are always a result of his poor driving performance because city bus drivers are more likely to experience tension, mental overload, and fatigue. Bus drivers are prone to physical illnesses because of their working style and sedentary position, which may in turn, effect poor driving performance; therefore, it is very important to understand their lives and experience of bus drivers from a health perspective.

Additionally, social factors such as gender, age, education, ethnicity, and socioeconomic status causes traffic collisions (Factor, Mahalel, & Yair, 2008; Sivak, 2002; Petridou & Moustaki, 2000; Yagil, 1999). Generally, bus drivers are recognized as low social status because of their low education background and bus driving is assumed as one kind of unskilled work. Normally, most of them are coming from poor families and they seem to have significantly low social role among public service workers. Therefore, social interaction attached to social identity is a potent cause of social qualification which also has effect on individual meaning and behavior.

Furthermore, it was also found out from the finding that bus-drivers also get aggression from passengers and other road users which could also lead to more intra-staff aggression through mechanisms of displaced aggression (Bishop & Hoel, 2008) and most frequently reported as perpetrators, followed by passengers and superiors and, finally, workers at the traffic office and other road users. Besides, there will be some influence on bus driving behavior by the social interactions of the drivers

from others vehicles, which has become social action or power relation between vehicles. In addition, their social background condition such as the relationship with their family members or neighbor and their lifestyle may affect their emotional condition and their experience which in turn affects their driving behavior. But, there is no such exploratory study about life and experience of bus drivers from sociocultural context. Herein, the social life of bus drivers will be investigated in this study, including the social and economic condition of family.

The reason why this study would like to focus on the lives of bus drivers in sociocultural context of working condition is that it will heighten the bus drivers' level of concern when they feel less in control if bus drivers believe risky driving is not something they typically do, but rather something that is also extremely influenced or done by others. When studying people's risk behavior, it is important to examine the context of their everyday lives (Gilbert, 2005). While studying about bus-drivers' lives, it is necessary to see the reality of their lives in terms of social, cultural and economic context.

Hence, the only way to understand and to influence drivers' behavior and attitude is to develop personal insight; and this is the only way to understand how a particular driver thinks, feels and behaves which may have much impact on the way they drive. However, there is no such study investigating how social, cultural and economic contexts affect the driving behavior of the bus drivers. How they interact to what they face while they are working will be critical in examining the factors influencing driving behavior in the context of working condition in terms of situational factors such as place and time.

There are not many researches done from a cultural perspective and also in Myanmar, there were only a few pieces of research done on traffic regulations and knowledge concerning traffic accidents and most deal with traffic flow. It is necessary to look at the specific aspects and the individual differences in different situations in order to understand bus drivers' driving behavior and their response while they are driving or at the moment of their driving, after interpreting what they have experienced. The way of giving meaning on their living serves as their grounded concepts for their career and which will be one of the participating moderator when they respond in the moment of driving.

Therefore, it is necessary to identify bus drivers' own meaning of their driving by examining and going in-depth to understand their lives and work experiences from a cultural and socio-economic context in order that the particular way of Myanmar bus-drivers' feeling, thoughts and behaviors will be understood and can be influenced. Therefore, the research question is, "What are accident prone driving experiences of bus drivers and how these are shaped by structural factors of working and living conditions within sociocultural contexts?"

## **1.2 Research questions**

### **1.2.1 Research Question**

What are accident prone driving experiences of bus drivers and how these are shaped by structural factors of working and living conditions within sociocultural contexts?

### **1.2.2 Specific research questions**

- 1) What are the accident prone driving experiences of bus drivers?
- 2) How do bus drivers give meaning to bus driving, risky driving behavior and accidents?
- 3) What are the identities of bus drivers in terms of economic background, historical background and family background?
- 4) What are the working and living conditions and employment background of bus drivers?
- 5) How does the background of bus drivers shape their accident prone driving experience?

## **1.3 Research objectives**

### **1.3.1 General research objective**

- 1) To describe and understand accident prone driving experience of bus drivers.
- 2) To explain how sociocultural and structural context (working and living conditions) influence the accident prone driving behaviors of bus drivers.
- 3) To influence bus drivers' behavior by finding out the factors that shapes their behavior and their belief.

### **1.3.2 Specific research objectives**

- 1) To explain accident prone driving experience of bus drivers.
- 2) To describe how bus driver view bus driving, risky driving behavior and accidents and how they explain them.
- 3) To understand economic background, historical background and family background of bus drivers.
- 4) To describe the working and living conditions and employment background of bus drivers.
- 5) To examine how the background of bus drivers influence their accident prone driving behaviors.

## **CHAPTER II**

### **LITERATURE AND THEORETICAL REVIEW**

#### **2.1 Theoretical conceptualization**

This study aims at describing how bus drivers view bus driving, accidents and accident prone driving behavior, and how their working and living conditions shape their way of driving in terms of a sociocultural context. In a social context, social status and social relationship with colleagues, passengers, drivers of other vehicles, and policemen which can affect their driving behavior will be included. Also, historical and family background of their everyday lives could be potential factors which are related to their changing driving behaviors in the moment while they are driving within the context of their working condition. At work place, they have to face many unavoidable and unexpected situations such as difficult road conditions, complex road pattern of mixing various bad road users, bad weather and terrible traffic flow. Particularly in cultural and social situation in a specific context, the individual and situational differences could also have an influence on their choices. Therefore, critical medical anthropology is applied and serves as a theoretical framework for examining the structural factors influencing driving behavior in the context of working and living condition. It also explains how bus drivers interpret their life and experience which will have an effect when they react to what they have faced.

##### **2.1.1 Existing knowledge about traffic accident**

There are many existing studies about traffic accidents as traffic system is a complex form of man-vehicle-environment. Some studies showed that human road user is the most typical cause for all consequences of traffic accidents. Among road users, driver's driving behavior is very critical in order to prevent traffic accidents. It was well documented that there are many factors affecting driving behavior. The most important ones are bus drivers because they have to be responsible for many lives such

as passengers, other road users of other vehicles, pedestrians, and their lives themselves. There are also some studies done on driving behavior of bus drivers.

As one of the accident prone driving behavior is speeding, speed change had been defined as a measure of behavioral characteristics of bus drivers during the movement of driving (Wahlberg, 2007). It was identified that dangerous driving was related to the consideration of speed changes and it had been tested as a predictor of road crashes. It has been identified as the strongest possible predictor of individual differences in crashes by acceleration correlation, but it also depends on different situations such as when bus drivers are en route, or when driving with an instructor. The relation between different socio-cultural factors, regulations related to traffic safety, and traffic deaths was studied by Melinder (2007), dealing with the scope and forms of indirect involvement of buses in their study.

#### 2.1.1.1. Accidents and driving behavior as a cultural phenomenon

Driving behavior is habitual and cultural, and it can be seen as an interaction between human and non-human (vehicle) communication. Humans are social and cultural beings, and buses or vehicles are man-made. The car-driver-interaction is a hybrid assemblage of man and machine (Featherstone, 2004). Hence, it can easily be seen that vehicles stand as a symbol or image of the drivers. Driving is habitual and it is an extension of the human body and an extension of technology into society. Relationship between the driver and vehicle is communicative and the assemblage of the car-driver-interaction produces the possibility of action that becomes routine, habitual and ubiquitous, and also an ordinary form of embodied social action (Dant, 2004).

Therefore, technology is shaped by the ideas of humans and humans also design this in order to get technology in the way they want. It is really culturally constructed and it was also said that “Technological innovation was frequently shaped by particular social conditions. The significance of a range of social actors – entrepreneurs, businesses, advertisers, investors, government departments, consumers – as all contributing to the shaping of ‘technological development - social relations’ involved in technological development as networks” (Dant, 2004).

Correspondingly, cultural action of driver-to-driver interaction can also be examined while they are driving because a person within a vehicle cannot talk to one another who is in another vehicle. So, it was said that “Driver-to-driver interaction is very cultural action communication; they use the sounding of horns, the flashing of headlights, the aggressive use of brake lights and hand gestures” (Nigel Thrift, in “Driving in the City”, 2004).

Moreover, it is described that human beings not only design objects to afford but also design human beings to afford (Dant, 2004) so that human and human behavior can be shaped by structural factors or the organizational responsibility such as working structure and living condition. Hence, while driver behavior is very important in analyzing the cause of traffic accident (Kim, Lee; 2013), it is also important to examine the context of everyday lives of drivers to know their driving behavior (Gilbert, 2005).

#### 2.1.1.2. Working context

Life-and-work situation is one of the most potent causes of putting bus drivers at risks of bad driving behavior. Their driving behavior can be influenced by high conflicting demand and lack of control over work pace and driving situations (Dorn, Stephen, Wahlberg & Gandolfi, 2010) because bus drivers’ work and social situations differ greatly from that of most other employees in contemporary working life. Bus drivers need to balance the competing demands of safety, customer-focused service and operating regulations. These are many factors which may reflect their driving behavior.

As working hours are largely responsible for problems in physical health, work performance, safety and accidents, it has been identified as the most significant problem which has a close association with driving behavior (Rohani & Buhari, 2013). It was also reported that the majority of bus accidents involved a long journey bus service. Sando (2011) found that the increase of driving hours cause a pattern of an increased propensity of collision involvement. This study was conducted on bus accident involvement histories in Florida. Sando (2011) indicated that a bus driver who is involved in a collision would have driven more than 45 hours in seven days prior to the collision. In particular, pointed out that bus drivers who have

driven for more than 50 hours per week have a 95% chances of being involved in a collision (cited by Rohani & Buhari, 2013).

Moreover, Kim and Lee (2013), studied the relationship between bus driver's accumulative task loading time and driving behavior by analyzing job overloading factors which may effect on bus-drivers' driving ability and experience. In this study, abnormal driving behavior was occurred in fourth or fifth driving time when accidents occurred potentially. The study showed that bus driver working time is ten hours which means that the bus drivers are overloaded with tasks, being a more potent cause of traffic crashes because it may lead bus drivers to concentrate less on their driving. In accordance with driving time, there is a close relationship between bus driving hour/week and blood pressure (Shin, et al., 2013).

Thus, higher demand on human ability causes physical health problems and behavior impairment. Bus drivers are liable to suffer physical health (e.g. hypertension, cardiovascular disease, gastrointestinal problems, musculoskeletal disorders, and fatigue) because of occupational risk factors such as shift work, long working hours, loud noise, and exposure to carbon monoxide and chemical materials (Albright, Winkleby, Ragland, Fisher & Syme, 1992; Tse, Flin & Mearns, 2006). It was mentioned that bus drivers had to leave their job for medical reasons at a younger age than other groups of civil servants (Kompier, 1996). Also, it depends on driver sedentary working style, such as working in high temperature, causing physical health problems among urban bus operators (Evans, 1994). It was also identified that the behavioral style of bus drivers in coping with psychosocial demand by Kompier (1996) determine the extent to which workload and self-reported driver coping styles predicted their health.

Working time is also an important factor causing traffic crashes. Long working hours lead bus drivers having inadequate sleeping time. If drivers sleep only five hours or less than this, they may be at risk 2.7 times more exposing them to accidents which also increase the severity of serious traffic accidents or death at 8-11 times (Matichon, 2002; cited by Chanya Bamrungmuang, 2005).

Moreover, driving situation such as traffic flow, road condition, weather condition and other road users' behavior also make bus drivers prone to traffic accidents. It was also found that road design such as a horizontal curve

has an effect on speed behavior (Fitzpatrick, Carlson, Brewer, Wooldridge & Miaou, 2003) and it was shown that narrowing roads reduce driver speed (Corkle, Giese & Marti, 2001). In terms of driving speed, Cooper, Vladisavljevic, Medeiros-ward, Martin, and Strayel (2009) pointed out that it is significantly reduced when the traffic flow increase, but there may be one main concern with this: for bus drivers who are working under tight schedule, driving speed may reduce when traffic flow is congested but bus drivers may drive over legal speed limit to catch up to their time schedule. According to Vanlaar, Simpson, Mayhew and Robertson (2008) showed that twelve percent or some 2.7 million Canadians admitted to often driving well over the speed limit; nine percent or some two million admitted to often speed up to get through a traffic light; and, about three percent or 670 thousand said they take risks while driving, just for the fun of it.

Hence, driving behavior is reflected by many factors and Tse, Flin and Mearns (2006) said that the physical and psychological health of the bus driver is also an influencing factor in their driving performance. Therefore, there is a need to actively address the psychosocial work environment of bus drivers.

#### 2.1.1.3. Social context

There are some studies done on social context related to socio-economic background and social condition of drivers. Low education background and lower socio-economic groups of drivers showed an excess risk of road traffic crashes (Hasselberg, Vaez, & Laflamme, 2005). It is said that behavior is linked to social norms, values, and (indirectly) moral motivations and personal intentions, all of which are considered in transport models (Schwanen, 2011, cited by Gössling, 2013). Self-identity and social status may have an effect to self-image and individuality power and control which, in turn, may reflect on emotions, being aggressive and moody while they are driving which may tend to the ignorance of regulations such as the speed limit or traffic accident as a suicide attempt (Gössling, 2013).

Meanwhile, social relation may also be one of the most significant factors affecting driving behavior. Although the fact that driving a bus can be characterized as a socially isolated job with limited opportunity for contact between drivers and between management and drivers (Evans & Johansson, 1998) and have limited contact with colleagues, it can be seen surprisingly that so many of them

experience bullying by their colleagues resulting in job dissatisfaction and finally leaving their jobs (Glaso, Bele, Nidlsen & Einarsen, 2011).

Bus drivers also get aggression from passengers and other road users (Bishop & Hoel, 2008) and it was also described that passengers related activities is the common main distraction of bus driver by Souza and Maheshwari (2012). The complaint from passengers has a strong influence on a bus driver's stress reactions and deeply affects the bus driver's mental stability which may lead to accidents (Yamada, 2008). Risky driving is greater among teenaged drivers in presence of teenage male passengers (Simons-Morton, et al., 2011).

Downing, Baguley and Hill (1991) also said that not having mobile traffic policemen causes many traffic violations. But this is also indicated that situational features contributed more importantly to experienced drivers, whereas personality features were stronger predictors for novice drivers. Experienced drivers had greater intentions to follow the traffic rule to get effective results if most drivers in the identical traffic environment did not violate the traffic rules but the young will violate rules because of their personality (Xu, Li & Jiang, 2014)

Therefore, the social context of bus drivers is one of the main factors causing to change their driving behavior. The relationship between bus drivers and other persons such as passengers, colleagues, the drivers of other vehicles and police enforcers can also a potent influencing factor so that it is also needed to be investigated in the context of working situation and confronting with mixed traffic pattern of pedestrians and bicycles, motor bikes and many public places.

### **2.1.2 Conclusion from the existing studies**

Existing researches found and explained mostly on factors that affect bus drivers but still, it lacked linkage to the sociocultural context of bus drivers on working and living condition of bus drivers which shape their driving behavior and the way of giving meaning on their living. It is necessary to look at the driving behavior of bus drivers from a specific contextual aspect and the individual and situational differences in order to understand accident prone driving experience of bus drivers, their views and interpretation. The way of giving meaning to their living, their culture

and practices will be one of the participating moderators when they make responses to what they have faced at the time of driving.

Therefore, by examining in-sight understanding of working and living conditions of bus drivers in a sociocultural context helped to find out the influencing factors which shape, in a particular way, Myanmar bus drivers' feelings, thoughts and driving behaviors. The critical medical anthropology perspective, by giving a critique on the cultural interpretive approach, will be applied in this research in order to identify the hidden determining structural factors on accident prone driving experiences of bus drivers within the sociocultural context of their working and living conditions.

## **2.2 Critical Medical Anthropology**

Critical medical anthropology perspective is much related to structures of human social organization and political economy effects in the context of culture. The centrality of culture is a product of a particular history that is itself intertwined with a larger set of economic, political, social and cultural processes. Culture is seen, in the critical approach, as a system of symbols of an institutional order. Culture is, therefore, understood in connection with issues of "power, control, resistance and defiance surrounding health, sickness, and healing". In a critical account, the local is usually contextualized within a broader political setting, often situated within an imaginary global paradigm.

First, anthropology mostly focuses on the micro level and involves explaining beliefs and behaviors at the local level in terms of specific configurations or ecological conditions. By interpreting human personalities, culturally constituted motivations and understandings, or social relationships are inadequate to understand the hidden determinants which influence far on every level of individuals, communities, and even nations. Later, it was not enough by seeing only micro level, so it tended to look at from the broader view. Since that time, CMA emerged as a distinctive theoretical conceptualization by criticizing cultural interpretive perspective and ecological perspective, by redirecting the analysis of the medical anthropology towards broader societal and economic dimensions, much in the line proposed by the

political economy. CMA perspective tried to explain determining forces which structure individual cultural belief, practices and behaviors.

CMA can be defined as the core because it tried to understand the character of the bonds and associated cohesion generating beliefs and customs that tie individuals together to form families, institutions and the whole society. It is the investigative lens on the details and unique social and cultural configurations of individual cultural cases. This perspective also provides insight to the structures which shape belief, behaviors and practices of people. It tends to explain wider causes and determinants of human decision-making and actions because the explanations about human beliefs and behaviors are much limited in order to influence human behavior.

CMA tries to explain the political and economic factors which shape each individual by the production of national and international wealth. It emphasizes the need to identify how economic and political processes have effects on health and well-being through the production and allocation of health resources and services as well as other factors that affect risks and protective factors.

This critical approach in medical anthropology integrates the macro perspective of the political economy approach, without losing sight of individual experiences focusing on analysis. CMA tries to explain the distribution of the basic material and nonmaterial resources that sustain and promote life at a high level of satisfaction in a larger socio-cultural context (Baer et al.; 1986, p. 95, as cited by Winkelman; 2009)

In the critical analysis, recognizing the powerful role of economic and social forces “does not imply that individuals are passive or impersonal objects but rather, they respond to the material conditions they face in light of the possibility created by the existing configuration of social relations” (Baer 1997:32, as cited by Winkelman; 2009). CMA tries to address health issues within the context of encompassing political and economic forces; including forces of institutional, national and global scale that pattern human relationships, shape social behaviors, condition collective experiences, reorder local ecologies, and situate cultural meanings, including institutional, national, and global scale forces.

However, CMA focuses on understanding the specific structure of social relationships that give rise to and empower particular cultural constructions. CMA

theory is a “big picture” approach which emphasizes on fundamental importance of considering political economic factors determinant of social conditions in interactions and consequences with an alternative explanatory framework.

At the macro-social level, CMA recognizes that the development and expansion of a global economic system represent the most significant social process. Capitalism has progressively shaped and reshaped social life. At intermediate level, it focuses on the relationship between individual and social institutions. The critical approach to the individual level begins with the recognition that sufferers’ experience is constructed and reconstructed in the action arena between socially constituted categories of meaning and the political-economic forces that shape the context of daily life. For these reasons, the study of sufferers’ experience and action is an important corrective to the tendency to assume that, because power is concentrated in macro-level structures, the micro-level is mechanically determined from above.

Moreover, CMA also fills the gap when the interpretive approach lacked attention to the role of asymmetrical power relations, while explaining inter-subjectively interpreted experience. The interpretive tradition examines only the construction of interpretations in different social contexts. However critical views of the interpretive approach point to over emphasizing on individual experiences as well as to the role of societal forces and structural determinations.

CMA emphasizes a world system perspective for understanding factors affecting broader societal ideological, political trends and how power and resources affect each individual across different levels. Its determination involves contextualization, a determination of life circumstances and the economic and political forces that play a role in shaping individual exposure, providing information about the social and cultural factors that have the effects of placing groups of people at risk.

Addressing the proximate risk factors associated with individually based behaviors does not alter the fundamental mechanisms that link disease to social class. Changing individual risk behaviors fail to address the social conditions that are responsible for exposing people to risk factors. Link and Phalen (1995) suggest that policymakers should focus on fundamental causes that have the benefit of affecting many diseases rather than a single disease because these fundamental causes affect susceptibility to many different diseases (cited by Winkelman; 2009).

Missing from this understanding of the construction of daily life is an appreciation of the capacity of the micro-level to influence the macro-level. In addition to images and ideas, cultural influence on our experience of the human includes the impact of values; that is, beliefs about good and bad, right and wrong. CMA provides a perspective and set of concepts for analyzing macro-micro connections. At the theoretical level, CMA's approach to the individual level is its recognition of the degree to which issues of power, inequality, oppression, exploitation, and the like create the social environments within which the individual level is actualized and intimately contributes to the social shaping of individual experience, the social construction of human bodies, and the social production of potential pathways of personal action.

In this study, it emphasizes on the links between these individuals' experiences and the societal forces acting upon them, without losing the perspective of individuals' capacity.

### **2.3 Theoretical Approach to Conceptual Framework**

Traffic accidents are influenced by many structural and conditional factors. Critical medical anthropology provides the lens to understanding how structural factors at the macro level have impact on accident prone driving experiences of bus drivers within the working and living context. Individual living and driving experiences of bus drivers are not merely caused by single factors but are also part of a greater structural system like employment and living background. Moreover within the micro level, living structures will also affect their way of driving, and giving meaning to their living and their risk notion of accidents. The individual physical health condition of bus drivers and their accident prone driving experiences may have a great influence in the structure of employment system and living situation. This study will explore how the employment background as a structural factor affects the accident prone driving behavior of bus drivers and their individual way of thinking.

This research will also examine the accident prone driving behavior of bus drivers, for example, if the drivers go over the speed limit or not, whether buses stop at

the appropriate stops, whether bus drivers use the appropriate traffic signals and if they have adequate safety equipment<sup>1</sup>.

The speed limit in Myanmar will be confirmed when the researcher speaks to the appropriate authority in Myanmar. It will also be examined whether buses stop at appropriate place such as bus stops for the safety of passengers.

For the safety prevention, it will also be examined whether buses have required working safety equipment. It is stated that there are fourteen safety equipment in Illinois Rules of the Road 2014 (Jesse White; 2014), but in this study, some kinds of equipment shown as followed will be examined which is more fitted to Myanmar Bus condition and current situation such as brakes, headlights, taillights, turn signals, stop lights, license plate light, parking lights, rear view mirror, wipers and horn. Without having adequate safety equipment in buses makes bus drivers easily get involved in accidents which is one of the most important causes of accident prone driving behavior. It is, therefore, working condition and working structure are significant structural factors on accident prone driving behavior of bus drivers. Not having complete safety materials is the responsibility of both bus drivers and the employers. If the employers do not give enough safety equipment, this type of working structure may lead to accident prone driving behavior of bus drivers.

In term of working condition, the study will cover not only working time, schedule or shift pattern and operation system, but also the actions and interactions of other road users, road conditions, vehicle condition and weather condition.

With regard to traffic violations, this study will cover driving over the legal speed limit and violating rules at the traffic light, such as violating the red light, because there are not many traffic signs in Myanmar and even in some places, there is still the lack of required traffic signs.

Usage of drugs or drugs related substances such as alcohol, cold remedies, pain relievers, mood changing drugs, heroin, cocaine, morphine, amphetamines and methamphetamines.

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<sup>1</sup> Regarding with safety equipment, it will examine having working break system, two headlights, two red taillights, turn signals, stop lights, license plate light, parking lights, one rearview mirror, wiper and horn.

Then, it will investigate how these accident prone driving behavior are influenced by individual cultural meaning of driving, accidents and risky driving, and structural factors such as working and living backgrounds. In terms of cultural meaning, how bus drivers think who they are, how they view the world and how they think of accidents and risky driving behavior will be explored in this study. It is not enough if only individual level has been examined, it is necessary to find out what kind of external structural factors are also determining their thinking and their driving behavior.

Living conditions such as socioeconomic background and historical background may influence their accident prone driving experience. Therefore, how employment and living background structure the way of their thinking, viewing and driving behavior will be investigated in this study which will be covered by the following conceptual framework.

### 2.4 Conceptual framework

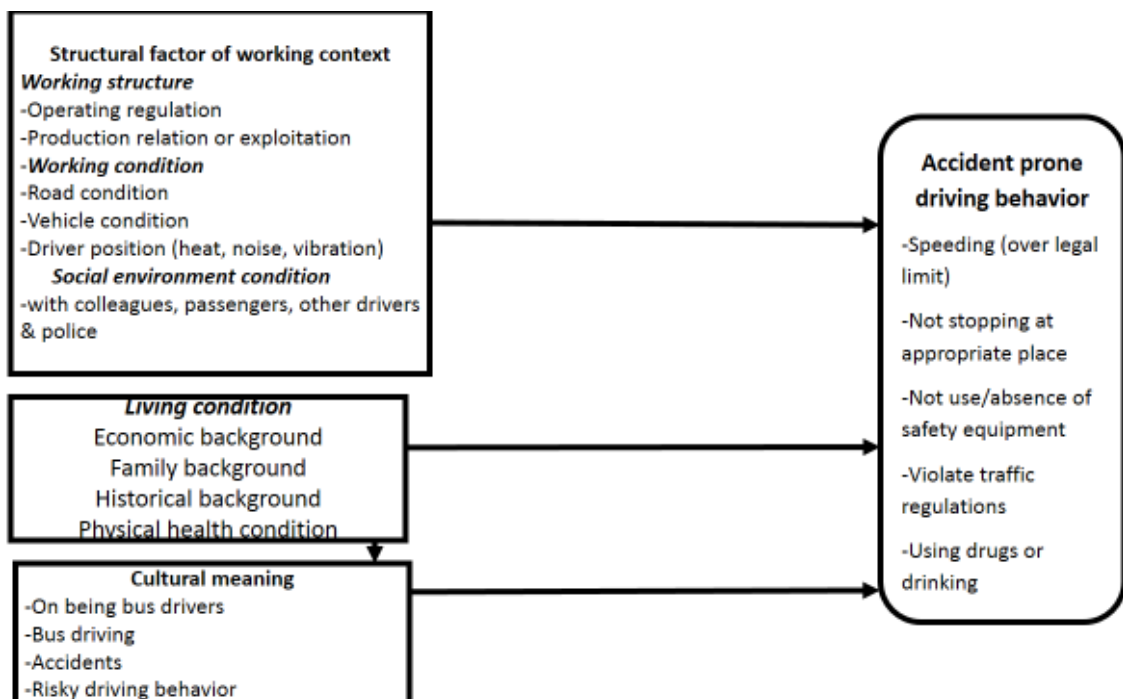


Figure 2.1 Conceptual framework

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

The study aims at exploring how the working and living conditions of bus drivers affect accident prone driving behavior, by identifying the factors which shape their driving behavior without failing to look at the individual views on bus driving and accidents of Myanmar bus drivers. The study was conducted within four months in the study area and the trustworthiness of the data is a major concern of conducting data analysis. As a consequence, particular tactics were applied to make the data reliable.

#### **3.1 Research design**

Exploratory approach was applied in this study and it was distinctively useful in exploring the nature of the problems and understanding people's view about the problems and their behavior by utilizing the observation method and in-depth interview. The exploratory approach is largely used for small-scale study of relatively short duration and when the problems and its contributing factors are not well defined. It has been commonly carried out when little is known about the situation of the problem.

Purposive sampling was used as the informant selection technique. The anthropology lens was used in exploring how bus drivers view their living, how they interpret the nature of their career and how their working and living backgrounds affect their driving behavior under a given environmental condition. This perspective surely helped to get a deep understanding of bus drivers' lives and work by looking at how these background conditions impact their everyday activities, their behavior changes and their choices, from an emic view.

The main purpose of the function of an exploratory study was to explore the actual pattern of work and lives of bus drivers. Therefore, observation played a

main role to understand bus drivers' driving behavior and how they respond to specific conditions under given working conditions by changing their driving behavior. An in-depth interview of informants and key informants were created to find out situational and individual differences in viewing their career.

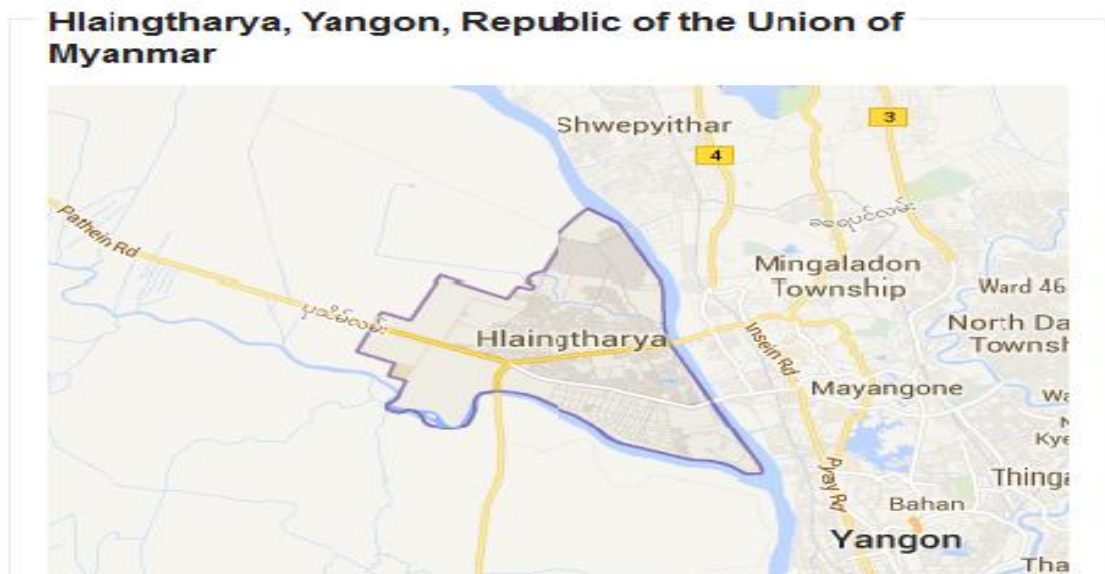
### **3.2 Research Site**

The urban transportation in Myanmar mainly depends on the bus system and a total of 310 bus routes are run by 15 main organizations with a bus fleet of 6,330. This bus fleet makes 30,876 trips per day and 3.14 millions of passengers travel by buses every day according to the data from the Fourth Regional EST (Existing Situation of Traffic system in Myanmar, 2009). Among all urban cities, Yangon is the most densely populated and people staying in Yangon are mainly dependent on buses for their daily transportation. The Yangon Division has four administrative District Regions and forty-five townships and it has a population of 5.4 million.

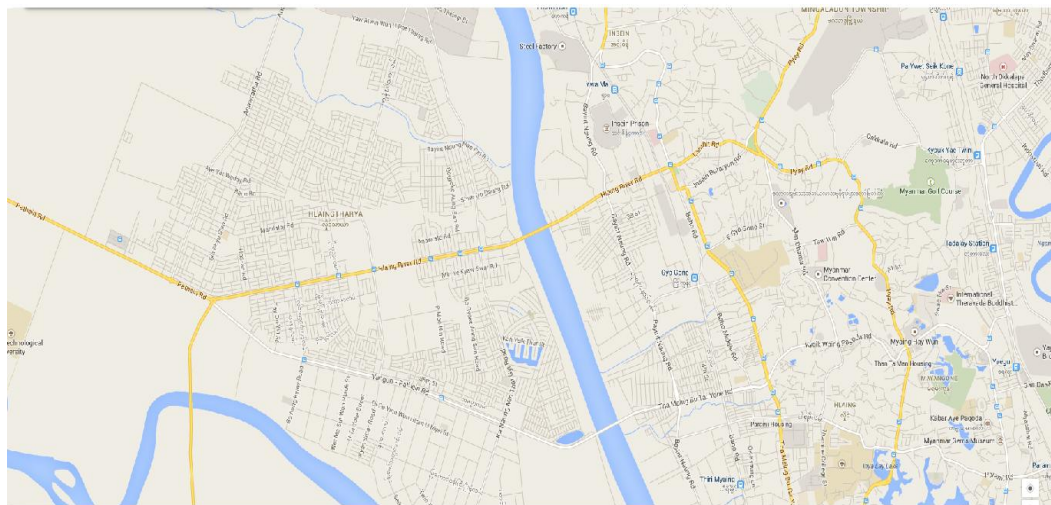
This study was conducted among the drivers who whose route passes through the Hlaing Tharyar Township course. Although Yangon has forty-five townships, Hlaing Tharyar is one of the most populated industrial zone among 35 townships in Yangon, Myanmar with a population of 240,164. It is not only an industrial township but also the main entrance of the highway which is connected with many townships around the lower parts of Myanmar. Therefore, there are many buses which go through the highway compound.

Moreover, it is also one of the main ways for cargoes and trucks to enter the cities. As a peri-urbanized area, Hlaing Tharyar Township has led to the growth of powered two-wheeler vehicles and there are many motorcyclists who are making their living as transport careers. Being an industrial township, the population density is relatively high compared to other townships within Yangon. Besides, the road pattern is so complex, full of many public places, such as schools, township hospitals, clinics and public offices so that the road is filled with many pedestrians, two-wheel cyclists, trishaw men and there are also many street hawkers along the road which can also make bus drivers difficult to manage their driving. Therefore, this study was conducted among the drivers who ride buses passing through the Hlaing Tharyar

route.



**Figure 3.1 Map of Hlaing Tharyar Township**



**Figure 3.2 Map of Hlaing Tharyar Route**

### 3.3 Entering the research field

The researcher spent one week to be familiarized with the bus route in the research site. The researcher rode on the bus as a passenger and tried to get to know the bus terminal and bus compound. The researcher examined the working conditions of the drivers and their driving behaviors for one week. This observation was made to facilitate entrance into the field but no data was collected at this point. After one week,

the researcher used the familiarity with the bus route and bus drivers to create rapport and to begin observation in full. This observation included the driving behaviors of the bus drivers as well as their actual working conditions. This, in turn, allowed the researcher to select the informants for purposive sampling.

### **3.4 Research methods**

#### **3.4.1. Participant observation**

Participant observation was useful for this study for gaining an understanding of the daily life of bus drivers within their working contexts, their driving behaviors and the actual facts that they face on their everyday life. In this study, participant observation was done on the buses, which pass through the Hlaing Tharyar Route. It was observed through the whole route in order to know their working condition, their daily practice, road patterns and their driving behavior. Participant observation also examined how were the social relationships of the bus drivers with their colleagues, the passengers, drivers from other vehicles and other road users. The interactions between bus drivers and others were also noted. Specific attention was given to the driving behaviors of bus drivers. The examination also tried to find out the situational factors or other structural factors which have an effect on their driving behavior.

The participant observation examined whether they drive over the legal speed limit or not, whether buses stopped at the appropriate places for the safety of passengers, whether bus drivers violate traffic signs and whether buses have the adequate required safety equipment. In terms of safety equipment, it examined having working two brake systems and brakes on the wheels, two headlights, two red taillights, turn signals, stop lights, license plate light, parking lights, one rearview mirror, wipers and horn. Observation continued until getting full information of their daily lives, regular driving patterns and actual working conditions are gained.

Therefore, observation let the researcher know the daily activities of bus drivers, how they respond to what they have experienced and it helped the researcher to find out factors which structure their accident prone driving behavior under given

working conditions after understanding their daily activities, regular driving pattern and working context.

### **3.4.2. Interviews**

All the interviews were conducted after the ethical clearance was granted and observation had been done for a certain period of time. It took over four months from July to November, and interviews were conducted mainly with bus drivers and their employers. The interviews were taken place at a venue convenient to the participants to get relaxed and have open communication. Some interviews were audio-recorded to provide accurate records for analysis. If participants felt uncomfortable, field notes were used and the responses were noted at the time of interview; then, expanded later.

#### **3.4.2.1. In-depth interview**

The questions to bus drivers addressed how they give meaning to their living, driving, accidents and risk notion of driving, including finding out their past accident experiences and how these past experiences were influenced by structural factors and how these affected their driving behavior later after the accidents. In addition, questions were also directed to know their working condition and living backgrounds. In terms of working condition, the study examined working time, driving schedule, social condition, what they experience as they drive daily, how these shape to their driving behavior and also how they respond to them. Regarding with living background, it was interested in their family background, socio-economic background and historical background of their lives.

Twelve bus drivers were interviewed during data collection. Eleven informants were Myanmar Buddhist and another one is Karen Christian. During the first week of entering the research site, the researcher tried to get familiar with some bus drivers who are under 50 years old and who seems to have five or more than five years driving experience. The researcher also had to remove some informants who are not fit to the criteria of the informants such as being under 50 years old, having past accident experience and having five years driving experience at least.

The in-depth interview was only done after getting the permit of the informants; after having had consent about the study and its aims. Mostly, field

notes were used in collecting data where a recorder is rarely used in order to let the informant feel confident.

#### 3.4.2.2. Key informant interview

The questions to the employers included working structure, time pattern, operating system and managing structure covering all the responsibilities of bus drivers, their expectation from bus drivers and the facilities they provide to bus drivers. All data collection was processed until data saturation was achieved and analysis was done concurrently after no new information was collected.

### **3.5 Informant selection criteria and process**

#### **3.5.1. Participants selection**

Two kinds of participants were included in this study: bus drivers as informants and their employers participated as key informants.

##### 3.5.1.1. Contacting and selecting informant bus drivers

Criteria for selecting informant bus drivers (aged 25 – 50 years) mainly focused on who has past accident experiences and five years driving experiences. Those bus drivers who have longer driving experience can share more information about their driving context and they may also have more past accident experiences whether the severity is light or heavy. Moreover, the researcher also emphasized on their accident experience and their driving behavior at the moment of the accident.

The study also emphasized on the cultural meaning of driving, accidents and risky driving behavior by finding out how bus drivers think of bus driving and their view and perspective on accident and accident prone driving behavior. Furthermore, it also emphasized on how bus drivers practice what they think and believe in their daily lives and how work structures affect their lives, which can be different from their past history.

##### 3.5.1.2. Contacting and selecting key informants

In choosing key informants, the managers of the bus line were key informants because they could give more information about their working

structures, operating system and management strategies used on bus drivers. First, the researcher was able to contact the managers of the bus line company through the help of the bus drivers themselves.

**Table 3.1 Information of research method**

No	Informants	Interview	Type of Information
1	Bus drivers (10 - 12)	In-depth interview	<ul style="list-style-type: none"> <li>- Cultural meaning on being bus drivers, bus driving and accidents</li> <li>- Accident experiences and views on accident prone driving behavior</li> <li>- Family background, socio-economic background, historical background</li> <li>- Working condition, driving time or working schedule, responsibilities and challenges, social condition at work</li> </ul>
2	Managers (1-3)	Key informant interview	<ul style="list-style-type: none"> <li>- Working structure</li> <li>- Operating system and management strategies</li> </ul>

## 3.6 Research Tools

### 3.6.1. Observation guideline

In this study, participant observation was followed according to observational guideline (see Appendix 1); such as accident prone driving behavior, work setting of bus drivers, social condition of bus drivers and their actual driving pattern and daily activities.

### 3.6.2. Developing interview guidelines

For different groups of research participants, different interview guidelines were prepared for the bus drivers and their managers (see Appendix 1). But the

questions asked or explored were the same for all individual interviews of the same group. The interview guidelines were not rigidly adhered to, but served as a guide to the conversation to ensure all topics were covered.

The guidelines helped to explore possible issues and factors in terms of working and living backgrounds that may underline the reason of accident prone driving behavior of bus drivers and how these factors shape the way of their viewing on being bus drivers, bus driving and accidents.

There are two types of interview guidelines; in-depth interview guideline for bus drivers and key informant interview guideline for the managers.

#### 3.6.2.1. Developing in-depth interview guidelines for bus drivers

For bus drivers, the questions were grouped into sections. The first section explored meaning of being bus drivers, bus driving, accidents and risk notion of driving, while exploring their past accident experiences. In the second section, it explored their daily pattern at work setting and actual working condition; while the third section explored living backgrounds of bus drivers including family background, socio-economic backgrounds and historical background. Therefore, all these sections helped to find out the possible reasons of accident prone driving behavior in terms of working and living condition.

#### 3.6.2.2. Developing key informant interview guidelines for managers

For the managers, the questions asked helped to explore their working structure, operating system and management strategies used on bus drivers including their expectations from bus drivers and the facilities that they give to them.

### **3.6.3. Other Research Tools**

- Field notes
- Observational guidelines
- In-depth interview guidelines
- Key informant interview guidelines
- Digital tape recorder
- Camera

- Pens
- Paper

### **3.7 Data collection process**

#### **3.7.1 In-depth interviews**

The first informant was recruited after having an observation on his bus. In-depth interview has took place thrice which took one hour as the first time on the 18<sup>th</sup> of July, 2014 at the bus terminal which is situated in Dagon Ayeyar Highway Compound, Hlaing Tharyar Township, Yangon and the researcher asked his contact phone number in order to set the next appointment date and time. The second time was done for about 3 hours on the 21<sup>st</sup> of July, 2014 and the third time was done for about one hour on 20<sup>th</sup> of October, 2014 at the main bus terminal in South Dagon Township, Yangon. The second time and third time were done in the bamboo tent of the informant in the bus compound on a rainy day. The researcher was able to observe their living condition on that rainy day. The researcher also noticed that there was a leak from the roof of the tent.

The second informant was also recruited after having an observation on his bus. After finding out some kinds of accident prone driving behavior related on his bus driving, the researcher tried to approach him in order to know whether he was fit to all the criteria of the informants. In-depth interview has took place thrice which took one hour as the first time on the 17<sup>th</sup> July at the bus terminal which is situated in Dagon Ayeyar Highway Compound, Hlaing Tharyar Township, Yangon while they were resting in-between the senior interval. After making an available date appointment, the second time was done for about 3 hours on the 21<sup>st</sup> July, 2014 at the main bus terminal in South Dagon Township, Yangon. Third time was done for about one hour on 12<sup>th</sup> November, 2014 at main bus terminal in South Dagon Township, Yangon. The questions were asked based on the guidelines.

The third in-depth interview took place thrice which took one hour on the first day, the 22<sup>nd</sup> of July, 2014 at the bus terminal which is situated in Dagon Ayeyar Highway Compound, Hlaing Tharyar Township, Yangon while they were having their

lunch. The second time was done for about 3 hours on the 30<sup>th</sup> of August, 2014 at Gas refilled center in Hlaing Tharyar Township while the bus driver was refilling the gas in the said center. At that time, it also helped the researcher to observe the actual working conditions of the bus drivers while they are refilling the gas. The third time was done in one of the evening at one restaurant on the 3<sup>rd</sup> of November, 2014 near the office of the Bus Line Company after making a phone call contact to him.

The fourth informant was recruited after having an observation on his bus. The in-depth interview took place thrice which took one hour on the first day, the 16<sup>th</sup> of July, 2014 at the bus terminal which is situated in Yangon Technology University Compound, Hlaing Tharyar Township, Yangon and second time was done for about 3hours on the 23<sup>rd</sup> of July, 2014 in one of the restaurant in Insein Township while having lunch together. The third time was done in his sister's house which is situated in Taung Thu Gone Ward, Insein on 2<sup>nd</sup> November, 2014. He was not feeling well because of hypertension and his leg got hurt while he rode a bicycle. So, the researcher went to his sister's house and made the interview there.

The fifth informant was recruited with the help of one of the bus drivers. In-depth interview took place twice which took one hour on the first day, the 23<sup>rd</sup> of July at the bus terminal which is situated in the Yangon Technology University, Hlaing Tharyar Township, Yangon and the second time was done on the 24<sup>th</sup> of October, 2014 at one of the tea shops in Hlaing Tharyar Township, Yangon. It lasted for about three hours. The questions were asked based on the guidelines.

The sixth informant was recruited with the help of one of the bus drivers. In-depth interview took place twice which took one hour on the first day, the 21<sup>st</sup> of July at the bus terminal which is situated in the Bus Compound in South Dagon Township, Yangon while having lunch together and the second time was done for about 3 hours on the 5<sup>th</sup> August, 2014 at Highway Bus Compound in Hlaing Tharyar Township. The third time took place on October 18<sup>th</sup> in 2014 for about three hours. The last time was done while they were repairing their bus on the way to Highway Compound, Hlaing Tharyar Township.

For the seventh informant, in-depth interview took place thrice which took one hour on the first day, the 21<sup>st</sup> of July at the bus terminal which is situated in the Bus Compound in South Dagon Township, Yangon and the second time was done for

about 3 hours on the 30<sup>th</sup> of August, 2014 at Highway Bus Compound in Hlaing Tharyar Township. The third time was done for about two hours in one of the cold and hot drinks shops in Kaweichan, Mayangone Township, Yangon, on the 22<sup>nd</sup> of October, 2014. The questions were asked based on the guidelines. Interviews were done after setting an appointment for the suitable place, date and time in prior.

The eighth informant was recruited after having an observation on his bus. In-depth interview took place twice which took one hour as the first time on the 9<sup>th</sup> of September 2014 at the bus terminal which is situated in Hlaing Tharyar Township, Yangon. The second time was done on the 5<sup>th</sup> of November, 2014 in one of the gas refilling shop at Yo Gyi Bus stop in Hlaing Tharyar which took about two hours. The questions were asked based on the guidelines.

The ninth informant was also recruited after having an observation on his bus. In-depth interview took place twice which took two hours as the first time on the 20<sup>th</sup> of September, 2014 at the bus terminal which is situated in Hlaing Tharyar Township, Yangon and second time was done for about two hours on the 8<sup>th</sup> of November, 2014 at the bus terminal which is also situated in Hlaing Tharyar Township, Yangon. The questions were asked based on the guidelines.

For the tenth informant, an in-depth interview took place twice which took two hours as the first time on the 27<sup>th</sup> of September, 2014 at the bus terminal which is situated in front of University of West Yangon in Hlaing Tharyar Township, Yangon and the second time was done for about two hours on the 5<sup>th</sup> of November, 2014 at a gas refilling shop which is situated in Yo Gyi Bus stop in Hlaing Tharyar Township, Yangon. The questions were asked based on the guidelines.

For the eleventh informant, the in-depth interview had took place twice; which took two hours as the first time on the 18<sup>th</sup> of July at the bus terminal in Hlaing Tharyar Township, Yangon and second time was done for about two hours on the 8<sup>th</sup> of November, 2014 at the bus terminal in Hlaing Tharyar Township, Yangon. The questions were asked based on the guidelines.

The twelfth informant was recruited after having an observation on his bus. In-depth interview has took place twice which took two hours as the first time on the 18<sup>th</sup> of July at the bus terminal in front of the University of West Yangon in Hlaing Tharyar Township, Yangon and the second time was done for about two hours on the

5<sup>th</sup> November, 2014 at a gas refilling shop in Yo Gyi in Hlaing Tharyar Township, Yangon. The questions were asked based on the guidelines.

### **3.7.2 Key Informant Interviews**

The first key informant was recruited with the help of one bus driver. Key informant interview took two hours in the main bus terminal in South Dagon Township, Yangon on 20<sup>th</sup> October, 2014. He is thirty-five years old and single coming from Nay Pyi Daw city. The interview was done according to key informant interview guideline.

For the second key informant interview, the researcher went to the research site and inquiring who is the responsible person and then, did the interview. After getting his contact phone number through the help of one bus driver, the second key informant was recruited. It took place one time, at the office of the bus line company on the 31<sup>st</sup> of October, 2014. He is 49 years old and staying in Yangon. The interview was done according to the key informant interview guideline.

For the third key informant interview, the researcher went to the research site and inquiring who is the responsible person and then, did the interview. Key informant interview took two hours in the main bus terminal in Hlaing Tharyar Township, Yangon on the 8<sup>th</sup> of November, 2014. He is 62 years old and also staying in Yangon. The interview was done according to the key informant interview guideline.

## **3.8 Data Processing and analysis**

In qualitative data analysis, data collection and data analysis is an ongoing process from the beginning to the end of the study. Data was collected in two processes: first, participant observation and then in-depth interviews to bus drivers and lastly, the employer followed. But these two processes were carried out in parallel. Hence, two kinds of data were collected from the interviews and observation.

### **3.8.1 Collecting data**

Observation data were noted down and sometimes the researcher took photos; for the in-depth interviews, note taking and audio recording were used with the permission of the informants. All these recorded files were transcribed verbatim including all the basic information about the informants such as their pseudonyms instead of their real names, addresses and their socio-demographic factors.

### **3.8.2. Difficulties in data collection**

The first limitation to data collection was gender problems. As bus driving is the nature of men culture and there were some limitations because of gender difference. As the researcher is a female and she does not have driving experience so that this may lead to some kind of limitation during the data collection process. Being a female researcher, doing interview with male informants, there were some times that the researcher had to allow third party to be present during interviews to protect possible gossips. Sometimes, male informants said that the interviewer was a female and there were some information that they could not tell towards a female interviewer. For the researcher, it was also difficult to do the observation and interviews alone because of Myanmar people's view of a female going alone among a men's environment. This limitation makes the disturbance for the researcher not to get all the information about the work and lives experiences of bus drivers.

The second limitation is the nature of Myanmar community. In Myanmar society, people rarely tell openly how they feel and what bad things happened to them especially concerning with accident experience. As Myanmar society is under the military institutional order for a long time, almost all people are afraid of committed crime. Sometimes, the researcher could feel how difficult it is for Myanmar bus drivers to talk about their past accident experience.

Another difficulty is the duration of the study. Data collection period lasted around four months but a good and complete research on accident prone driving behavior of Myanmar bus drivers and their work and lives may need more time. Interviews were arranged by setting phone appointment according to when informants are free and convenient to make interviews.

These difficulties such as time limitation, duration of data collection and gender difference make some obstacles and constraints to get some data.

### **3.8.3 Ongoing analysis**

Data observation and in-depth interview data were analyzed directly by the original language and their dialogue were used when transcribing data from recorder to documents in order to prevent bias and loss of information. In translating from Myanmar to English, the researcher analyzed directly and then, the researcher re-read the data, and if some kinds of contradictions were found in the collected data, the researcher returned to the informants to clarify the data. In data collection, all the ways that the respondents expressed their feelings during the interview process were also recorded.

## **3.9 Trustworthiness of the data**

### **3.9.1. Data and methodological triangulation**

The triangulation of two sources of data from observation and interviews helped to improve the validity of the data. Moreover, two kinds of data sources were also used: from the bus drivers and their managers.

### **3.9.2. Trust building**

As trust is a basic need between researcher and research participants to make sure the quality of data in the research is good, mutual trust and respect had to be gained first of all; and so, the researcher tried to build it with the participants. The researcher also made them sure of the confidentiality of the information shared. The researcher also tried to listen carefully to them to what they wanted to share in order to get the information that the researcher needs.

### **3.9.3. Reflexivity**

By understanding the point of view of both sides, the researcher tried to make an unbiased interpretation in every step of data collection by being aware of the

difference between the values, experiences, education, beliefs of the participants and those personally held by the researcher.

#### **3.9.4. Inter-subjectivity**

Inter-subjectivity is required to avoid power relations between a researcher and a participant that a research may give toward informants. It is necessary to understand the respondents, their views and their perspective in accordance with their context. Therefore, the researcher tried to understand the informants' perception, feelings and experiences in dealing with their lives and work. The researcher also tried to learn to view issues from emic perspective by allowing immersion with their reality in order to avoid the adjustment of personal subjectivity. Therefore, inter-subjectivity helped the researcher to get a frank and familiar communication with the informant so that they could tell the researcher what is necessary to meet the objectives of the research.

### **3.10 Ethical Consideration**

Ethical practices were important in social sciences research. The researcher took the online Institutional Review Board (Kirby, Laris & Rolleri) exam and the result was submitted to the IRB of Mahidol University for conducting the research before going to the field. This research was conducted after getting the approval from the IRB, Mahidol University.

#### **3.10.1. Privacy**

Data were secret and private. Pseudonyms are used for all informants. These data was used only for the study. In interviewing process, the researcher also gave the informants the choice in choosing a convenient place and time to be interviewed. Audio recording of the interviews were only taken with the consent of the informants.

### **3.10.2. Confidentiality**

This study focused on the lives and works of bus drivers which affect accident prone driving behaviors. Not only it is related to their lives and work, confidentiality is a key issue for ethical concern and all the identification of research participants' data were kept under guarantee of safety. All the recorded data materials relating to the study such as field notes, voice recordings and transcription were kept securely and must not be accessed by anyone else except the researcher. After the study has finished, all the recorded data and field notes will be deleted.

### **3.10.3. Informed consent**

An informed consent sheet was prepared for the informants and key informants who participated in the interviews. Only the informants who wanted to participate in this study were selected and recruited. The informed consent was asked before the beginning of the interview. First, verbal consent were gained after explaining the objectives of the research to the participants. If the participants have questions, the researcher explained to them what needs to be clarified. The researcher also explained to the participants that they may stop involvement in the interview process at any time and are not obliged to continue if they wish to interrupt the process.

### **3.10.4. Benefit and Reciprocity**

The purpose of conducting this research is to be able to understand the reality of working and living conditions of bus drivers by trying to find out the factors which affect their driving behavior that leads to accident prone driving behavior. Without neglecting their way of thinking or their way of living, how they view bus driving, accidents and accident prone driving behavior, it will also try to find out the underlying factors which are shaping their driving behavior. Getting a chance of listening to their experiences, feelings, their way of thinking and their interpretation of their lives helped the researcher to get a deep understanding more about their lives, working condition, what they have to face in their everyday life and how they respond to them. Overviewing all of these circumstances, it can point out to what kind of structural factors are affected and how they shape their lives and driving habits.

Furthermore, it is certain that the study is expected to benefit bus drivers and their employers as well. The research is expected to make some recommendations so that their work and their lives which are neglected can be noticed and be improved. Therefore, the study hopes that it can help in solving the problems that bus drivers are facing at their working condition and their lives and which, in turn, will reduce their accident prone driving behavior which can lead to traffic accidents.

### 3.11. Timeline

**Table 3.2 Time line table**

Thesis time line	2014						2015		
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Data collection									
Data analysis									
Report writing									
Finalized report									

## **CHAPTER IV**

### **RESEARCH FINDINGS**

This chapter will describe who Myanmar bus drivers are and how Myanmar buses system is operating within the context of Myanmar public transportation system in order to understand about the lives and work of bus drivers. It will also mention daily pattern of Myanmar bus drivers to understand on what they are facing in their daily life and the related accident prone driving behavior of Myanmar bus drivers.

#### **4.1 Myanmar bus system**

Public buses service is operating under the title of Ma Hta Tha (Yangon Region Central Supervisory Committee for Motor Vehicles) which has different branches like Western Yangon District Department, Eastern Yangon District Department, Southern Yangon District Department and Northern Yangon District Department. All the bus lines need to get approval from Ma Hta Tha and all buses running need to obey all the rules and regulations fixed by Yangon Region Central Supervisory Committee for Motor Vehicles. All bus line companies are private and they all need to get an operating license from Yangon Region Central Supervisory Committee for Motor Vehicles, but some owners of bus line are with military background.

This study was conducted among the drivers who drive buses passing through the Hlaing Tharyar Township route. There can also be many other different bus routes in one bus line. For example, there are two bus routes or more than two bus routes under one bus line company.

Concerning the operating regulation within the bus line company, it has been seen that there is a simple management flow in all bus line companies. There are managerial levels in all bus line companies in order to take responsibility for bus

drivers concerning the operating structures and taking responsibility of bus reparation. There are two kinds of running buses in every bus line: company buses and owner buses. Company buses are buses owned by the bus line company and owner buses are buses sold by the company to someone called an owner. Some bus lines have both kind of owner buses and company buses but some bus line has either company buses or owner buses only.

There is no other supervising level among bus drivers and under the supervision of bus drivers; there are two bus assistances for each bus. But there is only one bus line which allows only one bus driver and bus assistance in running each bus. In Myanmar buses, there are two bus assistances – one bus assistance collects money from passengers and bus assistance tells the names of bus stops.

It is also necessary to collect money for bus assistance in Myanmar buses. There are also some buses that uses I-pay card but it is not popular and it does not work well. In addition, it is also needed to have bus assistance to tell the names of bus stops because some passengers do not know where they wanted to go and which bus stop they will need to get off. Mostly many people in Yangon are usually coming from the countryside and they do not have much knowledge about Yangon places and Yangon Map. And using the map is also not popular in Myanmar. There are some booklets instructing about the bus line and railway line but still rarely used. Being illiterate might be one reason for that.

In recruitment process of bus drivers, bus drivers are asked as one of the criteria of the recruitment system for having red driving license card. In early days, only six months is necessary to get a learning driving license (Tha driving license) then, it can be changed to black color license card (Kha Khway driving license) where can drive less than 3 tons weight, then it needs three years driving experience to be able to change to brown color license card (Ga-gyi driving license).

Brown color license card (Ga-gyi driving license) can drive light truck (more than 3 ton). After a two-year driving experience, it can be changed to red color (Nga driving license) where they can drive all types of vehicles. But there is one more option: after a five-year driving experience having a black color driving license, it can directly change to a red color driving license.

Now, it takes one year to get a learning driving license (Tha driving license), with Ka Gway (Black color) five years and eight years with Ga Gyi (Brown color; after that, we can get Nga (Red color driving license). But they can make fake license in computer shop which can be checked by laser lighting passing. The driving experience of bus drivers is one of the important requirements for bus driving.

There are some criteria for the recruitment process of bus drivers such as red color driving license and work history not having illegal cases. Their probation period is three months and their driving ability is checked in this period. Sometimes bus drivers are asked to have a two-year experience of having red driving license.

Different bus lines have different operating structures, different numbers of buses running and different numbers of bus drivers. Basically, they all have some demarcated specification and record on each bus like required amount of income and required numbers of trips.

## **4.2 Pattern of Hlaing Tharyar Route**

Among forty-five townships of Yangon city, Hlaing Tharyar is one of the most populated industrial zone in Yangon which is located in the western part of Yangon. The township comprises 20 wards and nine village tracts, and shares borders with Htan Ta Pin Township in the north and west, Insein Township, Mayangone Township and Hlaing Township in the east across the Yangon River, and Twante Township in the south. Hlaing Tharyar Township is the most developed of the new satellite towns founded in the 1980s. Hlaing Tharyar Industrial Zone, consisted of mostly garment and other light industries, is one of the largest industrial parks in the country. After Cyclone Nargis, the township experienced a jump in population due to refugees. It is not only an industrial township, but also the main entrance of the highway which is connected to many townships around the whole of Myanmar. Hlaing Tharyar Township, similar to most of the townships of Yangon, is a place sharing border with many townships and which is connected to other parts of Yangon across the Yangon River over the Aung Zay Ya Bridge and the Bayin Naung Bridge, and to Twante Township over the Pan Hlaing River by the Pan Hlaing Bridge. This study was conducted only for buses passing through Aung Zay Ya Bridge.

When looking at the road entering Hlaing Thar Yar Township, there are a lot of public places along the road. As Insein Township is situated before entering Hlaing Tharyar Township, after Insein flying bridge, there is a big and famous public market called Insein Market. A lot of people are busy with selling and buying things on the road outside the market also.

After moving forwards, there is Aung Zayya Bridge connecting Hlaing Tharyar Township to Yangon. After the bridge, there are a lot of public places like schools, clinics, township hospitals, public offices and many industries along the road. Normally, roads are so crowded with students and a lot of workers in rush hours.

There is too much traffic jam in the evening, as it is one of the main ways for cargoes and trucks entering the cities because Hlaing Tharyar Road is the only main route for the lower part of Myanmar country to go in Yangon City. Moreover, being a peri-urbanized area, roads are also usually busy with many buses, cars, coaches, motorbikes, bicycles, trishaws, lorry and containers especially in the evening time because of the growth in powered two-wheeler use and there are many motorcyclists whose are making their living as transport careers.

It is also so crowded with street hawkers which make the road narrower and the width of the road is not wide enough for buses and cars in these rush hours. Especially near Mee-kwet Zay (Mee-kwet Market) and near Insein Market along the road of Hlaing Tharyar Township, there are a lot of street vendors along the road which always causes traffic jam in these places along Hlaing Tharyar Road.

When it rains, it can be seen that there are some water hole on the road. There are less traffic signs in Hlaing Tharyar Township and most of the bus stops are not significantly marked; that is why, most of the passengers are waiting buses not at the bus stop. Actually, it is not exactly known whether it is a bus stop or not.

Being an industrial township, the population density is relatively high compared to other townships within Yangon. Besides, the road pattern is so complex, full of many public places, such as schools, township hospitals, clinics and public offices so that the road is filled with many pedestrians, two-wheel cyclists, trishaw men and there are also many street hawkers along the road which can also make bus-drivers difficult to manage their driving. Therefore, this study was conducted among the drivers who ride buses passing through the Hlaing Tharyar Township route.



**Figure 4.1 Road Pattern of Hlaing Tharyar Route (a)**



**Figure 4.2 Road Pattern of Hlaing Tharyar Route (b)**

### **4.3. Informants in this study**

All the informants were married, apart from Ko Ngwe and Ko Lwin. Ko Nyunt is separated from his wife and is now staying with his mother and his siblings. Ko Moe, Ko Win, Ko Tun, Ko San and Ko Ko are in their forties and other bus drivers are in their thirties; only Ko Ngwe is twenty seven years old. All are Buddhists and Burmese, except Ko San who is a Christian and Karen.

Ko Nyunt got Diploma in Technology from Yangon Institute of Technology and Ko Oo got Bachelor of Art in Economy. Ko Moe, Ko Tun, Ko Kha and Ko Htike attended until high school; while Ko San, Ko Ngwe, Ko Ko and Ko Maung attended middle school; lastly, Ko Win and Ko Lwin attended primary school.

Ko Tun and Ko San have driving experiences of 27 years and 25 years, respectively. Ko San has 23 years of bus driving experience. Other bus drivers have over ten years driving experience; Ko Win has 11 years, Ko Kha has 12 years, Ko Ngwe has 12 years, Ko Nyunt has 15 years, Ko Ko has 12 years, Ko Oo has 15 years and Ko Maung has 15 years, respectively. Ko Htike, Ko Lwin and Ko Moe have over five years driving experiences, seven years, five years and seven years, respectively.

Except from single bus drivers, all bus drivers are the only bread winners for their family so that they need to drive for their family. There are also a lot of family members in their family and they also need to drive to shoulder for the educational expenses of their children. Informant Ko Win has six children, Informant Ko San has three children, Ko Kha has only one and others have two children, apart from single bus drivers. Most of their children are in primary school, middle school and high school; but Ko San has a son already studying in the university and Ko Kha has a child under five years. Therefore, most bus drivers also need to make their living in order to be able to cover family expenses or their educational needs.

Ko Moe, Ko Win, Ko Tun, Ko San, Ko Kha, Ko Nyunt, Ko Oo and Ko Maung were born in Yangon but Ko Htike is from Kyaut Padaung, the middle part of Myanmar, Ko Ko is from Myin Chan which is near Mandalay, Ko Lwin is from Twin Tway which is near Yangon and Ko Ngwe is coming from Nay Pyi Daw. Ko Htike and Ko Ko get married in Yangon so that they are staying together with their wives in Yangon. However, Ko Ngwe and Ko Lwin are single and they are temporarily staying on the bus, sleeping and eating there. They rarely go back home. Only when they get

long holidays, they go back to their hometown. Almost all bus drivers rarely take holidays because they do not get earnings on that day if they do not drive. For some who are staying on the bus, they have no place to take a rest on their holidays.

**Table 4.1 Detailed Information of the informants**

Name	Age	Driving year	Religion	Race	M/S	Education	Family member	No: of children
Ko Moe	40	7	Buddhist	Burma	M	10 <sup>th</sup>	4	2
Ko Win	49	11	Buddhist	Burma	M	2 <sup>nd</sup>	8	6
Ko Tun	45	27	Buddhist	Burma	M	10 <sup>th</sup>	6	2
Ko San	48	25	RC	Karen	M	8 <sup>th</sup>	5	3
Ko Kha	31	12	Buddhist	Burma	M	10 <sup>th</sup>	3	1
Ko Ngwe	27	12	Buddhist	Burma	S	7 <sup>th</sup>	6	0
Ko Nyunt	36	15	Buddhist	Burma	S	Dip. technology	4	0
Ko Ko	42	12	Buddhist	Burma	M	5 <sup>th</sup>	4	2
Ko Lwin	34	5	Buddhist	Burma	S	4 <sup>th</sup>	6	0
Ko Htike	32	7	Buddhist	Burma	M	10 <sup>th</sup>	2	0
Ko Oo	37	15	Buddhist	Burma	M	B.A.	4	2
Ko Mg	39	15	Buddhist	Burma	M	6 <sup>th</sup>	4	2

M = Married, S = Single

## 4.4 Daily pattern of Myanmar bus drivers

### 4.4.1 Early birds at work

Bus drivers need to get up early. Some get up at about 3:00 a.m. for refilling the gas from the very beginning of the day. Some bus drivers have to drive three up-in trips so that all are six trips from one terminal to another terminal, while some bus drivers need to drive two up-in and one single trips depending on the different number of fixed trips requested by their different bus line strategies. Usually, bus drivers need to start at about 5:00 a.m. according to the serial numbers.

*“We are the most early birds at work...and late owls at night.” (Ko Tun)*

*“For us bus drivers, our day starts at 3:30 a.m. when everybody is still in bed.” (Ko Tun)*

*“We start our work at 5:00 a.m.”(Ko Moe)*

### 4.4.2 Late owls at work

After the total trips for each day is finished, bus drivers need to queue at the gas refilling center for another day. Bus drivers need to be at bus station one or two hours before 5:00 a.m. or 5:30 a.m. in order to do gas refilling. Then, they have to work till 10:00 to 11:00 p.m. Therefore, some drivers said that they had to start their work at 3:30 a.m. and it ends at 11:00 p.m. Bus driver who get senior one to start the trip as the first one needs to get ready before 5 a.m. and their day starts at about 5:00 a.m. or 5:30 a.m. and ends at about 8:00 to 11:00 p.m. depending on traffic jam and the senior number they get.

*“We can finish only at about 11:00 p.m.” (Ko Moe)*

*“We are the most early birds at work...and late owls at night.” (Ko Tun)*

*“I have to wake up at about 3:30 a.m. and till 10:00 – 11:00 p.m. I have to drive three up-ins, so that all are six trips from one terminal to another terminal. So, we can only end at about 11:00 p.m.”(Ko Tun)*

#### 4.4.3 Refilling the gas

*“When I was writing my transcript at home, I got a phone call from Ko Tun. He said that he was going to refill the gas in the gas refilling center in Hlaing Thar Yar Township after twenty minutes later. After a call, I went to this gas refilling shop. It was already about 12:15 p.m. I was looking for Ko Tun and where their bus was. Finally I found them and they were the last senior. We have some snack together at the street vendors. We were chatting while waiting for the senior to refill the gas. He talked about bus drivers’ life and his life. Finally, it got our senior to refill the gas. It started at 12:40 p.m. to refill gas but while filling the gas, the light went out. So we need to wait again. The bus driver and bus assistances explained that going out of electricity is a usual thing which makes them waste time, less earning and get less money. It lasts for about fifteen minutes. When the electricity comes back, all people in the gas refilling center shouted that the light was on with happiness; then, refilled the gas again. It finished at about 1:20 p.m.”*

However much early they arrive, every senior one starts at 5 a.m. or 5:30 a.m. Bus drivers need to arrive at the bus terminal at 4 a.m. in order to refill the gas. It is necessary to refill the gas twice a day. Gas refilled shops are public. The government allows bus drivers to refill only four sets of gas – 484 liters of gases for 4 bottles for one time. Korea buses have eight gas bottles but the government allowed to fill in only four gas bottles. One 121 liters per bottle, they fill four sets of gas bottles so that is a total 484 liters per time. For the buses made in Japan, they have to fill 10 gas bottles of 70 liters with 2700 pressure/mmHg. But the bus uses this amount of gas for only 38.75 miles. It is just enough only for three single trips. Actually, 650 liters will be enough with 6 sets of gas bottles for the whole day trips. Thus, it is necessary to refill twice a day which make bus drivers waste time and get less money. Moreover, in refilling the gas it is necessary to queue for a long time as there is not enough gas refilling centers and also need to wait for electricity. When the electricity is out, bus drivers waste their time again which makes them not to be able to fulfill the required amount of money and trips.

*“Especially, in rush hour, bus drivers can make more money. But if they need to refill the gas at that time, they can’t earn much money.” (Manager Oo)*

Refilling the gas, gas pressure is not enough so that not enough amount of gas enters into the gas bottle. When the gas pressure is low, there is not enough gas entering into the gas bottles which can affect the brake system, gear system then can lead to machine error. When the pressure while refilling the gas is low, it may lead to filling with air bubbles.

After work, bus drivers have to refill gas for another day. If the electric light went out, bus drivers need to wait again. The gas refilling center closes at 6 p.m. for about half an hour for their night-shift staffs round. Besides, it also closes at 11:30 pm to 12:00 midnight. So, if the bus driver arrives at that time, they have to wait again because it opens at 12 midnight again. At this time, they have no time to sleep.

When they have to queue for refilling gas, bus drivers lose their working time with the same amount of getting money. In turn, they cannot fulfill fixed number of trips and fixed amount of money within limited time. It takes more time if the electricity goes out. In Myanmar, electricity goes out very often –a problem of time waste for bus drivers.

#### **4.4.4 Facing daily traffic jam**

*“On the way while accompanying the bus driver along the way, it took me three hours stuck on the bus. We started at 12:00 noon from the Hlaing Tharyar terminal. It took about twenty five minutes near Insein Market before reaching Insein flying bridge. Near Insein Market, there is also Insein High School even though it is not on the same road; so that a lot of students were coming back from school.*

*Again the bus was stuck in front of Basic Education High School No (2), Mayangone. It took another ten minutes: a time when the students’ dismissal from class...and a lot of student ferry, buses and students are busy along the road.*

*After that, there was not much traffic jam on Insein Road; but as usual, there was traffic jam at Hle Dan Bus stop because this is the main junction in Yangon. Bus drivers talk to another bus driver that causes too much traffic jam...which make them not get enough money. I saw bus drivers communicating with each other about the traffic jam at the traffic light at Hle Dan Junction – talking about not getting much money because of traffic jam. When we arrived at Sulae bus stop which is another terminal, it was already four o’clock.”*



**Figure 4.3 Social communication between two bus drivers at traffic jam**

Traffic jam is also a main problem causing gas waste, time waste and money waste for bus drivers. There is too much traffic jam mostly at the junction during rush hour in the morning and in the evening, and mainly on the road busy with many sided shops and street hawkers. The last senior of the day is at 8 p.m. or 9 p.m. Depending on traffic condition, though the distance of the trip takes two hours, it will last four or five hours so that it can only be closed at 11:00 p.m.

*“If there is traffic jam, we have non-stop driving sometimes it lasts 5 hours, until we arrive the terminal again.” (Ko Nyunt)*

*“During traffic jam, bus waste gas and it also waste time.” (Ko Tun)*

It was also described by bus drivers that when there is too much traffic jam, mostly there are light accidents. Heavy accidents happen mostly when there are not many buses and cars on the road.

#### **4.4.5 A piece of resting time**

Between each serial number, there is some interval time for bus drivers which will be ten to fifteen minutes. But the interval time is resting time for bus drivers so that they get ten to fifteen minutes resting time when they can have their lunch or break meal. This resting time really much rely on the situation. Sometimes, bus drivers do not even get their meal time because of traffic jam. Usually their trip takes two or three hours but when there is too much traffic jam, it lasts for four or five hours on the way which also makes them lack of resting time.

*“For them, it is interval. Ha..ha..but for us, it is a piece of resting time.”*

*(Ko Ngwe)*

*“We have about ten minutes resting while waiting for our senior number.”*

*(Ko Nyunt)*

#### **4.4.6. Less time for family**

They have less chance to give time for their family. They have to spend most of their time on the buses with driving. Ko Tun tells how he gives his time to his family to get family warmth. He regularly rings his children asking what kind of snack they want to eat or what kind of dress that they want. When he arrives home, his children are sleeping and this is the time that he can kiss them goodnight. On his holidays, he usually cooks for his family and eat together. Ordinarily, he is a funny person and he makes his children laugh very often.

#### **4.4.7 No place to take a rest**

But bus drivers rarely have holidays nor do they take holidays because they cannot earn money if they do not drive on that day. Some bus drivers coming from another country site who do not rent any house stay on the bus. They work on the bus and they also take rest on the bus even at night time. Because of not having a house and not having the family near them, they do not have a place to take a rest.

*“I come from Nay Pyi Daw. Umm...all family members are also in Nay Pyi Daw. I have no house here. I stay on the bus...with bus assistances. We rarely take holiday...because, if we are free, we have no place to take a rest.”(Ko Ngwe)*

*“I go back home to Twante, where my siblings live once in two weeks. In other time, I spent my time on the bus.” (Ko Lwin)*

#### **4.4.8 Less public transportation for transportation service providers**

For some bus drivers who are not staying in the bus compound, they have difficulties when they go to the bus terminal to start their work daily. In the very early morning, there is no public transportation for bus drivers who are staying in their house to go to the bus compound. Although the bus drivers are the ones who serve for public transportation, there are not many ways of transportation for them during the early morning. When they finish their work, there are no buses for them to go back home. This is one of their difficulties. Bus drivers need to hire a taxi or a motorbike to get to the terminal.

*“When we go to the bus terminal from home, there are no public buses on the road and when we go back home, no bus again. So, I need to hire motorbike every day.” (Ko Tun)*

*“No buses for us...bus drivers.” (Ko Kha)*

### **4.5 Driving behavior of Myanmar bus drivers**

#### **4.5.1. Speed**

*“One day, when I was accompanying along the bus line as a passenger to make some observation, I saw a bus driver which I took was fighting with another bus. He was driving so fast. At the same time, two bus assistances were so busy looking at the other bus and shouted to the bus driver that another bus was following and which bus stop that the bus would arrive. When I looked at the other bus, it was from the same bus line. They did not stop at every bus stop at that time; they just stopped to let the passengers get in and get off. The bus was so fast. I was near the bus driver. I was in front of the bus. So, I wondered in which speed they were driving and I looked at the speedometer. Unfortunately, I saw there was no mileage.”*

According to in-depth interview concerning with speed limit, mostly driving speed really depends on the situation. Legal driving speed is 20 miles/hour in

downtown and 35 miles/hour outside the city. In the early years, the driving legal speed limit is 20 miles/hour; but nowadays, it is 30 miles per hour (about 48 km/hours). However, bus drivers drive in high speed when they fight each other. If there is traffic jam, the bus cannot even move a little and it is about 15 miles in city area. It depends on the situation of the road and whether there are too many buses on the road or not. It is also said that if there are not too many vehicles on the road, the driving speed limit will be about 48 km (about 30 miles).

By the in-depth interviews, it was also known that over 80 – 100 km/hour (about 50 miles/hour) can lead to break the brake and wheels. Mostly, people drive over 80 km/hour outside the city on highway road; and inside the city, they drive 50km/hours.

With the legal speed limit 20 miles per hour, they cannot fulfill the requested number of trips by the owner. The distance for each single trip will take about two to three hours, so it might take about 15 to 18 hours to fulfill the requested number of trips (six single trips). Moreover, it also depends on having traffic jam or not on the road. If there is traffic jam, it will take more long time. Therefore, driving within the legal speed limit, 20 miles per hour, is not possible for bus drivers to fulfill their specification and records. Legal speed limit cannot cover these facts. So, the regular driving speed limit is usually about 45 to 50 km per hour (31 mile/per hour) to fulfill the fixed numbers of trip.

*“With 20 miles, we cannot fulfill required amount of trips. Even with regular speed limit, we cannot get limited number of trips if we got the last senior number. Normally, it can happen once in ten days.” (Ko Ko)*

*“Legal limit is 20 miles/hour which can only arrive 25 to 30 km per hour in single trip, but the distance of the trip is 60 – 80 km so in order to get limit amount of trip we need to drive 40 km/hour.” (Ko Kha)*

#### **4.5.2 No mileage on the bus**

There is also no mileage working in most buses. Bus drivers said that mileage is not important for them to know in what speed they are driving because they can know in what speed they are driving but policemen use speedometer in order to check in what speed bus drivers are driving.

#### **4.5.3 Driving on the opposite lane or not on the right lane**

There are specific ways for buses, for cars, taxis and for some light vehicles to drive; but they all do not drive in the correct way. Buses are needed to drive on the second way which is so near to the pavement, and the cars and taxis are needed to drive in the first line which is so near to middle rips. But in some places, there is no middle separation rips in the middle of the road and some buses and cars tried to pass through other buses and cars in the opposite way. It is distinctive in Hlaing Tharyar Township that there is no separating line between two ways.

There is also a new regulation announced for not driving on the limited way. It will be two years in jail for bus drivers and one year in jail for taxi and private drivers if they do not drive on the limited lane. But this rule has just started and is not working well.

As road is so narrow and when there are many buses that arrive at the same bus stop at the same time, there is no place to stop and some buses stop in the middle of the road so that they cannot give way to other buses; meanwhile buses go in opposite way in order to pass through other vehicles which are stopping. There is a lot of traffic jam causing bus driver to drive in another opposite lane.

#### **4.5.4 Not able to stop at the bus stop**

*“When I was taking a bus to Hlaing Tharyar Township, the bus arrived at another bus stop. But it stopped in the middle of the road. When I looked at the situation of why buses stop like that, I saw a lot of buses arriving at the same bus stop. There were also many taxis at bus stops and there was no place for buses to stop.”*

Sometimes, buses stop in the middle of the road because the road is so narrow and there is no place for buses to stop when there are many buses arriving at the same bus stop at the same time.

Bus drivers sometimes stop before the bus stops or beyond the bus stops where passengers are waiting for. There are no bus stop signs and passengers wait only where the place is convenient for them; for example, under the shady tree. Thus, bus drivers can stop only where the passengers are.

Sometimes, there are also bus stop signs, but buses cannot stop at the bus stops because there is no stopping area for buses and taxis stops where the bus should be stopping. For the taxis, there is no parking area for them in the city.

When there are a lot of street vendors along the street, it is also not possible for bus drivers to stop at the bus stops because the bus stop is really near to the market and the street vendors are selling things near the bus stops.



**Figure 4.4 Busy road pattern at the bus stop**

#### **4.5.5 Letting passengers get in and get off while buses are still moving**

*“While I was on the bus as a passenger, I noticed that the bus was suddenly going slow on the way before arriving to the next bus stop. I wonder why this bus was suddenly slowing down and what the bus driver was trying to do. At the same time, two young people and one old lady get in to the bus. At that time, I realized that bus driver slowdown to let the passengers get in.”*

Sometimes, it can also be seen that passengers are allowed to get in and to get off the bus while it is still moving along the road. There are also some passengers using hand indicator showing that they want to get in on moving buses. At that time, bus drivers also want to get more money so that they allowed passengers to get in by

making their bus moving slowly. Sometimes, passengers might have been some acquaintances of the bus drivers, so that bus drivers have no chance but to allow passengers to get in.

#### **4.5.6. Not use or absence of safety equipment**

Almost in all buses, there is no mileage and bus drivers think that it is not important for them because they can estimate in what speed they are driving. Bus drivers said that mileage is not important and it is very easy to break down so that they remove it.

There is one more example noticed from the observation.

*“One day, I came along with bus driver till the terminal to make my observation. When we arrived to the bus terminal, we have to wait ten minutes to restart another trip. At that time, the bus driver rushed his bus assistance to buy superglue. I was surprised. I cannot connect my thinking of superglue and bus driver. Finally, his bus assistance got back with superglue in his hand. At that time, bus driver asked him to stick back mirror which was already loosen, it is nearly going to fall down. Arr...at that time, I understood that bus drivers also use their own way of solving the problems.”*

It is seen from that observation that bus drivers need to use the most possible way of solving problems for their safety.

#### **4.5.7 Betel quit not to feel sleepy**

Three bus drivers; Ko Win, Ko Tun and Ko Kha among twelve in-depth interviews drink after driving. One bus driver Ko Moe smoke. Seven bus drivers; Ko Moe, Ko San, Ko Ngwe, Ko Nyunt, Ko Ko, Ko Lwin, Ko Htike and Ko Oo eat betel quit. Bus drivers have to drive for long hours without taking a rest and sometimes, they do not have enough sleep so they need to use some kind of energizers. In betel quit, it also includes some kinds of active energizers so as not to feel sleepy. These are reasons why bus drivers have to use energizer while driving and it triggers an accident prone driving behavior.

*“We have to eat betel quit...so as not to feel sleepy.” (Ko Lwin)*

#### **4.5.8 Enough sleep or not**

Bus drivers have to drive for long hours without taking a rest and sometimes, they do not have enough sleep. In the morning, they have to get up 5 a.m. and sometimes even at 3:00 a.m. in order to refill the gas and they finish their work at about 11:00 p.m. There are only a few hours for them to sleep. Therefore, Myanmar bus drivers also do not have enough sleep.

### **4.6 Accident experiences of Myanmar bus drivers**

#### **4.6.1 Driving after drinking**

From the in-depth interviews, it was known one experience about meeting an accident while driving after drinking.

*Ko Kha:* While he was driving a company car, he had been in an accident. He said he drank a lot, about 3.5 liters. At the corner of Bo Gyoke Aung San Road, after drinking, he drove and had met an accident. His car rolled to the other side and he did not know anything after that. When he got conscious, he had already been in the police office.

#### **4.6.2 Careless driving**

*Ko Oo:* When he was driving, the road was also narrow and there was not enough space to drive to pass through another car, but he said he drove passing through it and it made the back mirror of another car broken at that time.

#### **Road users' behavior**

*Ko Win:* When he was driving the bus, one person crossed the road but not from the crossing line. This person also came out behind another vehicle so that he did not see him and it caused light striking to this person. So this person got a little hurt and he needed to give some money for this case.

#### **Other causes**

*Ko Win:* While he was driving one BM type (small bus), someone borrowed their bus to attend a funeral. There were many mistakes in terms of cultural habits. When sending a coffin, they needed to make voice with a triangular brass gong;

in Myanmar, it is called “Kyee Ze”. It had been broken when making voice. The dead body dropped from the coffin and then, evil spirit “Ma Kaung Soe Warr” got in the bus. Then this evil spirit drove the bus and he did not know what is happening on his bus. He could not control the bus. His bus was running fast in high speed and it “rolled”. He felt timid and it was not an auspicious day. He said:

*“The bus rolled up and down...up and down till about seven times. Then, I did not know anything. It has already been in an accident. There was also a person who is very close friend of a person who was dead. He had already said that he would die and he wanted to be buried on the same day of his friend was buried. Then he was on BM and many people were helping controlling him because he really wanted to die and tried to be dead. But when the evil spirit entered, nothing was under control and finally the bus went down the street and rolled up till about seven times. Six persons, including this person, were finally died and 29 persons got injured.”*

#### **4.6.3 Weakness of vehicles**

Ko Win said about his accident experience happened when he drove Chaplet (Big bus made of wooden);

*“Chaplets are out of date and they always give problems with brake. There was one time, when I was driving this chaplet, the break string broke suddenly, and my bus stroke Hilux in front of my chaplet. When it happened, I tried to avoid this Hilux, but there were also two persons who were coming in front of my bus on another side, so that I had no choice and it stroke Hilux but no one got injured.”*

Ko Maung also described his experience which happened because of breakdown of the vehicle.

Ko Maung said that *“An accident happened when I drove Dina line 96 (Blue) because of the weakness of Dina condition. When I was driving this Dina, it (tilot) has been broken suddenly so that it caused an accident. Some people got injured but no one died.”*

## **CHAPTER V**

### **DISCUSSION**

#### **5.1 Whether Myanmar bus drivers have accident prone driving behaviors or not**

Accident prone driving behaviors are considered as driving behavior which are prone to accidents whether the bus drivers deviate from the traffic regulation or not. Generally, all the informants who participated in this study have more or less severe accident experiences. As an outsider view, Myanmar bus drivers are used to have accident prone driving behaviors. They drive in high speed whenever they fight with other and there is no mileage indication on the bus so they will not know in which speed they are driving. Moreover, most of the time, bus drivers have to compete with each other to get more money most of the time because there are a lot of buses on the same lane. They can earn money, not counting the traffic jam and gas refilling time; so that they need to rush to get money in a very limited time. The time to refill the gas and traffic jam is a waste of time and money; thus, less earning.

Long working hours makes them sleep debt. They have to get up very early in the morning and finish very late in the evening; therefore, less time to sleep. On the other hand, they need to use energizers like smoking and eating betel quit so as not to feel sleepy during their working time. These factors lead to accident prone driving behaviors of bus drivers.

Because of lack of designated areas of bus stops, unavailability of bus stop signage and passengers not waiting at the appropriate bus stops, buses are not able to let the passengers get in and get off the appropriate places. Hence, not stopping at appropriate place designated as bus stops causes accidents.

Lack of mileage indication and other possible ways of solving the inherent problems concerning safety equipment may lead them to accident prone driving behavior of bus drivers.

On the other hand, from the view of bus drivers as an insider, bus drivers may think that they do not have accident prone driving behaviors. Thus, having accident prone driving behaviors depends on who these bus drivers are, where they are coming from and what factors leading them to have accident prone driving behaviors. It is, therefore, necessary to find out the factors that lead them to do what they do.

## **5.2 What make Myanmar bus drivers do what they do**

There are many factors behind the accident prone driving behavior of Myanmar bus drivers. Working condition shaped by the working structure, living background of bus drivers, their cultural meanings and cultural practices on bus driving may structure the driving behaviors of Myanmar bus drivers.

In working context, working time, payment system and production relation are main factors which affect driving behavior of bus drivers. Working condition like road condition, vehicle condition, weather condition and physical and psychological condition of bus drivers are also important. Concerning the working social environment, social relationship with passengers, with bus assistants, with other road users and policemen may also give impact on their driving behaviors. There was also a study that showed positive relation between stress that city bus drivers got from their work and their reaction on being in traffic accidents. (Geeta, V. B, et al., 2014) Depending on the mind condition of bus driver, it can also be affected by situation of the atmosphere. Furthermore, it was also shown by a study that violating traffic rules is also a kind of work related to driving behavior. (Wills, A. R., Watson, B. & Biggs, H. C., 2006).

Concerning the living context, the living condition of Myanmar bus drivers may have a great impact on their physical health and mental condition. The meanings they give are culturally based on what and how they have experienced, which may also influence on how they reacts in their everyday life. Therefore, behind the accident prone driving behaviors of Myanmar bus drivers, comprehending what make Myanmar bus drivers do what they do is the essential part in understanding the lives of Myanmar bus drivers and their related accident prone driving behaviors.

### 5.3 Structural factor affecting accident prone driving behavior in working context

In this study, in order to understand the structural factors affecting accident prone driving behavior in the working context, in three bus lines were under observation; bus line1, bus line 2 and bus line 3.

#### 5.3.1 Working structure

##### 5.3.1.1. Management strategies

**Table 5.1 Management structure in three bus lines**

	Manager Oo	Manager Win	Manager Soe
Bus line	Bus line 1	Bus line 2	Bus line 3
Number of bus routes	5	2	1
Running buses	45 – 55(17) company	About 45	Over 30
Bus drivers	About 70	About 60	About 45
Required trips	Two Up-in & one single trips	Three Up-in trips	Three Up-in trips
Payment system	Only profit	Profit + salary	15% of earning
Fixed amount of money	64,000 Ks	60,000 Ks	70% earning
Working contract	Open	Open	Open
Working time	5:30 a.m. – 11:00 p.m.	5:00 a.m. – 10:00 p.m.	5:30 a.m. - 10:00 p.m.
Interval time	10 minutes	10 – 15 minutes	Depend on office hour
Working day	Depend	20 days/month	Depend

Concerning the management strategies within the bus line, it has been seen that there is a simple management flow in all bus line Company. There are managers in all bus lines taking responsibility on the operating structures and the

reparation of buses. There is no other supervising level among bus drivers and under the supervision of bus drivers, there are two bus assistants for each bus; one bus assistant collects money from passengers because sometimes, passengers do not want to pay transportation fee; another bus assistant helps telling the names of bus stops.

#### 5.3.1.2 Payment system

In Bus line 1, salary payment system is not used now. They make the earning of bus driving relying on the profit. As the capital, it costs over 100,000 Ks per day (64000 Ks for input + 30000 – 35000ks for gas + lunch they eat). Bus drivers need to give as the input 63,000 Ks as the input to their owners per day for three Up-in trips (six single trips). If bus driver drives only one single trip, he has to give 15,000 Ks to the owner. Bus line 1 was founded in March, 2013. Salary payment system was used it could not make much profit for the company. As the salary, bus driver gets 450,000 Ks, and one bus assistant gets 225,000 Ks, with six working days and two day holidays in rotation. At this point, bus drivers do not care about profit and how many passengers they can carry. Therefore, the company change from giving salary system to relying profit system.

*“They don’t care how many passengers they get because, certain amount of money is sure for them, at the end of the month as the salary.”*  
(Manager Oo)

Bus line 2 is a private bus line Company, and there are only company buses and no owner buses. (Owner buses means buses which are sold to another person by giving an approval of running in this bus line). Concerning with payment system, salary payment system is used. Bus driver gets 51,000 Ks per month, as salary (1700 Ks per day) but a bus driver needs to drive, at least, twenty days per month. They give 1000 Ks per day for one bus assistant. An obvious point in this company is that there is only one bus driver and one bus assistant in each running bus. Depending on number of working days, salary is given to bus drivers. If bus drivers have some day leave, they cut it off. Bus drivers need to fulfill twenty driving days per month, otherwise, they will get some warning. The company give the salary to bus drivers plus the profit. They also make the earning of bus driving relying on the profit. Bus drivers need to give 60,000 Ks per day to the company and they also need to

fulfill driving record and specification of three up-ins (six trips) per day. As the capital, it costs 100,000Ks (including gas + lunch+ Owner fee).

In bus line 3, the earning of bus drivers is percentage giving system. Bus drivers get 15% of the earning and another two bus assistants get 7.5% each. Bus drivers need to drive three up-in trips per day and need to give the owner 70,000 Ks per day.

*“If we have no absent day for driving 20 days per month, the company give 1700 Ks per day for bus drivers and 1000 Ks per day for bus assistants...as the salary it is about 50,000 Ks.” (Ko Tun)*

### 5.3.1.3 Working time

The started working time is more or less 30 minutes after 5 a. m. and closing time is about 11 p.m. All these bus lines are operating with appropriate time intervals. According to different numbers of buses running, different numbers of bus drivers and traffic situation, interval time is also different from one another. Herein, bus line 3 make their interval relying on office hours. They make ten-minute-interval time from 5:30 a.m. to 6:00 a.m.; five-minute-interval time from 6 a.m. to 8 a.m. and 10 to 15 minutes interval time in the afternoon.

*“We have about ten minutes resting time while waiting for our senior number.” (Ko Nyunt)*

After total trips for each day is fulfilled, bus drivers need to queue at gas refilling center, preparing for another day. Although the work starts at 5:00 a.m. or 5:30 a.m., bus drivers need to be at bus station one or two hours before for gas refilling. Consequently, some drivers said that they had to start their work at 3:30 a.m. and it ends at 11:00 p.m. Bus drivers who get senior one need to get ready before 5 a.m. so that their daily life starts at about 5:00 a.m. or 5:30 a.m. and ends at about 8:00 to 11:00 p.m. depending on traffic jam and the senior number they get.

*“We start our work at 5:00 a.m. and finish at about 11:00 p.m.” (Ko Moe)*

*“For us bus drivers, our day starts at 3:30 a.m. when everybody is in bed, and it will finish at 11:00 p.m.” (Ko Tun)*

#### 5.3.1.4 Holidays or off days

In bus line 2, the company give first warning, second warning and third warning, even punishment, for not fulfilling 20 working days for each month. In some bus line, it is necessary to drive at least 18 days per month. Not only fixing the amount of minimum driving days per month, but holidays also depend on the availability of the replacement. Bus drivers cannot get holidays if there is no replacement for them. In addition, holidays also depend on the health condition of bus drivers and condition of buses. If the bus is broken, bus driver cannot earn for this day. Earning depends on how much they can drive. Some can drive 30 days or some 20 days non-stop. A responsible person tries not to exceed ten to 15 days at least.

There is a study showing that the act of working twelve continuous days and long-haul driving generally resulted in the accumulation of fatigue and impaired driving performance as a function of accumulated sleep debt, which further increases with every additional night of insufficient sleep. (Biggs, Dingsdag, & Stenson, 2009) At the certain point, it can be said that Myanmar bus drivers are prone to accidents because of long working time.

*“We try to have non-stop working day not exceeding ten to fifteen days.” (Manager Soe)*

*If there is no Shan Tain, there is no replacement...then,...no holidays.” (Ko Ngwe)*

#### 5.3.2 Nature of work

As bus drivers have the responsibility to fulfill the required numbers of trips and driving days, they do not have regular day-off. Besides, in order to get leave, they also need to get “Shan Tain” for replacement. Bus drivers who replace in the place of owner bus drivers, called “Shan Tain”. “Shan Tain” drives when the owner bus drivers take their holidays or when owner bus drivers cannot drive. If owner bus drivers cannot find “Shan Tain” for replacement, they cannot take holidays or leaves. Therefore, there is non-stop driving for bus drivers until their holidays. Most bus drivers coming from the countryside drive until they go back to their native towns.

*“I have no holidays if the bus condition is good. I take holidays only when I go back to my home town.” (Ko Ngwe)*

*“Only after getting replacement, we can have our holidays.” (Ko San)*

As earning depends on how much bus drivers can drive and how many passengers they get. It is not a regular earning. Bus drivers earn money only after fulfilling required number of trips and required amount of money while fulfilling the limit of driving days.

#### 5.3.2.1. Similar to sale

Being a bus driver is a kind of public service which is similar to selling. The more passengers they get, the more money they earn. In order to make more money, bus drivers need to drive faster than other buses to get more passengers. Meanwhile, there are also many buses running on the same lane so that it makes competitive atmosphere among bus drivers. For bus drivers, earning money also depends on the amount of driving time. The more they can drive, the more passengers they will get. It is not a regular earning. However, bus drivers cannot drive as fast as they wish when there is much traffic jam which waste their time and their money. In addition, they also need to refill gas which also need some time and made them get less money.

On the other hand, bus drivers need to fulfill the required amount of money and numbers of trips for each and every day, so that time and money acts as the most important thing in their daily life.

*“The amount of money earning depends on how long we can move the bus.” (Ko Moe)*

*“Need to drive as fast as we can...then we can beat others, and can make more money.” (Ko Tun)*

*“Money is...money is...how much we can drive.” (Ko Kha)*

*“It is similar to sale. The more you can sell, the more you get.” (Ko Kha)*

*“The more we can drive, the more money we will get.” (Ko Ko)*

*“There are a lot of buses...on the same lane.” (Ko Htike)*

#### 5.3.2.2 Production relation

The earning of bus driving relies on the profit. As the capital, it costs over 100,000 Ks per day (64000 Ks for input + 30000 – 35000ks for gas + lunch they eat) for each day. Bus drivers can earn money only after they get the profit. In bus

line 3, bus drivers are given as the bonus once in six months. In bus line 1, bonus are given once a year depending numbers of driving days. Prizes like first prize 30000ks, second 20000ks and the third 10000ks are also given once a year. In salary payment system - first prize is 600,000 Ks, second is 400,000 Ks and the third prize is 300000ks. Bonus is given only once a year depending on number of driving days. Although uniforms (5000ks with collar and 2500 without collars) were given in salary payment system, bus drivers have to buy themselves, in profit based payment system.

The manager said that there are some development programs for some family and health support of bus drivers. In bus line 1 and 2, 1000 Ks per day is saved as developing fee for bus drivers which is planned to be used for the support of bus drivers in such cases of flood and fire. In bus line 3, they save 5,000 Ks for each bus and 500 Ks for each bus driver as the development fee which is 1% of the earning of each day.

*“Development fee 25000 Ks is given to us once in six month.”*

*(Ko Kha: bus drivers of bus line 3)*

In all bus lines, the owners take responsibility on bus reparation case. Bus line 1 has their own workshop center where bus drivers can repair their bus by showing engine repairing card.

### 5.3.2.3 Exploitation

#### **Exploitation on bus drivers**

Although manager said there is a development program for the support of bus drivers, bus drivers said program is not active. Bus drivers mentioned that they drives only for living because there is no facilities, no health support, no family support and no bonus. Even the uniforms, they need to buy by themselves. Uniforms also make them hot. If they do not wear uniforms, they are also fined for not wearing uniforms.

*“Development system for bus drivers is not working well in fact.”(Ko Win)*

*“No facilities, no support, no expectations! We only work for living!” (Ko Moe, Ko Win, Ko San, Ko Kha, Ko Ngwe, Ko Lwin, Ko Oo & Ko Maung)*

The expense for bus repair are only given back with brochure request and if the amount is less than 10,000 Ks (<\$10), the owner never reimburses

back to the bus driver. The company or bus line take responsibilities only on bus reparation. All companies do not want any accidents because they do not want to get their buses repaired and they do not take responsibility on accidents. Bus drivers themselves need to take responsibility. Therefore, it is said that there is no guarantee for bus driver and they have to solve the problems on their own.

*“The owners don’t want us being in accidents...not because they care us, but because they don’t want their bus to get repaired. They takes care of buses, not bus drivers.” (Ko Kha)*

*“There is no owner or company owner in the world...who will think about for the staffs.” (KoTun)*

*“The owner wants only money. They do not take responsibility on accidents, sometimes, they even postpone repairing the bus.” (Ko San)*

*“We can get back only if it is over 10000 Ks and can request with brochure.” (Ko Ngwe)*

There is no much expectation of the owner from bus drivers but only money. Money is the king in bus drivers’ atmosphere. They want bus driver to drive full time and they do not give any holidays to bus drivers if there is no replacement. If the bus driver cannot earn as much as they want, they make some complaints to bus drivers or bus assistants.

*“If the owners do not get as much as they want, they told bus assistants for not getting much money... which is the same that they told us also.” (Ko San)*

*“Only money is what they want and what we want” (Ko Ko)*

### **Exploitation on passengers**

Special Bus (A Htoo) Bus which has limited fee but these buses are just repaired from the old one. It has only 25 chairs and not over 40 chairs. Over 40 chairs with air-corn bus can be called a special bus. The owner make more space for passengers to stand to make more money.

#### 5.3.2.4 Records and specifications

There are some words like record and specification. Record means the fixed amount of money and specification means fixed time. Bus drive need to fulfil the fixed amount of money and trips within fixed time.

### **Fixed number of trip**

At least, bus drivers need to fulfill the requested number of trips which is two up-ins and one single trips (five single trips) or three up-in (six single trips) depending on different bus lines. Bus drivers from some bus line need to fulfill two up-in and one single trips, which from some other bus line need three up-in trips. It is non-stop driving from the very beginning of the morning till night time. Fixing with limited number of trips is also a kind of capitalist oppression over bus drivers. Usually, one single trip takes two or three hours so it will take the whole day to fulfill the required amount of trips. It will take about 15 – 18 hours for five or six single trips per day. Making limited number of trips is a kind of making long working hours; a kind of capitalism on managing strategies on bus drivers.

### **Fixed amount of money**

Bus line 1 makes the earnings of bus drivers relying on the profit. Bus drivers need to give 63,000 Ks per day for three Up-in trips and 1,000 Ks for development fee to the company. If bus driver drives only one single trip, he has to give 15,000 Ks. As the capital, it costs over 100,000 Ks per day (64,000 Ks for input + 30,000 – 35,000ks for gas + lunch).

Apart from giving salary, bus line 2 makes the earning relying on the profit. Bus drivers need to give as the input 60,000 Ks per day with 20 driving days per month. As the capital, it costs 100,000Ks (including gas + lunch+ Owner fee) per day.

In bus line 3, the earnings of bus drivers depend on the percentage of how much they earn each day. Each bus driver gets 15% of the earning and another two bus assistants get 7.5% each. Moreover, bus driver need to fulfill the required amount of money (70,000 Ks) per day, at least. In some bus line, it is fixed to give 57,000 Ks for three up-in and 47,000 Ks for two up-in trips, but not included lunch and gas fee. Rather than companies demarcated the amount of money to fulfill for each day, other bus lines depend on earning percentage.

Fixing the amount of money to be fulfilled per day is a way of making a capitalist atmosphere in bus drivers' surroundings. As there are a lot of bus lines in the same routes experiencing traffic jam, buses have to fight each other for money then bus drivers need to do what they used to. They can earn money only when

the buses can move apart from time wasting by traffic jam and refilling the gas. They need to drive fast to get many passengers fulfilling the required number of trips and money.

### **5.3.3. Working condition**

#### **5.3.3.1. Road condition**

The poor road condition resulting from deficiencies in maintenance, alignment, traffic signs, safety features, weak enforcement of traffic regulations and a lack of road knowledge were also mentioned as contributory factors of possible accident causes. (Pearce, T., 2000)

#### **Not having enough traffic signs**

There are not enough traffic signs like bus stop signs and no pedestrian crossing lane in Hlaing Tharyar Township. There is also no center line or no center rips on the road because of being peri-urban. Thus, buses try to drive on the opposite lane to pass through other buses, when they are overtaking other buses. Besides, uneven cement distribution led to having a lot of holes on the road, so that bus drivers drive from the opposite lane to avoid these holes.

There are no bus stop signage makes buses stop not on the appropriate spot for stopping. If there are bus stop signs, passengers are not waiting there because taxis are stopping in this area. For taxis, there are no parking area for them. It also depends on stopping position of other vehicles. Hlaing Tharyar route is always mingling with light vehicles, heavy vehicles and street hawkers.

Not having bus stop signs, central rips and zebra crossing, no enough mobile policemen and not enough traffic signs; resulted to other road users not respecting but violating traffic regulations. Therefore, bad road condition of not having enough traffic signs and filling with a variety of means of transportation make the road busy and bus drivers more prone to driving behavior resulting in accidents.

#### **Relatively narrow road and traffic jam**

Hlaing Tharyar Road has a wide range of means of transportation, means of locomotion; pedestrians, motor drivers and cyclists and various vehicle types. High peri-urban population density and poor planning of public

spaces have promoted unpredictable working pattern for bus driver resulting in unsafe road conditions for drivers and pedestrians.

The presence of street vendors, the absence of street signals and lack of sidewalks or broken or damaged sidewalk effect the perception of physical environment. (Inclana. C., Hajar. M. & Tovar. V., 2005). Being narrow road and being busy with many vehicles like private cars and light vehicles make traffic jam which, in turn, waste time for bus drivers. As there is no enough mobile policemen, no enough traffic education service and not active traffic regulations, there are also a lot of street vendors who are selling on the road, and development department does not take action on them. On the other hand, they are making their living and economic systems of Myanmar lead them to fall in this situation.

*“When I was driving, the road is also narrow and there was not enough space to drive to pass through another car, but I drove passing through it and it made the back mirror of another car broken.” (Ko Oo)*

Not only the road is narrow, but the sides of the road are also occupied by some bus terminals. This leads to lack of space at the bus stops and passengers also do not know where to wait for other buses.



**Figure 5.1 Some vehicles terminals along the road**

Such of these reasons lead to make traffic jam, especially in office hours. The condition of traffic flow is a cause of accident prone driving behaviors of bus drivers. There is too much traffic jam during rush hours – a sort of time wasted for bus drivers; so, they will drive in high speed later.

#### **Inexperience of new drivers**

Bus drivers very often face unexpected driving behavior of inexperienced new car drivers who are black license holders. They can get their license without having enough traffic knowledge and driving experience because they can easily get the license by bribing money to the authority.

*“Without having enough driving experience, rich people can get driving license so easily because they can give money to the authority.” (Ko San)*

#### **Inappropriate driving behavior of other road users**

Some accidents also happen because of inappropriate driving behaviors of other road users such as bicycles, trishaws and motor bikes. Sometimes, they make unexpected uncontrollable condition to bus drivers. Their careless driving, sometimes, lead to accidents.

*“One day, while my truck is on halt with all signal lights on beside the road in the parking area, one captain of the military riding a motorbike wearing sunglasses while it was raining came rapidly. He was also drunk, stroke the back side of the truck in high speed and he died instantly. Maybe he could not see everything clearly because of the glasses he wore. Then at once, all his colleagues from the military came and examined the situation. Finally, they all checked the condition of the truck whether all signal lights were on or not. But they could not make any problems because all the bus conditions were in right situation and the case was finished well.” (Ko Ngwe)*

#### **Lack of traffic knowledge of other road users**

Concerning lack of traffic knowledge of other road users, Ko Win recounted his accident experience.

*“I would love to talk about the accident that happened to a pedestrian crosser. When I was driving the bus, one person crossed the road, but not from the crossing line, he came out behind other vehicles so that I did not see and it*

*caused striking to this person lightly. He got a little hurt and I needed to give some money for this case.” (Ko Win)*

Some accidents also happened by the inexperience of private car drivers and lack of traffic knowledge of other road users. Various kinds of road users are not knowledgeable about traffic regulations. People do not cross the road from the yellow zebra crossing line which cause unexpected conditions for bus drivers, but no action is taken. Light vehicles also violate traffic rules; such as bicycles, trishaws and motor bikes. There is another example.

*“Yes. It happened to a person who crossed the road. I am in the right way but this person crossed the road among many buses. In fact, there central rip and people need to look at the other way in the middle of the line, while they are crossing the road. But they did not stop at the center line and directly run across the road. It happened in Saw Bwar Gyi Gone.” (Ko Lwin)*

There is also not being strict on giving driving license to the motorcyclists. Generally, motorbikes are not allowed to drive in Yangon but in peri-urban Hlaing Tharyar, many are riding motorbikes and no one takes action on it. Mostly motorcyclist get their licenses from another city, not from Yangon, because they are not allowed to ride in Yangon. Policemen take action only on who do not have license but not all motorbikes who ride in city area. There is no active regulation on them if they drive in the city. Driving licenses are not given in Yangon and they are given by other cities. No active punishment is taken; only fining some money. Bus drivers said that traffic regulation is also unfair.

*“It is ok, if they can pay 100,000 Ks for not having license and 50,000ks for not driving on their lane.” (Ko Htike)*

#### 5.3.3.2 Vehicle condition

##### **Absence of safety equipment**

There is no mileage for the measure of speed, bus drivers said that it is not important for them and they can guess in what speed they are driving. Not having enough safety equipment is one of the accident prone driving behaviors of Myanmar bus drivers. They have responsibility to check whether there is full safety equipment or not.

*“We do not have mileage for measuring in what speed we are driving but it is not important for us because we can guess the speed we are driving.”*  
(Ko Ngwe)

### **Being out of date of vehicle**

Bus condition is also a concern like the brake condition of the bus. There are three types of brake: sarvo brake, air brake and oil and air brake. But BM bus uses sarvo brake which is not in good quality and it makes buses to bounce whenever pressing the brake because this kind of brake is so much strong and this type of bus is also outdated.

If buses are outdated, brake system is not safe to drive. Air brakes in the buses are so heavy and they are needed to be pressed two or three times. If the buses are overweight, it will be much more difficult to brake the buses. Noise and vibration caused by end-date-date buses also effect the mind and concentration of bus drivers on their driving.

*“An accident happened when I drove Chaplet (Big bus); as chaplet are out of date and they always give problems with brake. There was one time that the break string broke suddenly, and my bus stroke Hilux which was in front of me. When it happened, I tried to avoid this Hilux, but there are also two persons who were coming in front of my bus on the other side, so that I had no choice and it stroke Hilux but no one got injured.”*(Ko Win)

There is another accident experience that happened because of breakdown of vehicle condition. It is said that bus drivers might face unexpected vehicle condition, even though they check their vehicles. It can be broken any time and every moment is risky for bus driver. They need to be cautious in every second. However much they check the condition of the vehicle, unexpected uncontrollable condition can still happen to them.

*“An accident happened when I drove Dina line 96 (Blue) because of the weakness of Dina condition. When I was driving this Dina, its (tilot) has been broken suddenly so that it caused an accident. Some people get injured but no one died.”* (Ko Mg)

### 5.3.3.3 Driver condition

#### **Bus driver themselves can also be risk makers**

Bus drivers themselves can also be risk makers. There was a study showing that people who were in a negative mood, evaluated the risk of a variety of negative events as higher than people who were in a positive mood. Drivers with anger drove faster and exceeded the speed limit more often on a 100 km/road section than the ones who did not report anger. (Mesken, J., Hagenzieker, M. P., Rothengatter, T. & Waard, D. D, 2007) Related to traffic events, it also showed that: anger and anxiety were both associated with goal incongruent events; anger was mostly associated with events affecting impeded progress, and anxiety with events affecting safety.

Thus, mind condition of bus drivers is the most crucial aspect in their driving which can be also effected by many factors; experiences, their concentration ability, their physical health, other social and atmosphere conditions. Being in a hurry of bus drivers for fulfilling fixed amount of required trips number and amount of money make them more anxious and angry leading them to have unstable mind condition and failing to do their responsibilities; like checking bus condition such as brake, engine, lever and others. Moreover, bus drivers' cultural belief on having mileage or safety equipment also shape their driving behavior.

#### **Bus drivers' driving experience and concentration**

The mind condition of bus drivers is more important than any other situations. If a bus driver has less driving experience, he might have less self-confidence in driving. Therefore, unexperienced bus drivers can get more loss and more severe accidents than experienced bus drivers because they might have less self-confidence when facing unexpected condition. It was also thought that less experienced bus driver might not know how to avoid the worst problem, might not guess what can happen, and cannot decide how to control the situations because they might get some excitement. Experienced bus drivers can get less loss and less severe accidents than less experienced drivers because they know how to avoid the worst situation and the result. Unstable mind condition and wrong decision making may lead to a lot of loss.

*“I have been in light accidents when I have less driving experience. About five times at minimum ...like striking other bus’s back mirror. Like I put the bus on brake, but it slipped and stroke a car in front. And another car also stroke my car at the traffic light.” (Ko San)*

Thus, there are some criteria for recruitment process of bus drivers such as red color driving license and work history of not having illegal cases. Their probation period is three months and their driving ability is checked in this period. Sometimes bus drivers are asked to have two-year experience of having red driving license. For bus driver, their concentration on driving is essential because they have to respond to unexpected behavior of other road users and other drivers.

### **Drinking, sleep debt, being hot and concentration**

Among the human factors related to driving safety, some individual characteristics of age, gender and lifestyle feature such as alcohol and drug intake increase the risk of being involved in motor-vehicle crashes (Vivoli. R., Bergomi. M., Rovesti. S, Bussetti. P. & Guaitoli. G.M., 2006). After drinking, bus drivers cannot concentrate on driving at all. They might get into a fight with other buses or might get irritated and angry. At that time, they would not have enough patience on driving and which may lead to accidents. It would be worse at night and office hours than ordinary time. They may not have clear vision in the evening, and most people started to drink from 6 p.m. to 8:30 p.m. and they fight with each other buses at that time.

If the bus driver have some sleep debt, their vision will also not be clear. Sleep loss is also an important risk factor of accidents. Especially, shift workers or truck drivers with long periods of driving, a high frequency of night driving and lack of adequate rest (< 6 hours of sleep) has high risk to be in accidents (Vivoli. R., Bergomi. M., Rovesti. S, Bussetti. P. & Guaitoli. G.M., 2006).

Heat from the chair they sit which is near to the machine and the uniform they wear also make them feel hot. In addition, the health condition of bus drivers is one of the factors which can affect on how they drive.

### **Physical health condition of bus drivers**

Among twelve in-depth interviews, most are in their thirties and one is in his twenties. Three bus drivers who are nearly fifty; one is 45, 48 and 49

are not in good health condition. One bus driver who drove the bus for over ten years has hypertension and he wants to take a rest from driving because of his health. There is also one study showing that bus drivers have a high frequency of cardiovascular risk factors, such as obesity, hypertension, hyperlipidemia, and hyperglycemia, as well as contributing functional characteristics, such as a low-intensity activity, sedentary behavior, long duration in sitting position and high calorie diet, which lead to excessive weight gain and associated comorbidities (Hirata, R. P., et al., 2012).

One bus driver has long-sightedness and he needs to wear glasses for clear vision. Besides, his leg is injured by a bicycle accident and he cannot walk fast. Another bus driver who is 49 got injured to his leg because of a quarrel. He helped another person in this quarrel; but, at that time, suddenly a car accident happened to him. Therefore, he could not stretch enough and cannot walk very fast. Both of them cannot stretch out their legs so that sometimes, it was noted that they get some kind of muscle tension after driving long hours.

*“I am nearly fifty and I have been driving for such a long time. Now, I am not healthy enough. I have hypertension. In the future, I want to stop this job.” (Ko San)*

#### 5.3.3.4 Weather condition

Rainy season causes risky conditions causing slipperiness resulting in accidents. In addition, raining makes unclear vision mostly at night times. It was also said that roads can be slippery when it rains but not heavily. It is also difficult in braking the bus. When it is rainy, the brakes cannot work properly in raining, leading to slipperiness.

At the early rainy season, being slippery is happened frequently because some oil leakage on the road in the whole hot season, it mixes with rain and causes slipperiness when the season starts to rain. The slipperiness was also caused because of uneven distribution of the coal tar.

*“While I was driving in drinking water company car, there are a lot of water bottles on the light truck when sending drinking water bottles to the customers. On one rainy day, I stopped my light truck but wheels slipped backward and incidentally crashed another car backwardly.” (Ko Moe)*

*“One time, on a heavy rainy day, my bus slipped while I was*

*driving and hit another bus which was on the same line.” (Ko Htike)*

One day I have experienced of flood on the road in some part of Yangon city. In Yangon, if it rains heavily, water does not flow freely. This is because of the weakness in the drainage system in Myanmar. Whenever it rains heavily, bus drivers face difficulties and every citizens have experience the flood.

There is a lot of heavy traffic jam and bus drivers also have difficulties in fulfilling the required number of trips and required amount of money. They cannot fulfill the required number of trips on that day. It would take the whole day for one single trip from Hlaing Tharyar Township to South Dagon Township because they cannot drive very fast in the flood and sometimes, machines could not function well because of water entering into the bus. Furthermore, bus drivers also have to face traffic jam because at that time, every road user cannot see any yellow line limitation and all drivers drive in most possible and convenient way they think.

The bus stops are flooded and passengers also have difficulties waiting for the bus under the rain. All road users and passengers also have difficulties to go to the bus stop. Bus stop is also full of water. The following pictures show the flood at Tha Maing Junction in the middle of the way from Hlaing Tharyar to South Dagon Township of bus line 1.



**Figure 5.2 Flood in Yangon on heavy rainy day (a)**



**Figure 5.3 Flood in Yangon on heavy rainy day (b)**

#### **5.3.4 Social environment condition**

There is a research examining factors associated with crash/near crash and risky driving rates among novice teenagers, including night vs day, passenger presence and characteristics, and driver psychosocial factors and it showed that teens can drive in less risky fashion and the low rate of risky driving in the presence of adult passengers but the higher rate of risky driving among those with risky friends which may also be socially influenced. (Simons-Morton, B. G., Ouimet, M.C., Zhang, Z., Klauer, S.E., Lee, S.E., Wang, J., Chen, R., Albert, P. & Dingus, T.A (2011) However, there is no research done yet to show how bus drivers are socially influenced in the presence of a various type of people.

##### **5.3.4.1 Social environment condition with passengers**

For bus drivers, there is less communication with passengers than bus assistants. Sometimes, passengers make some complains about being slow or making a sudden brake. Some passengers do not listen to what the bus assistants said. For example, if we bus driver and bus assistants think the place where they stand on the bus is not safe for the passengers, they want them to move from that place; but they never care of what they are asked to do.

Besides, there are times that passengers listening to music with their ear phone did not hear telling bus stop name they are to get off. When the bus already passed over that bus stop, they make complaint to the bus drivers for not letting them down in the designated bus stop. At that time, there would be some problem for bus drivers because he cannot brake at once and it needs time to stop at the appropriate place. There are some example of social problems between passengers and bus drivers.

*“We don’t need to talk to passengers that much like bus assistants.” (Ko Win)*

*“Passengers do not like being slow...if the bus is slow, they said the bus is not a bus which is a tortoise.” (Ko San)*

Some passengers do not want to give money; while, some other passengers stole money. Depending on what type of passengers, bus drivers and bus assistant’s behavior also changed. The attitude of passengers also depend on where they are from, especially if they are from peri-urban area like Haling Tharyar Township; they will be different from the one who comes from Yangon; as passengers form tour buses are different from passengers from public buses. This shows how the social relationship between bus drivers and their passengers is at work.

#### 5.3.4.2 Social environment condition with the owners

The owners rarely take responsibilities for the accidents but they take responsibility to repair the bus. Concerning with social relationship with the owner, they want only money. If they do not get as much money as they want, they told bus assistants for not getting much money.

*“If they do not get as much money as they want, they told us for not getting enough money.” (Ko San)*

#### 5.3.4.3 Social environment condition with policeman

Sometimes, policemen make some created case for collecting fines from the bus drivers. At that time, bus drivers need to go to office to pay fine which make them waste time and less earning.

They are not taking any action if they are given money because the policemen do not get enough salary amount; so that they also make some exploitation to the drivers. There are no active traffic regulations because policemen

themselves violate the rules. Thus, the exploitation by policemen makes traffic regulations inactive and unfair.

*“Policemen give fine only to bus drivers, but not to passengers for not stopping at the bus stops.” (Ko Moe)*

*“There are 19 mobile policemen groups; it does not work because policemen are not working.” (Ko Kha)*

Policeman can create the conditions to exploit and corrupt bus drivers; making too much traffic jams by letting traffic light to take long. If the road is too much traffic jam, bus drivers drive in opposite way because it needs to get the lane to drive on or need to drive very fast. Buses need to fight other buses or driving in high speed to fulfill the record. To earn more money and to get many passengers, sometimes, it needs to violate traffic rules like passing red light, driving on the opposite lane.

Sometimes, the social environment condition with policemen also depends on who are the ones violating the traffic rules. Depending on who they are, the degree of fine or punishment varies. Therefore, one bus driver said that,

*“When an accident happened, it does not depend on whether you are right...or you are wrong. It only depends on who you are.” (Ko Ko)*

*“Some buses allow using fake license.” (Ko Lwin)*

Sometimes, policemen control the traffic light to take a long time, so that there is too much traffic jam causing many buses to crowd on the road, bus drivers to drive so fast and fight each other for getting money, policemen can get some fine. Policemen do not understand what bus driver experienced on actual situation. For example, bus drivers need to push the brake and press it two or three time. Therefore, at the traffic light, sometimes, bus drivers cannot break on time and because of the rain, the wheel will slipped or moved a little forward passing through the traffic light or targeted line. However, policemen can only see bus drivers violating the traffic rules. But they do not understand what situation that bus drivers are facing.

Bus drivers' driving behavior also depends on situations whether there are mobile policemen or not on the road. When there are policeman, bus drivers do not allow passengers to get in and get off outside the designated places. For bus drivers, most important thing is not to get in and get off at the traffic light.

#### 5.3.4.4 Social environment condition with bus assistants

Some bus drivers are like brothers with bus assistants. They cooperate with each other and bus assistants also obey to bus drivers but some bus assistants are lazy and not cooperative. As bus assistant is a person who collect money from the passengers and some steal money from what they get. Some bus assistants ask more transportation fee to the passengers when they cannot fulfill the required amount of money for giving to the company. Sometimes, bus assistants feel angry and their behavior might be rude to passengers whenever facing rude behavior from the passengers or when fighting other buses. Bus assistants are more communicative to passengers than bus drivers. Some bus drivers especially owner bus drivers choose bus assistants only whom they are compatible with so that there is no social problem between them.

*“No holidays if the bus is in good condition. With bus assistants, we are like brothers. We all are coming from Nay Pyi Daw and we do not drink, so during our off days, we talk to each other and play together.” (Ko Ngwe)*

Whilst, “Shan Tain” bus drivers have no chance to choose bus assistants whom they are getting along because they are replaced instead of owner bus drivers and sometimes, they might face uncooperative bus assistants.

At the same time, if bus assistants and bus drivers are younger, there is more tendency that they compete and race more with other buses. From the observation note, it can be seen that young bus drivers and young bus assistant are more inclined to race in driving. Young bus assistants encourage their young bus driver to drive fast to beat other buses.

*“Run...Run...a cow is following. Because of the voice, I looked at from where the voice coming. There is the young bus assistant. He might be around nineteen or twenty, but he looks so angry and so eager to beat another bus. He said again to bus drivers, “Saya! You can run directly without stopping at any bus stop. There is no passenger who will get off.” At that time, I realize that he is talking to his bus drivers to driver fast. He called “Saya”, which means teacher.*

Calling “Saya” to bus drivers by bus assistants also showed that the superiority of bus drivers on bus assistants.

#### 5.3.4.5 Social environment condition with other road users

A combination of users including pedestrians, vendors and cyclists lead to traffic accident because these groups compete in sharing space with motor vehicles under complex working condition (Hijar. M., Trostle. J & Bronfman. M, 2003). Concerning social relationship with other road users like motorbikes, trishaws, pedestrians and road crossers, they rarely obey traffic regulations and there is no active regulation on them. Because of not having enough traffic knowledge, they do not obey traffic regulations and they drive as they want which causes difficulties for bus drivers. Sometimes, they fail to show traffic signals.

*“While I was working in Miami Company, I had been in accident one time. It was at the corner of narrow road between bus stops of Sat-nalone Street in Yan Kin. The street is so narrow that only one vehicle can drive. It is also near the bus stop and an Indian man was driving while talking on the phone. It is stylish to see persons holding hand phones. This man was talking a lot that he could not hear the honking that the driver made. When this Indian man suddenly braked his car, the bus driver could not control the speed that it hit the back of the car in front.”*  
(Ko Tun)

*“I have been in an accident. My car hit a foreigner’s car who was talking via phone that he could not hear the honking.”* (Ko Nyunt)

Violating the traffic rules by other road users, not having enough traffic knowledge of pedestrians, being inexperienced of newly-licensed car drivers are factors contributing to the unexpected uncontrollable condition for bus drivers leading to road accidents. From the observation note, it is observed that pedestrians do not cross from the passing line or not waiting for the red light to cross.

*“One day, I cross the road from the yellow crossing. I also saw two foreigners crossing the road like me and also many people. These two foreigners talk to each other. The light is still green but why people are crossing. They seem that they are confused. The traffic light is still green. After that they talk to each other that, “everybody move, we move! If everybody stop, we stop”.*

Sometimes, the social environment condition between bus drivers and other road users depends on where they are coming from. It also depends on the attitude of people. For example, there are also some people in Hlaing Tharyar

who make fake accidents to get money. There are also some sort of people who do not respect to the traffic regulations. For instance, people do not care and pay attention even though the drivers are sounding the horns. It also depends on what type of passengers. People are rude because they are not educated and coming from a lower class (lower class means they talk and they behave rudely).

#### 5.3.4.6 Social environment with other bus drivers

Rather than education level, they said that people need to be good-minded. Real education depends on how much people can practice their being good-minded which mean they do not give any trouble to people. It is also related to the attitude of people. For example, bus drivers' bad attitude on driving will be checked if they are strong, good-minded and patient. On the other hand, bus drivers need to fight for money for their living. Thus, they said that they are like brothers in bus compound but like enemies on the road because there are a lot of buses on the same route and, for earning more money, they need to drive much faster to get more passengers than others.

*“We are like brothers at the bus terminal, but like enemies on the road.” (Ko Tun)*

## **5.4 Structural factor affecting accident prone driving behavior in the living context**

### **5.4.1 Living background**

Most bus drivers do not have their own house in Yangon as some come to Yangon just to work. Except two bus drivers who can stay with their parents or parent-in-law, all bus drivers do not have their own house. Single bus drivers usually stay on the buses and most married bus drivers stay in rent.

Ko Moe, Ko Win, Ko Tun, Ko San, Ko Kha, Ko Nyunt, Ko Oo and Ko Maung were born in Yangon. Ko Ngwe is from a village near Nay Pyi Daw, Ko Htike is from Kyaut Padaung, the middle part of Myanmar, Ko Ko is from Myin-chan and Ko Lwin is from Twoin Tway which is near Yangon.

There is one bus drivers Ko Moe who stays in a tent in the bus compound. By the observation note, the roof is leaking when raining and there are also some broken bamboo floor areas in their tent. Bus drivers are staying in such kind of poor living condition.

*“I and my wife... we stay in this temporary tent in this bus compound. It is given by our company. Our children are staying with their grandparents in Rakhine State. Sometimes, they come and visit to us.” (Ko Moe)*

Ko Tun and Ko Ko have got a house from their parents and stay together with their family. Therefore, they can get family warmth. Most of the time, they are at work, so their children lack paternal care with their father.

*“I have six family members, my parents, my wife and two daughters – one is in tenth standard (Grade 11, matriculation examination) and one is Grade 1. I have less chance to give time for my family to show my love. But I tried as much as I can. He regularly rings my children asking what kind of snack that they want to eat. When I arrived home, my children are sleeping.” (Ko Tun)*

Other married bus drivers rent a house in Yangon. As they do not have their own house, it is very temporary and there is no guarantee for housing. They need to move very often so that they are always in an unstable living condition.

For those who stay on the bus; Ko Ngwe, Ko Nyunt and Ko Lwin, they also sleep on the bus but they eat in some shops in the bus compound. They do not take off days because they do not have their own house to take a rest. They take a rest on the bus where they work; however, it is not a good place. At five o'clock, they have to quay to start their daily work. They said they go to bed to at about 11 p.m. to 12 p.m.; then, wake up again at 5:00 a.m. or 5:30 a.m.

The bus drivers have difficulties of being away from their family, getting less earning which cannot cover their family expense, need to stay a long time on the bus and having less free time.

*“I come from Nay Pyi Daw, and I have six family members who all are in Nay Pyi Daw. Now, I am staying with my friend. He is a bus assistant of this bus line. Through this friend, I got the information about this job.” (Ko Ngwe)*

*“I rarely go back home. I go back once in two or three weeks to Twante...where my siblings are staying. I lived there till I am fifteen years old while my parents were still alive.” (Ko Lwin)*

#### **5.4.2 Family background**

All the informants are married apart from Ko Ngwe, Ko Lwin and Ko Nyunt. Except from single bus drivers, all bus drivers need to drive for their family because they are the only bread winner for their family. There are also a lot of family members in their family and they also need to drive to provide for the educational expenses of their children.

Informant Ko Win has six children, informant Ko San has three children, Ko Kha has only one and others have two children apart from single bus drivers. Most of their children are studying in basic education primary school, middle school and high school.

Ko Ko's wife is not feeling well. She cannot walk and cannot do anything because she is suffering from kidney impairment (renal failure). His children are still young and they are studying in Basic Education School. This is also one of the family burdens for him.

Having bus drivers in the family influenced the informants' being bus drivers. Ko Kha has three bus driver brothers so he wanted to be a bus driver by seeing all his brothers. Ko San has a brother who is also a bus driver and sometimes, he even gets award for not having absent days. Ko Nyunt also has a brother driver and they drive alternatively sometimes. Ko Maung's father is a bus driver and so that he is so close to be a bus driver. Some bus drivers need to be bus assistants for certain period of time before becoming a bus driver. Therefore, people mostly choose the career which is close to and having some family background on it.

#### **5.4.3 Historical background**

Different Myanmar bus drivers have different eventful life history. Ko Win wanted to be a soldier but he had no chance to become a soldier because his father passed away and he is the only one who can support his family. Meanwhile, Ko Moe was a soldier but he wanted to resign from this job so that he got in jail for not

serving as a soldier for whole life. After that he was jobless for a moment and then, being a bus driver has become one career opportunity for him.

*“I worked as a soldier and then I resigned from this job so that I was in jail. After I was released from jail, I had no job and then, I started working as bus assistant in one bus line for about two years. At this time, I feel interested in driving, because it makes me free. Then, I became a driver.” (Ko Moe)*

Ko Nyunt and Ko Oo got a diploma and a bachelor respectively but they work as bus drivers and they described that there is no career which earn much money like being a bus driver. It means there is no rich career opportunity in Myanmar; even educated persons earn very less.

*“However much education we have pursued, we cannot earn much more money with this education in this country Myanmar.” (Ko Oo)*

*“I graduated from the Institute of Rangoon which was one of the most famous institutes. I had also worked as mechanic technician in the Iron Industry and pattern drawer. I want to do organic planting. Unfortunately, because of some circumstances,, my earnings could not cover family expenses. So I changed my carrier to be a bus driver.” (Ko Nyunt)*

*“However much you are educated, there is no job which can give much money. We can’t cover our family expenses even with white-collared work.” (Ko Oo)*

Ko Moe, Ko Tun, Ko Kha and Ko Htike attended until high school. Some bus drivers did not pass matriculation examination needed to decide what to do in life. Meanwhile, they are also close to be a bus driver because their brothers and fathers are bus drivers like Ko San and Ko Kha.

*“I didn’t pass the tenth standard exam so that I could not find a job easily. So I chose driving as a carrier because driving is one of the easiest way to earn money with this education level I am exposed to dangerous conditions.” (Ko Kha)*

Historical stories of Myanmar bus driver are really eventful historical life story. There is also a word that can express how eventful historic life story, which is *“Difficulties come with friends.”*

### **Ko Win**

He was born in Botataung Township, Yangon. His family is also staying in Yangon renting a house in South Dagon Township so it is temporary that he needs

to move very often. He wanted to have a house of his own. He also wanted to build his own small business. Actually, he has seven children but his wife got in another marriage while he was in jail, so one child is left with him. She also got divorced with this marriage and stayed with him so that he had got eight children. Two children passed away; one was because of woman disease and another when he was two years old.

He never thought to be a bus driver. He wanted to be a soldier. But when he was ten years old, his father passed away and so, his mother encouraged him to be a soldier. In 1979, he tried to be a soldier but unfortunately, he could not make it to be a soldier.

His leg was not so good because he had been in an accident where he got leg injury. In a quarrel, he helped the one who needed help and one car hit him. From this time, he could not walk very well, although he can still drive. His leg cannot be bent enough and be unbent as he wanted.

In 1989, he worked as a bus assistant; then he got driving license in 1991. His driver's life started there. Then he drove Hilux 39 for two years, Chaplet for five years and BM for four years. In 2001, he had been in accident again while he drove BM type (small bus): six persons died and 29 got injured. He avoided this case for about six months in another country site but then he went back to driving again. But at this time, he had a long moustache and long hair because he had lost his confidence and his friend is his fright. While working there, one person informed the policeman and he got in jail for fourteen years. But after seven years, he got the chance to reduce from fourteen years to seven years.

When the policemen issued a warrant, he became an absconder and his daughter also did not feel very well because of women disease at that time. Difficulties come with companions. He said, *"Difficulties come with friends."* His daughter was hospitalized, this was also very painful time for him. He had no money but his daughter needed some blood transfusion. As he had no money and he said that health care service provider did not take care of his daughter, he felt so sad. It was so difficult for him to get people who can donate blood also because his daughter's blood group is also very rare, which is "AB". Finally, he got blood from one of the monasteries: three

monks and two other persons. Although he got persons to donate blood, the hospital staff did not take any care of his daughter's blood transfusion. He said it took a lot of time and he felt so angry and finally, he lost his daughter. He didn't have any money for the funeral but there was one person who helped with this. So he got some relief from it.

### ***Ko Nyunt***

He graduated from the Institute of Rangoon (Now, Yangon) which was one of the most famous institute. He had also worked as mechanic technician in Iron Industry and as a pattern drawer. He wants to do organic planting. Unfortunately, due to unfavorable circumstances, all the job he went into could not earn much money; so, he changed his carrier to be a bus driver. Being a bus driver, it can make much more money than any other job. He already got married but he was divorced and now he is single, staying with his mother in Shwe Pyi Thar Township. It has already been six years long that he has got divorced. His is really interested in organic agriculture. At home, he breeds many bacteria by using organic fertilizer. He wants to change his carrier again because bus driving is so dangerous but his earnings as a bus driver makes him and his mother live well. He is a Burmese and a Buddhist.

### ***Ko Moe***

He is a Buddhist and a Burmese, while his wife is a Rakhine Buddhist. He has two daughters. One is in Grade ten (high school) and the younger one is in Grade three (primary school). They are staying with their grandparents in Rakhine State. Sometimes, they come and visit their parents. They stay in a temporary house which is given by their company (a small flat made of bamboo) which is in the bus terminal compound. He worked as a soldier but he resigned after from this job so that he was put in jail because being a soldier, they need to work as one their entire lives. After he was released from jail, he had no job and he worked as bus assistant for about two years. At this time, he felt interested in driving, because it makes him free. Then, he became a driver.

### ***Ko Tun***

He was born in Insein Township, Yangon. He lives in Insein and all family members are staying together in a house that he got from his parents in Insein

Township, Yangon. He still has his parents alive and he has six family members: his parents, his wife and two daughters – one is in tenth standard (Grade 11, we called it matriculation examination) and one is in Grade 1. He is so religious but not interested in doing his own business. His wife opened a small shop which is a book rental shop. Thus, he gets some financial support from his wife. He has been driving for about 27 years. At the present bus line, it has been seven years long. Since Hlaing Tharyar Township and Shwe Pyi Thar Township have been built, he has been working as a driver. He started working as a driver since he was eighteen years old. He likes driving so much that he can repair if something wrong happened to his car or bus. He has experience of driving a wide variety of cars and buses.

## **5.5 Structural factors affecting accident prone driving behavior in cultural context**

### **5.5.1 Meaning on being a bus driver**

Words come out when people give some meanings on something and these meanings, in turn, reflect these things. Similarly, every word has its own meaning; every technical term has its own meaning, too. It can be seen that there are a lot of meanings on being a bus driver occurred through this study.

It is found from the in-depth interviews that most of bus drivers think that they are not educated, of lower social status, but easy-money makers.

#### **5.5.1.1 Being low educated persons**

It is seen that six bus drivers have the connotation that being low educated is a sign of bus drivers. Automatically thinking, they described bus drivers are as non-educated persons. Besides, it can easily be seen that most of the bus drivers are not educated. Only a few bus drivers are degree holders; like, KoNyunt and Ko Oo. It does not necessarily mean that they are totally not educated; they are may be, somehow, educated but are thought as a non-educated person. It can also be said that the requirement of a job also reflects on its job, as to be a bus driver does not need any degree. However, being a bus driver has become one of the most popular career

opportunities among young people who cannot continue their study and those who have difficulties in looking for a job.

*“...I, immediately tried to be a bus driver when I knew that I didn't pass the tenth standard...” (Ko Kha: 31yrs)*

*“Hmm...I was just eighteen at that time. No chance to go to university... I didn't pass the matriculation exam and I didn't know what to do and I also...so, I choose to be a bus driver” (Ko Tun: 45Yrs)*

*“Over-rules are made only over us, as uneducated person...”  
(Ko Win)*

#### 5.5.1.2 Low social status

Some bus drivers mentioned that low social status as a characteristic of a bus driver through the in-depth interviews. It is said that no one is at the site of bus drivers and if something wrong happened, it is automatically thought that bus drivers are the source of the problem. Because of some behavior of bus drivers like drinking, interested in women, being rude, driving in risky ways, usage of rude words and impolite behavior also make their career as low social status. Moreover, the requirement for driving also labels the status of a worker. Although it is not an easy job, there are no other special requirements to be a bus driver which also reflects social status of bus drivers. It is also described that over-rules are also made on bus drivers as a nature of low social status. Society think every problems are caused only by bus drivers because of being lower social status and being daily wagers.

*“...everyone thinks mistakes done is because of us, bus drivers...there is no one on bus drivers' side.” (Ko Tun)*

*“Over-rules are made only over us, bus drivers...” (Ko Kha)*

*“We are discriminated by other people...it is more obvious when going to the public offices...being a driver is lower than others.” (Ko Nyunt)*

*“People act on us like a person who are always wrong. People look down on us!” (Ko Win)*

*“Because most bus drivers are rude and uneducated...people think we are small.”(Ko Win)*

### 5.5.1.3 Easy money earners

It can be seen that being a bus driver is a way of making money easily so that most bus drivers assumed themselves as easy money earners. It does not need any education requirement or any other qualification requirement. In addition, some bus drivers also said that they had become bus drivers because they saw that their bus driver relatives earned money easily. It is also mentioned that knowing bus drivers can earn money easily is one of the reasons for pursuing their career as bus drivers.

*“A bus driver is someone who has an attractive income...that’s why I have come to Yangon trying to be a bus driver.” (Ko Lwin)*

*“...I saw my brothers earn money easily. They all are bus drivers...” (Ko Kha)*

### 5.5.1.4 Being not disciplined

It is described that bus drivers are not well-disciplined thought the in-depth interviews conducted. As the matter of fact, bus drivers need to change their decisions and ways of driving according to the time and circumstances in order to be able to avoid accidents so their behavior are always changing and do not go along with the strict disciplines. Some bus drivers also admitted that, before becoming a bus driver, they already thought that bus drivers are not disciplined.

*“I myself don’t want to be a bus driver. Before I became a bus driver, personally I thought that bus drivers are not disciplined. They drive in the way they want.” (Ko Ngwe)*

## 5.5.2 Meaning on bus driving

### 5.5.2.1 The feeling of being free

Driving is a type of job which makes drivers feel free. Some mentioned that feeling free is the main reason why they choose this job.

*“When I am driving, I feel like...I am alone in the air. No one is near me. Such a kind of feeling... I want to call freedom.” (Ko Moe)*

*“Driving...it makes me free.” (Ko Maung)*

### 5.5.2.2 Much more earning

Bus driving is a job where one can make more money than any other jobs. It does not need any education and qualification requirement. Only being able to drive is necessary for being a bus driver but it can make much more money than other kinds of jobs. In Myanmar, the economic condition of the country does not guarantee even a degree holder to earn much money. Driving a bus is a dangerous work but it allows to earn more money than other jobs.

*“...when I was working as a pattern engineer before, I didn't earn money as much as I do now.” (Ko Nyunt)*

*“Even having a degree cannot earn much money. That's why I no longer can be what I wanted to be...coz Money is Important!” (Ko Nyunt)*

*“Bus driving allows earn more money than others.”(Ko San)*

*“Driving is a kind of dangerous job but with you can earn more money.” (Ko Lwin)*

*“Much earning is much better than other career.” (Ko Oo)*

### 5.5.2.3 Dangerous work but no need for any requirements

Bus driving is a job which does not need any education or qualification requirements. Only being able to drive is necessary for driving but it is also dangerous. To be a bus driver does not need family support and family background. Although it is a dangerous work, it can make money easily and can earn more money than other career. Therefore, bus driving is a kind of chance for young people who has less career opportunities for not having any education background.

*“No family support...no career opportunity...with this education level...only bus driving...Bus driving is only one job for me...there is no other job that I can do to earn a living.” (Ko Tun)*

*“Even it is so dangerous, driving is one of the easiest way to earn money with this level...it is a precious opportunity. Driving is so dangerous. But... can make money easily.” (Ko Kha)*

*“I don't like bus driving because it is so dangerous... and...a very tiring work.” (Ko Ko)*

*“Driving...yes, driving is a dangerous job...but you know? With more earning.” (Ko Lwin)*

#### 5.5.2.4 A kind of technical work

It is described in in-depth interviews that bus driving is not only driving but also a kind of technical work. Driving a bus also need to deal with machine and sometimes it can also get some problems given by machines. While driving a bus, bus become a machine which the bus driver gives the order to it and it becomes one thing which bus and bus-driver complex. Some bus drivers describe about feeling being one with the bus and some said that they chose driving as a job because they are interested in technical work.

*“I feel good when my bus is good, but I feel bad when my bus is bad.” (Ko Ko)*

*“I like bus driving...and I like repairing bus machines.” (Ko Maung)*

*“I became a bus driver because I am soooo...interested in technical work.” (Ko Tun)*

#### 5.5.2.5 Less social communication work

Driving a bus is a kind of public service work but it has less communication process. Rather talking to people, it is much related to communicating with signs; traffic signs, signals from other vehicles and gestures of other drivers and road users. Although these are a kind of way of communication, driving a bus looks like less communicative work so that bus drivers look less sociable persons.

*“We don’t need to talk much every day.” (Ko Ngwe)*

### 5.5.3 Meaning on accidents

#### 5.5.3.1 Unexpected uncontrollable condition

Accidents are predetermined events having supernatural undertones depending on fate. This is also a kind of unexpected uncontrollable condition. One bus drivers told his story about his accident experience because of evil spirit. He also said that *“If something beyond nature happened, there is nothing we can do.”* Therefore, some cases are much extraordinary and it is so difficult to be under control of humans.

*“While I was driving one BM type (small bus), someone borrowed their bus to attend a funeral. There were many mistakes in terms of cultural*

*habits. When sending a coffin, they needed to make voice with a triangular brass gong, in Myanmar we called it, "Kye Ze". It had been broken when making voice. The dead body dropped from the coffin and then, evil spirit "Ma Kaung Soe Warr" got in the bus. Then this evil spirit drove the bus and I didn't know what is happening on my bus. My bus was running fast in high speed and it writhed "rolled". I felt timid and it was not an auspicious day. The bus rolled up and down...up and down till about seven times. Then, I did not know anything. It has already been an accident. There was also a person who is very close friend of a person who died. He had already said that he would die and he wanted to be buried on the same day that his friend was buried. Then he was on my bus and many people were helping to control him because he really wanted to die and tried to be dead. But when the evil spirit entered, nothing was under control and finally the bus went down the street and rolled up till about seven times. This person finally died and 29 persons got injured. There are two kinds of death in Myanmar cultural way. This was a violent death, not dying a peaceful death. Finally when I got conscious, I was still in my bus and I got out of this and I ran away because I was afraid to be in jail. But by the help of one person who picked up my driving license, he gave back my driving license through my wife." (Ko Win)*

#### 5.5.3.2 We are professionals

Some bus drivers said that accidents mainly depend on bus drivers themselves. Bus driver, rather than situations, is the main actor who can control and can create what will happen. Bus driver are more important than others. Thus, it is essential who bus drivers are, in case of accidents. In the correspondence of that, how much driving experience that the bus drivers have acquired becomes essential in driving.

On the other hand, it is also what makes them who they are. Moreover, bus drivers' attitude and behavior are also vital for not having accidents. Lack of concentration and lack of consciousness may lead them to accidents. The most important thing is concentration of the sight and hearing.

In early years, only social accidents happen when people get drunk; but in these days, traffic accidents happen after having drunk. This is because of the fact that there are increased number of private cars and buses.

*“We are professionals! We are experts! It doesn’t depend on the morning, evening or afternoon.” (Ko Win)*

*“Five years ago, there were only social accidents, but in these days, instead of these, they are replaced with traffic accidents.” (Ko Tun)*

#### **5.5.4 Meaning on risky driving behavior**

##### 5.5.4.1 Willing to be a hero

Almost all bus drivers are men and all are under the influence of macho power. All men do not want to give up anything even small unimportant thing. They have high willingness to beat each other and they all want to be heroes. It can also be seen in driving a bus. Every man wants to be faster than any other bus drivers. It would be much worse when women or their wives are on the bus.

*“All men want to be a winner...all want to be a hero. It is much worse in front of their wives or their girls.” (Ko Nyunt)*

##### 5.5.4.2 Every moment is risky

It is depicted that every moment is risky for bus drivers from the in-depth interviews. It would be some risky condition causing accidents but generally, every situation and every moment is important for them because of unexpected condition. They needed to be cautious at every moment of driving. It is predicted that every bus drivers have to face about 20 times/ day to be in risky situation. Thus, bus drivers themselves can also be victims of every accident.

*“Every situation is risky. We have to face about twenty times per day.” (Ko Moe)*

##### 5.5.4.3 Money is risky

Bus driving is a way of making their living so earning money is the most important. As having many buses on the same lane, to get more money and more passengers, bus drivers needed to drive faster than other buses. Earning money by bus driving a bus is not an easy one, which is risky all the time. For bus drivers, most of the condition making money leads them to be in accidents. Willingness to get more money leads them to be in risky conditions.

*“To get money is not easy. It is risky. We need to fight each other for money...so getting money is risky.” (Ko Oo)*

In addition, money can also make people risky. It, in turn, lead bus drivers to drink and then they drive again which is also a kind of risk circle.

*“They want money. When they get money, they drink then they drive. Yeah...money is risky.” (Ko Nyunt)*

### **5.5.5. Daily habitual and cultural practice**

As Myanmar is a Buddhist country and most of cultural habits are much related to Buddhism. As almost all of bus drivers who has been interviewed are Buddhists and they also talked about their daily cultural practices. Some bus drivers are staying on the buses and sleep on the bus. Therefore, buses are like their home. It can easily be seen that a lot of Buddha Image hung on in front of every bus. They offer flowers and scent stick at bus number plates. It was mentioned that they could not eat pork on some buses. If they eat pork, there is something wrong happened with the machine or they had to face something bad on the way but some buses like alcohol.

*“Every day, we pay homage to God, we offer flowers and scent sticks at bus number plates. On some buses, we can’t eat pork. If we do there always happened something bad on the way.” (Ko Ngwe)*

*“Yes, we can’t eat pork on some buses but some buses like alcohol. We have to pour alcohol every day.” (Ko Htike)*

One study also showed about driving safety in China, reported in Chinese language journals, the results suggested that some culturally specific beliefs, including the sense of social hierarchy, tendency to challenge legitimate authority, and belief in interpersonal networks, could be important in determining Chinese drivers’ tendency to commit driving violations. (Zhang, W., Huang, Y., Roetting, M., Wang, Y. & Wei, H., 2006). Focusing on the driver’s perspective, Myanmar bus drivers also have their own personal belief on driving, on accidents and also risky driving behavior so that it can also be seen that their driving behavior are also influenced by their cultural beliefs and daily practices. Therefore, good karma is so much important for Myanmar bus driver than having enough safety equipment like mileage. Furthermore, they also believe that accidents depend on what kind of karma they have. Whether they have enough safety equipment or not, if they have bad karma, they believe that they are prone to accidents.



**Figure 5.4 Buddha image on the bus and monk in front seat**

#### 5.5.5.1 Being good-minded

Individual behaviors in public spaces are part of their civic commitments. It is also said that being good-minded is the essence for everything and for everyone. If someone has good-minded, he or she will think about others. They will not do any risky behavior or any bad behavior to others.

*“People are not good-minded so that discipline has become to control bad people.” (Ko Nyunt)*

It was also said that being good-minded helps to have good karma and being in accidents is assumed to be because of bad karma.

*“If you are in bad karma, there is nothing you can do. Being in accidents is because of bad karma.” (Ko Win)*

In one study done by Chliaoutakis, J. E., Koukouli, S., Lajunen, T. & Tzamalouka, G. (2005), it showed that there are four lifestyle patterns: religion/tradition, driving aimlessly, sports and culture are significant predictors of ordinary violations. Moreover, religion/tradition was related only to ordinary violations and sports have a positive impact on ordinary violations and a negative

impact on errors. Likewise, Myanmar bus drivers' life style, cultural practices, traditional and religious beliefs also have a great effect on their daily driving pattern.

#### 5.5.5.2 Meaning on the language bus drivers use

In bus driver world, there are also some kinds of meaning on their language.

**Table 5.2 Different meaning of Bus drivers'**

	<i>Usual usage words of bus driver</i>	<i>Meaning of their words</i>
1	Shan Tain	Bus driver who drives for part time when there is no bus driver
2	Ko Paing bus driver	Bus driver who drives only one bus as owner bus driver
3	A Htoo	Special Bus which has only one limited bus fee
4	Kaut Yoo	Bus which fee depends on the distance
5	Ngwa	Cow (they call it when they fight each other)
6	Tee Ri San	Animals; most of bus line company name are animals like flying horse
7	Gee (Bus line 129)	One of wild animal
8	Ta Yote Ma Gyi	Chinese woman They called buses which are imported from China
9	Myint Ta Line	Bus line which has the meaning of generosity, love and kindness.

**Table 5.2 Different meaning of Bus drivers' language (cont.)**

10	Thaw Ka line	Bus line which has the meaning of sadness
11	Ta Tine Chin Khote	When the first bus arrives bus stop and then another bus enter this bus stop again. No passenger to pick up.
12	Na Lann Twar	The round trip or Up-in
13	Ta Lann Twar	Only single trip, not the whole trip
14	“San Chaung”	Being empty or nothing inside, calling to policemen
15	“Bae Oo”	“Bae Oo” mean duck egg. The reason they call “Bae Oo” to policemen is that usually policemen wear white shirt and white helmet.

### ***“Shan Tain”***

Shan Tain is a bus driver who does not have his own bus owner. He drives for part time when there is no bus driver for bus owner. “Shan Tain” drives in place of the owner bus drivers who take their holidays or when they cannot drive in urgent cases. “Shan Tain” can take a rest whenever they want. Whether they will work today or not depends only on their choice. They do not have much responsibility concerning with the bus but they have to deal with various kind of bus assistants because they have no chance on choosing their bus assistants. Comparing with the owner bus drivers, “Shan Tain” bus drivers are much free and less responsible than the owner bus drivers.

***“Ko Paing bus driver”***

“Ko Paing” means Owing. “Ko Paing bus driver” means “Owner bus driver” who drives only one bus as owner bus driver. They have their own bus driver and usually, they are much familiar to bus owner than “Shan Tain” but they have a lot of responsibilities on taking care of buses and also bus assistants. They have the chance to choose bus assistants only whom they like most. Therefore, mostly, owner bus drivers have less social problems with bus assistants than “Shan Tain”.

***“A Htoo”***

“A Htoo” means “Special” and “A Htoo Bus” means “Special Bus” which has a certain kind of characteristics like having forty five chairs at least and has limited bus fee (In Myanmar; 200 Ks). Actually, what we call “A Htoo Bus” in Myanmar do not have forty five chairs. It is not really special because it is just a kind of modification from the old ones. In “A Htoo Bus”, people need to give the limited amount of money whether they go short distance or long distance.

***“Kaut Yoo Bus”***

“Kaut Yoo” means “straw”. Straw is a single dry stalk of grain which is small and abundant. When straws are used for packing, thatching or weaving, a lot of straws are required. Herein, bus drivers use this meaning to collect transportation fee in small amount for short distances. When people go to a long distance, the bus assistant collects many small amount of money from passengers. That is the reason of why bus drivers use “Kaut Yoo” Bus. “Kaut Yoo” buses are not like “A Htoo Special Bus”. They do not have many chairs and many passengers need to stand up but they can give only small amount of money for short distance. But in “A Htoo Bus”, people need to give the limited amount of money whether they go short or long way. Therefore, in “Kaut Yoo” bus, transportation fee depends on the length of the distance.

***“Ngwa”***

“Ngwa” means “Cow”. Bus drivers use this word to call another bus when they fight each other. Cow is an animal. Animals are kind of racing favorite animals. In Myanmar, when we call a person in the name of animals, it is an action

that shows that someone is in bad mood and a kind of disrespect. Bus drivers call to another bus showing their disrespect when they fight each other and it is like a race.

***“Gee”***

Gee is one of wild animal and they call it “Gee” because these buses company name is that kind of animals.

***“Tee Ri San”***

“Tee Ri San” means Animals. Bus drivers use this word calling it to another bus when they fight each other. In Myanmar, when a driver is in bad mood, bus drivers call in the name of animals to persons showing a kind of disrespect. Bus drivers call to another bus showing their disrespect when fighting each other bus and it is like a race. Most of the bus line company names are animals like flying horse. “Tee Ri San Animal” is a popular word among bus drivers.

***“Ta Yote Ma Gyi”***

“Ta Yote Ma Gyi” means “Chinese woman (Ta Yote = Chinese, Ma Gyi = Woman)”. Bus drivers call to buses which are imported from China. Most of these buses are in red color and they drive very slowly. Comparing with the Chinese woman, most of Chinese woman are fat and walk so slowly that they call these buses like this. A kind of discrimination between men and women can also be seen in calling these words. Women are not as fast as men and men will always be the winners whenever they beat each other.

***“Myintta Line”***

“Myint Ta Line” is the name of the bus line and which has the meaning of generosity, love and kindness. Its company’s name is also “Myintta Line” and has five different lines in five different lane such as Myintta Line 1, Myintta Line 2, Myintta Line 3, Myintta Line 4 and Myintta Line 5. The one running in Hlaing Tharyar Township is Myintta Line 3.

***“Thaw Ka line”***

“Thaw Ka line” is the opposite way of calling to “Myintta line” bus line because ““Thaw Ka line” has the meaning of sadness. When other bus line fight with “Myintta line”, they call the opposite name of “Thaw Ka line” in order to

give some negative reflection on this bus line. In Myanmar, we believe that good things will happen when only good things are talked about and bad things will happen when bad things are talked. This is the reason why they call this bad name to other bus lines which they fight wishing that some negative things will happen to this bus line.

***“Ta Tine Chin Khote”***

Ta Tine Chin Khote means that the consecutive buses arrive at one bus stop at the same time. When the first bus arrives at the bus stop; then the second bus enters this bus stop again. No passenger to pick up. The second bus cannot get any money because the first bus got all the passengers from the stops and there is no time interval left between these two buses.

***“Na Lann Twar”***

“Na Lann” means “two ways” and “twar” means “go”. “Na Lann Twar” means the round trip or up-in. “Up” means the starting single trip from the main bus terminal for the bus drivers and “in” mean they enter the same main bus terminal. Therefore, “Up-in” trip contains two single trips.

***“Ta lann Thwar”***

“Ta lann” means “One way” and “Thwar” means “go”. It means only one single trip but not the whole trip. It means the starting single trip from the main bus terminal to another bus terminals.

***“San Chaung”***

They call “San Chaung” to policemen in a negative sense. It means that there is nothing is inside of them.

***“Bae Oo”***

“Bae Oo” means duck egg. The reason they call “Bae Oo” to policemen is that usually policemen wear white shirt and white helmet.

## **5.6 Methodological discussion**

In term of methodology, as the researcher stands as a research tool, it is so important to concern with the context of the researcher. The researcher is a health social science student, who graduated her bachelor from Medical Technology, and this

research is her first research and she also needed to transform herself first to be able to look at from social science perspective. Another point is the researcher has experience of being in accidents; so that her view on drivers is biased, and she needed to try to be empty herself in order to be able to look at the insider's point of view.

Bus driving is the nature of men culture and there are some limitations because of gender difference. As the researcher is a female and she does not have driving experience so that this may lead to some kind of limitation during the data collection process. Bus driving is a kind of technical work and it needs to deal with machines. The researcher is a female and she is not familiar to machines and technical work that makes some difficulties concerning with safety equipment. Also, the researcher needs to make interviews among male environment, there are some information missing, because bus drivers do not want to share to the researcher.

There were some significant events that the researcher had faced some difficulties concerning with methodology. On the first day of approaching to bus drivers, one bus drivers asked her phone number and made many phone calls to her, then it made the researcher get annoyed. Then, the researcher need to reset her mind again to be able to do the conducting the data. It took about five days to motivate the researcher to enter the researcher field again. Finally this bus driver understood and he became one of the participants in this research.

There is another example that one bus driver who divorced with his wife six years ago said that he did not want to share some information about his life because the researcher is a female. That case also makes the researcher miss some kind of information which will be much related to gender issue and which can also be linked to their bus driving behavior.

Therefore, there were some limitations during data conducting process such as missing some information which might be valuable to this research, which made some weak points in methodology part.

## **CHAPTER VI**

### **CONCLUSION AND IMPLICATION**

#### **6.1 Conclusion**

The purpose of this research was to understand accident prone driving experience of Myanmar bus drivers and to explain how sociocultural and structural context - working and living conditions influence on the accident prone driving behaviors of Myanmar bus drivers by finding out the factors that shape their behavior and their belief. A qualitative research method was used and methods of data collection were in-depth interviews, participant observation and key informant interview. 12 Myanmar bus drivers and three key-informants who are managers, taking responsibility for management and operating strategies from three different bus lines, were included in this study. 12 in-depth interview participants under 50 years old, were purposively selected based on the criteria of having five years driving experience and having past accident experience. The study was done in Hlaing Tharyar Township, Yangon. The research took over four months starting from July to November, 2014. Available documents such as journals and books were reviewed as data sources. Data analysis was ongoing process from the start until the end.

Myanmar bus drivers are used to have accident prone driving behaviors; driving in high speed whenever they race each other, no mileage on the bus, using energizers like smoking and eating betel quit not to feel sleepy during their working time and not stopping at appropriate place.

Due to an increasing number of buses and a lot of buses on the same lane, bus drivers compete with each other for passengers, and most of the time, bus drivers have to fight each other to get more money because they can earn money only apart from traffic jam and gas refilling time, and they suffer work burden of fulfilling fixed amount of trips combined with the amount of individual operating cost to the bus line company under tight schedule, poor working and living conditions. Refilling the gas

and traffic jam make them wasting time and less earning. They race each for more passengers which results in unexpected unfavorable conditions.

Poor working conditions; lack of facilities, bad environment on the bus, not having enough safety equipment, difficulty in getting holidays and getting paid less, are factors that have a huge influence on driving behavior of bus drivers. Long working hours makes them sleep deprive. They have to get up early in the morning and finish late, which make them less amount of sleeping time. Thus, they need to use energizers like smoking and eating betel quit not to feel sleepy during their working time. These factors lead to accidents prone driving behaviors of bus drivers.

Bus driving has been identified as one of the most stressful occupations and this is said to be due to the nature of the work; the conflict of pressures to maintain tight schedules and drive safely, while having little control over their external environment. Therefore, accident prone driving behavior has been posited to be state-highlighted by impaired performance and subjective feelings of tiredness, brought on by factors including inadequate rest, prolonged wakefulness and environmental working conditions and working strategies. Unrealistically tight route schedules and some impairment resulting from working conditions; broken shift scheduling due to lack of replacement, longer routes, and high density traffic and extended working times, were suggested to have significant effect on drivers' daily routine, in changing meal times, sleep cycles and altered work/life balance. Various resulting effects on driving behavior identified include impaired health condition, decreased attention to safety behaviors, fluctuations in driving speed, failure to stay within lanes, feeling sleepy because of sleeping debt.

The tight schedules were reported to cause accident prone driving behavior by producing time pressures, and therefore reducing the ability of the driver. Interestingly, in bus drivers, it is likely that this reduction in task performance capacity is due to a combination of physical health illness and stress accumulation from an inability to address hunger, thirst, stretching and toilet needs.

The majority of drivers had bad habits which contribute to accident prone driving behaviors like consumption of alcohol and betel quit which may hamper their senses during driving hours. It was seen that the significant amount of bus drivers do not get adequate sleep on an average rate per day.

The result also showed that bus drivers who are late in their forties and who have long driving year experience are not well healthy. They suffer cardiovascular disease such as hypertension because of sedentary behavior or long duration in sitting position.

Furthermore, the social condition at work pace is also one contributing factor of accident prone driving behavior of Myanmar bus drivers such as social interaction with passengers and other road users. The result of the study showed that the majority of bus drivers do not spend time with their family due to tight job schedule. Poor living conditions; not sleeping regularly, frequent skipping meals, and a lack of family support coupled with other family burdens were factors that had a huge influence on their driving behaviors.

It is, therefore, accident prone driving behaviors of Myanmar bus drivers are greatly influenced by structural factors within working and living conditions in their everyday life. Fundamentally, the response that society gives to procure accident prevention is through having legislation to control and regulate road user behavior and the purpose of traffic legislation is mainly to simplify the tasks for road users, making the risk of accidents lower. The regulations are mainly based on the result of knowledge, attitudes and practice. But driving behavior is much more than beyond that because it was also influenced by many working and living structures. In many developing countries such as Myanmar, traffic regulation is not strong and are not working well. Policemen can get money from those who violated the law and those who violate traffic rules are fined with a certain amount of money as punishment; therefore, destroying traffic legislations. For that reason, it is necessary to think of the social, cultural and economic structures of bus drivers. In order to implement strong regulations, it is very important to consider how the society view and treat bus drivers because they are social and cultural beings and the way they react to man-made technology will be, somehow, influenced by cultural meanings.

On the other hand, Myanmar is in transitional period of political changes, it has been much influenced by globalization. There has been an abundance of imported vehicles from other countries, continually promoting a higher rate of importation by reducing taxes to be paid so that many cars carry on fleeing the roads and highway. And, the government also tends to enhance traffic infrastructure but it is

not still caught with the amount of vehicles. In addition, there are also many old cars and buses causing more traffic accidents. In order to tackle this problematic issue, traffic regulations should be built after understanding local knowledge, belief and practices.

In summary, the accident prone driving behaviors of bus drivers stem from bus operating system which is more likely to private services in terms of payment systems, having tight schedule and exploitation at work pace.

## **6.2 Implication**

The above conclusion suggests that there is a need to have a change in the institutional sectors, such as work, family and government sectors, which have great impact on accident prone driving behavior of Myanmar bus drivers in their everyday lives.

### **6.2.1 Implication on working structure**

Individual behavior in public spaces is a part of civic commitments. Individual development of Myanmar bus drivers is also necessary to maintain social development as a consequence of daily activities and attitudes within their community enhancing health and well-being of society. Myanmar bus drivers are rich in having cultural belief and practice resulting in lack of enough safety precautions, and in turn, their belief and practice are also influenced by their living condition. Poor living conditions; not sleeping regularly, frequent skipping meals, and a lack of family support coupled with other family burdens were factors that had a huge influence on their living, which is closely link to their work. Work is the most important part of lives and which is greatly concerned with living.

Drivers reported that managerial support was important in order to control the accident prone driving behavior of Myanmar bus drivers. With its emphasis on rigid timeframes, drivers may consider that their well-being is considered secondary to efficiency of operations. More, the study have described that the industry's managerial style is authoritative and strictly task-focused and create the competing priorities of working environment which are opposed to providing safe and efficient service.

Regarding specific factors of sociocultural and working context, the most prominent factors are: a) support from management; b) reliable working structure and operating procedure; c) accessibility of support or facility; d) reliable route schedules; e) availability of holidays; f) and social interactions with passengers, with other road users; with policemen and with bus assistance. To avoid competitive atmosphere, it is much necessary to have reliable support from management, reliable working structure accessibility of support or facility, reliable route schedules and availability of holidays. For reliable working structure and operating procedure, it will be crucial to have reliable amount of fixed trips per day and reliable amount of money input for the company. More traditional structural aspects of the job, relating to scheduling and work environment is recommended for preventing accident prone driving behavior of Myanmar bus drivers and that will help in predicting the likelihood that a driver would feel comfortable taking steps to prevent accident prone driving behavior.

### **6.2.2 Implication on policy**

Accident prone driving behaviors of bus drivers are rooted from making their living which has great influenced by economic and policy impact of the country condition; high living cost, difficult and dangerous to earn money for making their living, unsafe working condition, lack of being secure at work, capitalistic working management strategies, unfair or corruption on traffic rules and regulations, unsafe road condition, lack of traffic knowledge of the road users and not having effective giving traffic education strategy.

As accident prone driving behaviors were reported to stem from stress, both that of ensuring passenger safety and that of maintaining the route schedules, in the face of the often unpredictable uncontrollable behavior of other road users, it is necessary for all road users to have traffic knowledge and to obey traffic regulations by having effective traffic education system.

A non-competitive driving atmosphere, an efficient administrative and supportive working structure, and active rules and regulations of authorized persons should also be adopted. In order to implement reliable and active regulations, taking into consideration on views from bus drivers' aspect, having enough mobile policemen and no corruption is of great impetus to prevent unfair traffic regulation.

Rather than making strong rules only on bus drivers who are regarded as low educated and low social status professional groups, there is a need to look at the whole story and possible probabilities of the accidents. Traditional aspect of traffic regulation implementation will be helpful to avoid accident prone driving behavior of Myanmar bus drivers.

As traffic jam and gas refilling processes are a kind of time waste for bus drivers, they have also an influence on their driving behavior in terms of speed, fighting with another bus and not driving in right lane. If bus drivers are given enough amount of gas set with enough pressure for the whole process of each day, it will help not only to reduce the work load of public gas refilling center but also the time wasted by bus drivers caused by traffic jam and gas refilling resuming time.

As the accident prone driving behaviors of bus drivers stem from bus operating system which is more likely to private services in terms of payment systems, having tight schedule and exploitation at work pace, transportation services should be public service in order to reduce traffic accident rate by preventing accident prone driving behaviors of bus drivers.

### **6.2.3 Implication on further research**

As this research has some limitation, it is necessary to have further research related to accident prone driving behaviors of bus drivers. This study includes a small amount of participants, it would be necessary to do research with the significant amount of bus drivers to get the representatives from different part of Yangon city. Similar research is also necessary for other city where bus transportation is in common use. Concerning with traffic regulation and policy, the research which includes traffic policemen and responsible persons of the bus line company, as the participants, will be helpful in enforcing traffic policy engulfing the gap between traffic policy and working structure.

For the understanding of life history, social and family life of bus drivers, their family members, passengers and other road users can be added as the participants. Besides, after making some implementations on their working structure and on further research will be necessary to make assessment on this issue.

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## **APPENDICES**

## **APPENDIX A**

### **GUIDELINES FOR OBSERVATION**

Bus line No: ..... Driver's name: .....

Time started: ..... Time ended: .....

Q: What are the accident prone driving behaviors of bus drivers?

Q: In terms of speed, how do they drive?

Q: In terms of stopping at appropriate place, where do they stop and how do they stop?

Why do they stop in such inappropriate place?

Q: Whether bus drivers violate traffic rules? How do they violate and why do they violate the laws?

Q: How is the social relationship of bus drivers with passengers while embarking and disembarking, and on the bus?

Q: What are the working condition of bus drivers, in terms of having adequate working safety equipment (Working break system and breaks on the wheels, Two headlights, Two red taillights, Turn signals, Stop lights, License plate light, Parking lights, One rearview mirror, Wipers , Horn)

Q: Does bus have adequate and working safety equipment? If not, why? And how is their working structure?

Q: Does bus have adequate and working safety equipment? If not, why? And how is their working structure?

Q: In terms of social relationship, how is the social relationship of bus drivers with other drivers, passengers, their colleagues, policemen and other road user?

Q: What kind of Cultural and habitual behaviors are occurred while bus drivers are driving?

Q: Whether they use energizers or drugs? What kind of energizer they use and why they use these substances?

Q: How long is the whole route, in terms of time and distance?

Q: How is the capacity of passengers in what time?

## **APPENDIX B**

### **GUIDELINE FOR IN-DEPTH INTERVIEWS (BUS DRIVERS)**

➤ *To explore cultural meaning on bus driving, accidents and risky driving behavior*

Q: How long have the bus drivers been working as a bus driver?

Q: How do they think of being a bus driver or bus driving as a career and as a living as well?

Q: Before working as a bus driver, have they ever thought about being a bus driver? How do they think of it?

Q: After working as a bus driver, how do they think of being a bus driver and why?

Q: How do they think what the society think of being a bus driver? What are some episodes of the way that people treated them?

Q: How many driving year experience do they have? Do they have any accident experiences (light or severe accidents)? How many times did they have and when was the last time? How was it? Examine about their accident in detail? In which part of the day, accidents are commonly occurred? During the day time or night time or rush hours or during heavy traffic time?

Q: How they think of being in accidents in their point of view?

Q: How do they think which kind of condition or what kind of driving behavior lead to accidents? Why and how it can be encountered?

Q: In which part of day (morning, afternoon, evening, night, in rush hours or office hours), how do they think that the accidents are mostly happened? How is the traffic flow at this situation?

Q: How do they think of risky driving behavior?

➤ *To explore daily pattern at work and working condition*

Q: How long have they been working here a bus driver?

Q: Where did they work before this? Did they work as a bus driver or other kind of job in their previous work? If they have ever worked as a bus driver, what is the difference between previous job and current job?

Q: What difficulties or problems did they encounter when they are working here? How did they handle them?

Q: What kind of expectations do they have for working here? In terms of salary, facilities or position? Why?

Q: Do they think that they have got your expectations from their work? Why? (Salary, holidays, time schedule, uniforms, bonus, etc...)

Q: How did they feel working here as a bus driver? How is their social condition at working atmosphere with friends, employers, driving assistants, colleagues, passengers, drivers from other vehicles and other road users?

Q: How is the production relation between the employers and the bus drivers?

Q: How do you think of their daily pattern, unavoidable and unexpected conditions and challenges that they face in your everyday life? If they have a chance to change them, what do they want to do?

Q: Who was the first person they informed or talked to when they had difficulties at work and what was the person's reaction and comments?

Q: How do they think what kind of expectations that their employer have on them as a bus driver? Why?

➤ *To explore living background of bus drivers in terms of family background, socioeconomic background and historical background*

Q: Personal data

1) Name, address, age, religious belief, education, marital status, number of children and household members

2) Economic context: Household income, economic daily live, work history

Q: Where are they coming from and where do they live? How long have they been here?

Q: Where do their family stay? How do they feel staying here?

Q: How is their relationship/social interaction with their partner/ family/ neighbors/ children?

Q: How do they interact with people in everyday life?

Q: How do they spend their leisure times? Whom do they spend their leisure times with?

## APPENDIX C

### GUIDELINE FOR KEY INFORMANT INTERVIEW (MANAGER)

➤ *To explore about working structure, operating system and managing strategies on bus-drivers, expectations from bus drivers and the facilities that they give to them.*

Q: What are their working structures in term of time schedule, holidays, salary range, and criteria for recruitment and working contract?

Q: How is the operating system organized? Why is it organized in such this way to know working structure?

Q: How many bus lines are operating in this organization? How many employees and how many bus drivers are working here?

Q: How are the managing strategies on bus-drivers? According to supervising position level, how is social relationship among the employees and among bus drivers?

Q: What are their expectations from bus drivers in terms of responsibilities? Why?

Q: What kinds of facilities are given to bus drivers? (Health/accident insurance, bonus)

Q: How is the production relation between the employers and the bus drivers?

Q: What is working condition of bus drivers in terms of vehicle condition? If not adequate working safety equipment, why do not the employers provide adequate safety equipment?

Q: What kind of difficulties do employers have to encounter concerning with bus drivers?

Q: How do they solve these problems?

Q: If there are some problems related to passengers, other road users or policemen, what kind of responsibilities are taken part as the employers?

Q: From the bus drivers' side, what kind of action do they take as the employers? In terms of fine or some punishments or restriction on their facilities?

Q: In terms of working condition of bus driver, what kind of condition do they want to create or to make improvement for bus drivers?

## **BIOGRAPHY**

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