YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF APPLIED ECONOMICS
MASTER OF PUBLIC ADMINISTRATION PROGRAMME

A STUDY ON CUSTOMERS SATISFACTION OF PUBLIC TRANSPORTATION SERVICE

(CASE STUDY: NO.105 BUS LINE UNDER YANGON BUS SERVICE)

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EMPA – 78 (18th BATCH)

OCTOBER, 2022

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A STUDY ON CUSTOMERS SATISFACTION OF PUBLIC TRANSPORTATION SERVICE
(CASE STUDY: NO.105 BUS LINE UNDER YANGON BUS SERVICE)

A thesis submitted as a partial fulfillment of the requirements for the degree of Master of Public Administration

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October, 2022

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This is to certify that this thesis entitled, **"A STUDY ON CUSTOMERS SATISFACTION OF PUBLIC TRANSPORTATION SERVICE (CASE STUDY: NO.105 BUS LINE UNDER YANGON BUS SERVICE)",** submitted as the requirements for the Degree of Master of Public Administration has been accepted by the Board of Examiners.

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ABSTRACT

This study aimed to analyze the current situation of Yangon Bus Service and service quality from the customer point of view especially on No.105 bus line. This paper is mainly focus as customers' satisfaction on service quality and quantitative method is used. Primary data are obtained from the survey questionnaires. Majority of passengers are students and government staffs with monthly middle income earners. Customers' satisfaction mostly depends on time consumption to take a bus and service on bus. Satisfaction also depends on the manner of drivers and obedience on rules and regulations. Moreover, physical condition of buses and confortable of seats is one of the factors to satisfy passengers. Safety on the bus, cleanliness on the bus and ease of taking on bus are also important for satisfaction. Most of passengers prefer confortable on the bus by air-condition. Bus fares are suitable for long trip passengers but not satisfy by short trip passengers. Late evening commuting by bus is inconvenient for passengers due to longer time for waiting to take bus and crowded inside the bus.

ACKNOWLEDGEMENTS

To begin I would like to express my deepest thanks to our Prof. Dr. Daw Tin Tin Htwe, Rector of Yangon University of Economics for his permission and arrangement for EMPA program and this thesis paper. And I also would like to express my deepest thanks to our Prof. Dr. U Kyaw Min Htun, Pro-Rector (Retired) of Yangon University of Economics.

I would also wish to extend my grateful thanks to Prof. Dr. Daw Su Su Myat, Program Director of the EMPA Programme, and Professor/Head of the Department of Applied Economics, Yangon University of Economics for her kind support and care, guidance, comments and giving me permission to carry out this thesis paper.

Furthermore, I would like to show my heartfelt gratitude and appreciation to my supervisor, U Than Htun Lay, Associate Professor, Department of Applied Economics, Yangon University of Economics for his valuable guideline and for providing me with the tools that I needed to choose the right direction and successfully complete my thesis. I also thank all our teachers who share their extraordinary knowledge with great kindness and guidance throughout our study period for EMPA program.

Additionally, my sincere thanks to all respondents who help me answering my questions which are very important to complete this thesis. I would like to thank my all friends for the stimulating discussions in all stages of this thesis and my family for giving continuous help and supporting me spiritually throughout my life.

Finally, my special thanks to my parents for their prayers, support, encouragement and understanding throughout my study period.

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LIST OF ABBREVIATIONS

CBD	Central Business District
CCTV	Close Circuit Television
CNG	Compress Natural Gas
CSO	Central Statistical Organization
CSS	Customer Satisfaction Survey
GPS	Global Position System
JICA	Japan International Cooperation Agency
Ma Hta Tha	Yangon Region Central Supervisory Committee for Motor Vehicles in Myanmar Language
PBT	Public Bus Transport
PPP	Public Private Partnership
QOL	Quality of Life
RTC	Road Transport Corporation
UNFPA	United Nations Population Fund
WHO	World Health Organization
YBS	Yangon Bus Service
YCDC	Yangon City Development Committee
YDBCC	Yangon Division Bus Control Committee
YRTA	Yangon Region Transport Authority
YRTC	Yangon Region Private Transport Committee

CHAPTER I
INTRODUCTION

1.1 Rationale of the Study

Economic growth and social developments can be promoted by improving transport system. It means that to convey the things and person or movement of commodities by increasing mobility and improving access to resources and markets. Transportation services are vital for transfer of person and goods from one place to another as well as to their desire points. In developing countries most people use bus transportation for all daily works, shopping centers, and university class rooms. Thus transportation development can attribute to its many benefits, including enhancing personal and economic opportunities, reducing congestion, fuel consumption and carbon dioxide emission. There are various types of transport modes such as land (railway, road, etc.), maritime transport, air transport and others (pipeline, cable and space transport, etc.). The form of transport has different infrastructure, capacity, times, activities, and regulations.

In urban areas, public transportation is important for urban population to move labor, commuters and freight from several origins to destinations. In 2030, the United Nations Population Fund (UNFPA) estimated that 60% of the world's population is living in urban area. Accordingly, the public transportation involves an important part of the solution to the economics of the nation, energy and environmental challenges, so helping to improve quality of life. By using efficient public transportation, it can decrease traffic congestion, energy usage and accidents. Moreover, good transportation is indispensible for culture, heritage and national defense. So, the role of transportation is very important for economics, social activities and even the scale of city. Good transportation is moving goods and passengers efficiently without negative impacts on the environment and society.

Efficiency of public transport system may be affected not only the productivity of urban area and convenience on residential people but also provided job opportunities and save money. There have variety of road transportation modes

such as railways, tramways, monorails, subways, buses and taxies etc. Among them in most developing countries of the world, buses have been chosen as a majority of public transport mode for commuters and urban population. The public transportation system can be chosen by the influence of population and size of the city, their demand of transportation, characteristics and land used patterns. Public bus transport implicates large share of urban public transportation in most developing countries.

Myanmar is also one of the developing countries in the world and so public bus transportation predominates among various modes of urban public transport system. The British annexed the Upper Myanmar on 28 October 1885 and declared that the whole Myanmar was annexed by the British on 1 January 1886. As the time of British colonial period, Yangon was one of the commercial city in Myanmar (Burma) and started bus usage as mode of transport. Higher population and increasing economic activities have been expended the urban area of the Yangon city. In the current and future situations, urban public transportation will be essential for citizens because of the urbanization and better job opportunities create higher population density. Yangon city is composed of 46 townships in four districts as the municipal area (YCDC). The people live in Yangon city has been changed greater public transport facilities by the expansion of new bus lines, types and routes all over the city. However, there still have some failings in providing public bus transport service. Moreover better transport is essential to Myanmar's development.

The aim of this study is to analyze the current conditions of Yangon Bus Service (YBS) supporting from the point of view of customers. The purpose of this study is to examine the problems of public transportation in Yangon city and to fulfill the customers' satisfaction in a particular bus of No.105 city bus line. This study cannot be solved many problems and challenges of public transport system but it can approve to transform better situation of transportation.

1.2 Objectives of the Study

The objectives of the study are;

(1) To describe the current situation of the operation of Yangon Bus Service (YBS), and

(2) To examine the customers' satisfaction on service quality of No.105 public bus line and to find out possible changes toward better service quality.

1.3 Method of Study

This study is conducted in Yangon city. To examine the customers' satisfaction when using No.105 bus line, analytical method (SERVQUAL Model) was used based on primary data and secondary data. Survey for primary data was collected from the customers of the Yangon Bus Service (YBS) especially in No.105 bus line and randomly selected 200 passengers by questionnaires. Secondary data obtained from Yangon Region Transport Authority (YRTA), Yangon Bus Service (YBS), International organizations and unpublished MPA thesis.

1.4 Scope and limitations of the Study

The scope of this study focused on public transportation of Hmawbi to Yangon (Sule) and overall customers' satisfaction provided by the Yangon Bus Service. This paper has been emphasized especially on the operation of No.105 bus line under YBS between the years of 2020 to 2022.

1.5 Organization of the Study

This study is organized into five chapters. Chapter I is the introduction and it includes the rationale of the study, method of the study, scope and limitations of the study and organization of the study. Chapter II is literature reviews about the public transport services in urban area and customers' satisfaction on these services. Chapter III is the profile of public bus transportation in Yangon, operations of YBS and the initiation of No.105 bus line. Chapter IV includes empirical analysis of customers' satisfaction on the selected bus line. The study concluded with Chapter V and which includes findings and discussions, suggestion and recommendation, and needs for further studies.

CHAPTER II
LITERATURE REVIEW

Transportation is an indispensable process of economic growth in developing country. An increase in travel demand becomes from the increase of population. As the city developed, the distances to be travelled and the numbers of people to travel increased. Yangon is commercial and most populated city in Myanmar, so that there have a large number of travel demand. To solve the increasing of travel demand, public transportation involves one of the significant factors for urban population and must be provided to improve the rate of customers' satisfaction. According to Oliver (1997), satisfaction is defined as the customer's fulfillment. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or over-fulfillment. This thesis focuses on the concept of customer satisfaction and perceived service quality by public transport users in Yangon.

2.1 Transportation and Logistics

2.1.1 Transportation

Transportation is the relocation of people, animals and goods from one place to another. It is an important part of economic growth and globalization. There are various modes of transportation such as Human-powered Transport, Animal-powered Transport, Pathways Transport, Air Transport, Railways Transport, Roadways Transport, Inland Water Transport, Ocean Transport, Pipeline Transport and Cable Transport. Most types of transportation cause air pollution and use large amount of land. To operate a vehicle, infrastructure is needed and that is fixed installations.

Both public and private sectors need to effort the improvement of transportation systems. In the conversion process of resources into useful goods in the name of the ultimate consumer, transportation concerns with a connective role among the several steps. By the concept of business logistics, transportation serves as a

function and sub-function of goods movement in order to achieve maximize service and minimize cost.

In the business logistics systems, transportation is the most important economic activity. Logistics costs are spent on transportation around one third to two third of the expenses on enterprises. The means of transportation, corridors, containers, pallets, terminals, labors, and time are the costs of the transportation. The movement of goods and products provide timely and regional efficacy to promote value-added under the least cost principle is a good transport system.

In the process of carrying goods for business owners is complex but the role of transportation plays in logistics system is more than that. That complexity can become effects only through highly quality management. In order to satisfy customers' demands, goods could be sent to the right place at right time by handling of well transport system. It builds a bridge and brings efficacy between producers and consumers. So, transportation is the basal function for efficiency, economy in business logistics and compose of expands on other functions of logistics system. To achieve benefits on service quality, a good transport system performing in logistics activities are needed and it can also bring to company competitiveness.

Logistics could not bring its advantages into full play without well-developed transportation systems. To provide better logistics efficiency, reduce operation cost, and promote service quality, a good transport system in logistics activities are needed.

2.1.2 Logistics

Logistics is now seen as an integral part of the modern production process but it was initially a military activity concerned with getting soldiers and munitions to the battlefront in time for flight. In the late 18^{th} and early 19^{th} centuries, the term "logistics" was launched from the military logistics of World War II and it was initially developed in the context of military activities. Military used that as a definition of incorporate the supply, movement and quartering of troops in a set. Business logistics was not an academic subject until the 1960s. The investigation of National Council of Physical Distribution Management (NCPDM) in 1982 (Chang, 1988) states that the cost of transportation, on average, accounted for 6.5% of market revenue and 44% of logistics costs.

According to the Council of Logistics Management (1991), logistics is defined as 'part of the supply chain process that controls the efficient, effective forward and

reverse flow and storage of goods, services, plans, implements, and related information between the point of origin and the point of consumption in order to meet customers' requirements'. By the Johnson and Wood's definition (cited in Tilanus, 1997), there has 'five important key terms', which are logistics, inbound logistics, materials management, supply-chain management, and physical distribution, to interpret. The entire process of materials and products moving into, through, and out of firm means the logistics. The movement of materials received from suppliers is the inbound logistics. The movement of materials and components within a firm is covered materials management. The movement of goods outward from the end of the assembly line to the customers is meant physical distribution. Finally, supply-chain management links logistics more directly with the user's total communications network and with the firm's engineering staff and it is somewhat larger than logistics.
The commonality of the recent definitions described that logistics as a process of moving and handling goods and materials, from the starting to the end of the production, sale process and waste disposal, to satisfy customers and add business competitiveness. It is 'the process of anticipating customer needs and wants; acquiring the capital, materials, people, technologies, and information necessary to meet those needs and wants; optimizing the goods- or service-producing network to fulfill customer requests; and utilizing the network to fulfill customer requests in a timely way' (Tilanus, 1997). Simply to say, 'logistics is customer-oriented operation management'.

2.2 Urban Structure and Urban Bus Transport

Urbanization has been one of the dominant economic and social changes of the 20th century, especially in the developing world. Although cities played a significant role throughout human history, it is not until the industrial revolution that a network of large cities started to emerge in the most economically advanced parts of the world. The world's urban population has more than doubled since 1950 and in 2018, urban population has reached nearly 4.2 billion, and it is about 55.2% of the global population. This transition is expected the increasing proportion of the urbanized population, reflected in the growing size of cities and to go on well into the second half of the 21st century. By 2050, 6.4 billion of global population may be urban residents and it represents 70% of global population could be urbanized. Cities

also evolve as the national economic output and they'll become for the bulk of the production, distribution, and consumption.

Urbanization is the transition from a rural to an urban society. Statistically, urban or urbanization is primarily through net rural to urban migration and an increasing proportion of the population living in settlements. The percentage of the total population living in towns and cities is the level of urbanization, while urbanization is the rate at which it grows, (UNFPA, 2007). Transport infrastructures effect on urbanization and it includes roads, transit systems, or simply walkways. Consequently, there is variety of urban structures, spatial forms, and associated urban transportation systems. Depending on urban population and structure, urban joints and linkages manage for functional connectivity, forming interdependent urban functions related to trade, management, and production. Residents commute to their jobs, which are all located at the CBD, along a corridor, where walking and public transport are the only available commuting options. A bus rapid transit system, a tramway, or a subway line is the public transport mode of urban population. Thus urban transportation is associated with a spatial structure that varies according to the modes being used.

Urban transportation is importance to support the mobility of passengers in large urban agglomerations by considering that a growing share of the global population lives in cities. Urban transportation modes: the multitude of origins and destinations, and the amount and variety of traffic and the consequence is highly complex. Traditionally, the focus of urban transportation has been on passengers as cities were viewed as locations of utmost human interactions with confounded traffic patterns linked to commuting, commercial transactions, and leisure/ cultural activities.

Buses are the most common transit mode. They operate on streets and have an extensive network of lines. In some cities they have been upgraded by provision of exclusive bus lanes and provision of bus preferential signals. Virtually every city in the world that has transit service operates buses. Bus service is easy to introduce or modify: basic service requires only purchase of vehicles, garage and maintenance facilities, and organization of service. Stops along the lines can be simple. Therefore, buses represent the most economical transit mode for lightly traveled lines. This flexibility of bus routes is an advantage for any necessary changes, but it is a disadvantage for major bus lines: they lack permanence, efficiency in carrying heavy passenger volumes, and image of permanent, physically fixed routes desired by

passengers. Bus transit is very labor-efficient: one driver operates a vehicle with capacity of 50-150 spaces.

2.2.1 Public Service

Public services can be defined as the provision of services or serve the needs of the person or people who have interest in the organization in accordance with the rules and basic procedure that it has been set. As has already been raised is that the substance of government is to serve to the society. Government is not held to serve itself, but to serve society and create conditions that allow each member of the society to develop their ability and creativity in order to reach the goal together. Because of that, the public bureaucracy is obliged and responsible to provide good service and professional. Public service by the public bureaucracy is one manifestation of the state apparatus as a public servant in the country. Public service by the public bureaucracy was intended to society (citizens) of a country's welfare (Suwarno & Ikhsan 2006).

Conditions in the critical society and dare to do more control over what is done by government, the public bureaucracy must be able to provide public services more professional, as well as can simultaneously build human quality and improve individual and social capacity to actively determine their own future. A professional public service means characterized by the existence of accountability and responsibility of providers (government apparatus), with the following characteristics: effective, simple, transparent, efficiency, timely, responsive and adaptive (Suwarno & Ikhsan 2006).

In the context of the country, fulfillment the needs of the society is defined as fulfillment of the civil rights of a citizen. Public services generally not shaped goods but in services, including administrative services. The results were obtained from the public service by the service provider can be shaped of goods and services. Public services are usually carried out by the government, but can be provided by private parties (Suwarno & Ikhsan 2006).

Another discussion about private services and public services are not too different from each other. Still there are some differences that find to have an effect on the customers understanding of the service and on the design of the service (Edvardsson & Larsson 2004 at Jonas 2006). They name the following 5 aspects:

- Public services are not produced to give profit or cause growth for its owner. Rather, they focus on a benefit for the society or its citizens.

- They are democratically ruled and not by shareholders. That has as a result that they are dependent on the political situation.
- Public services are financed by taxes. Though the actual service can be performed by a private service company for which the same laws and quality demands are valid.
- In some cases, public services are service providers and at the same time an operating municipal authority.
- Customers do often not have a real possibility of choice when it comes to public services.

2.2.2 Public Transportation

Public transportation is provided by the government or private company that transports goods and travelers to their desire location on time with proper fares. In the ancient times people used to walk or travel by horse or carriage or ship. Nowadays different transportation means are available with different levels of cost and comfort. Improvement of public transport service is important task in transportation: makes customers' satisfaction and can solve transportation problems.

Although private cars remain the mighty transportation mode for the large majority of people, the set of mobility options is growing. Traffic congestion is a dramatic problem in every country. People have to queue in their cars daily to reach their working place, to take children to school, to perform any regular activity. Green areas are transformed in parking spaces. The number of traveling vehicles can be lessened only by reducing the number of people in need of travel and/or by increasing the number of people transported in the same vehicle.

A simulation study is performed where a conventional mass transit system, say a system of buses, is offered together with an on-demand service without fixed itineraries and schedules that allows users to communicate the desired departure time, origin and destination of the trip. We tend to think that congestion is uniquely determined by the number of vehicles on roads. In fact, this is only partially true, because congestion is determined also by the paths followed by traveling vehicles and by the time at which vehicles travel. Congestion happens when many vehicles travel along the same road at the same time.

2.3 Public Bus Transport as Public Service

Transportation is a major component in the system of life and the life, the government system, and social system. The government make policy for the procurement of transport is seen from a technical, sociological and political, such as the procurement of land, spatial and capital is the government conducted a public transport. This continues on the interaction government with the capital strength. To build a sustainable public transport system need of revitalization in all aspects related to public transport. Government plays an important role in the process of planning and implementation of public transport policy. Various policies that affect the transportation problems should be harmonized, so that can be run over, for example, a program to encourage the use of mass transit and reduce private vehicle (Peñalosa 2005).

The development of public transport that is convenient, safe and cheap in order to optimize the accessibility of society may be reliability of transportation as a public service to be reviewed from the aspect of social justice. Inside is this is involving the development of public transport that is cooperated between each other and with the other modes. In the transportation sector, still associated with the development of public transport as a public service, have become important repairing in the public transport sector, especially in terms of improving the quantity and quality of services (Peñalosa 2005).

As a sector that serves many people, the type of public transport vehicles must be operated in adherence with the road hierarchy, capacity, and transportation demand that it served. Increased public service in the transportation sector is the creation of a reliable public transport and the number of private vehicle usage could be decreased. This will become benefits in addition to the economy because of reduced on traffic congestion, waste energy and time consumption - also generate benefits as public health and environment. The travelling people has needed on demands for transport. The convenient, efficient, affordable and of high quality are expected by them. Some of these demands are met to the car and will continue to do so but its consequence can lead to a decrease in efficiency and convenience, journeys may be longer and journey time more uncertain, and start to weaken the beauty and opportunity that the city has to offer (Peñalosa 2005).

2.3.1 Transportation System Sustainability

It is generally acknowledged that urban communities must be more sustainable and that the transport sector has a major role to play in this regard. A strong link of public transport services and social sustainability have been shown in studies. There is evidence to suggest that applying sustainable transportation concepts into the PBT services can be a key tool in reducing auto travel and auto dependence (Moavenzadeh, F., Markaw, M., 2007). These benefits could involve reduction of traffic congestion and emissions, less use of land space (environment), improved access (social), increased economic efficiency and contributions to economic activity (economy) (Miller et al. 2016; Redman et al 2013).

For the sustainability of a transportation system, there is no standard definition. It is measured by system effectiveness and efficiency and has largely been meant through the impacts of the system on the economy, natural environment, and general social well-being. A sustainable transportation system can be defined "as one that satisfies the current situation on transportation and mobility needs without doubtful the ability of future generations to meet those needs". Sustainable transportation involves allowing the basic access needs of individuals and societies to be met safely and with equity is one of the key elements. Sustainable transportation supports a vibrant economy and affordable, operates efficiently, offers a choice of transportation mode (Cormier and Gilbert, 2005). To promote sustainable transportation, there are four main interventions. Reliable public transport alternatives influence businesses and individuals to change their location are indicated by these. Besides, merging the trips of individual who take public transport decreases the total number of trips. Moreover, public bus transport users usually use walking or cycling to get to the terminals and families that utilize public bus transport surrender their cars (Newman and Kenworthy, 1999). Especially in developing countries, sustainable transportation has not been realized worldwide, including Myanmar.

2.3.2 Demand for Public Bus Transportation

In developing countries, many people are in the low-income bracket and the impact is that the demand for public bus transport is very high. Efficient bus service has declined and remains an elusive dream for many cities and communities are the truth on that. Satisfactory bus services are lacking in most of the developing country cities. There are many contributing factors to this unsatisfactory and grim state of

affairs facing public transportation. The demand is leading to poor quality of services and uncertainty face that by the factors include inadequate bus services (Ali, 2010). As a result, in developed countries in Europe, the market share of public transport has stabilized but in most developing countries, the existing bus system has lost the overall attractiveness level. Services of bus operate in advanced countries is that on schedule and are built with consideration of passengers' safety. In most of these countries, this practice has given a major boost to the economy. By improving different attributes as per the passengers' perception and expectations regarding service quality, the public bus transport service can be sustainable.

2.4 Service Quality and Customer Satisfaction

The quality of intra-urban bus services revealed that the quality of bus service was different in different parts of the city based the variation of waiting time, walking distance to the nearest bus stops, and bus service frequency varied from one center to another. Commuters who spend longer times waiting for a public transport service also tend to be more stressed. Long wait times are most likely caused by services not running according to schedule, which, in turn, induces stress due to lack of reliability and a diminished sense of control. Insufficient capacity and crowding are the major causes of stress among commuters who use public transport (O'Regan and Buckley, 2003). Satisfaction levels of customers and their repurchasing intentions were primarily influenced by their perceptions regarding quality of a service and concluded that what the customer thinks of the service matters and impacts on the customers' satisfaction level.

To achieve customer satisfaction, a product or service performs well or measures up to customers' expectations. To retain customer satisfaction and augment revenues for any business organization, managing service quality is needful. Customer loyalty is seen as a prime determinant of long-term financial performance, understanding the behavioral intentions of public transport passengers is important. Incongruity between what customers expect and what they experience is importance for service quality and leads to a quality gap, and, consequently, dissatisfaction and loss of customers (Gronroos, C., 1982).

2.4.1 Service Quality

To measures the performance of the transport system, the service quality is the best and most comprehensive indicator. The characteristics of service quality are positively associated with a high level of customer satisfaction. The improvement of service quality is importance to all businesses, including public transport organizations as it influences customer satisfaction, commuter choices, passenger demand, investment decisions and revenue (Anderson et al., 2013). The quality of supplied services and, moreover, by the passengers' perception of the provided quality leads to success and the market share growth of public passenger transport operators. Good quality of public transit service is more likely to have a higher level of perceived value and satisfaction, and so continue to use this service by travellers.

Satisfaction levels of customers and their repurchasing intentions were primarily influenced by their perceptions regarding quality of a service and concluded that what the customer thinks of the service matters and impacts on the customers' satisfaction level. Judgments of result quality, interaction quality, and physical environment quality are used to evaluate service quality. Service quality is one of the key dimensions, which are affected into the consumer's satisfaction judgments. A complicated interaction between execution dimension used in satisfaction judgment and those used in quality judgments and due to the contrasts between global judgment and encounter-specific judgment may provide complex relationship between quality and satisfaction always. The quality based on performance has been surrounded as a result from quirky preference and ideal expectation of the customer.

Quality is one of several key dimensions which are related to the consumer's satisfaction judgments. Quality is the result of features and characteristics of a product or service that carry on its capacity to satisfy specified and suggested needs. In brief term, product or service features decide quality which at that point satisfies customer needs.

2.4.2 Customer Satisfaction

Satisfaction is the consumer's fulfillment response, and the degree to which the level of fulfillment is pleasant or unpleasant. Customer satisfaction is defined as how much can fulfill customer expectations by products and services (Zarifah et al., 2020). In other words, unsatisfied customers would return the products or make complaints about the services. Customer satisfaction is linked to service quality,

where customer complaint reflects service failure. Organizations must focus on succeeding in the modern economies to achieve their long-term operation goals. For an organization's marketing activities, a leader plays an essential role in creating, delivering, and communicating values to customers. Employees also play similar roles in executing the organization's strategies and services. Customer satisfaction reflects revenues and brand loyalty. For example, an organization can quickly analyze the average risk of unhappy customers and the need to improve through customer satisfaction (Shamsudin, Azmi, et al., 2020). Differentiation in the competitive market today helps organizations to maintain their existing customers and attract new customers. Customers may also ask questions and have a specific understanding of their roles. As customers deal with the organization, they would ensure that they receive the services according to the promised standards (Shamsudin, Nayan, et al., 2020). Moreover, some customers have strong opinions that allow the organization to make the right, effective decisions. Hence, organizations need to execute effective communication strategies and build long-term relationships with their customers for a smooth and consistent business operation. After all, customers are the reasons for an organization's success. Building strong relationships with customers helps organizations to create more effective marketing products in the future. Customer satisfaction provides valuable insights into the organization's improvements. Through customer satisfaction, regardless of whether the feedback is positive or negative, the influence of its service quality can be determined based on customer satisfaction. With that, organizations can effectively determine how to improve or change their products and services virtually effectively (Shamsudin, Nayan, et al., 2020). Meeting customers' needs and expectations should be one of the long-term goals of business and marketing strategies, including promoting products and services.

Experienced utility is best captured using different types of self-assessment measures. In order to measure experienced utilities, the individuals are with the travel in general and/or with various quality attributes such as seat availability, air conditioning, or cleanliness and they usually estimate how “satisfied” or “dissatisfied”. Service attributes, such as the payment-options available being satisfactorily reliable and easy to use in travelling report high levels of travel satisfaction by some travelers. Other travelers may also be satisfied with their travel because of the combination of satisfactory real time information and punctuality in departure and arrival times. In public transport, there exist two types of quality

attributes, namely: perceived attributes and physical attributes. Perceived attributes refer directly to userś experiences of specific conditions. For example, commonly assessed by means of self-assessments; new information boards or improved air-conditioning are implemented in vehicles. In contrast, without the involvement of users, physical attributes are measured. The users experience on the price of the service, where measures of numbers of boarding travellers (e.g., before and after the change) are used to infer and this is one example of change in pricing. Customer satisfaction brings new ways of thinking for the organizations to increase their profits and revenues and ensure smooth business operation. Effective communication with customers is essential in the approach of attracting new customers.

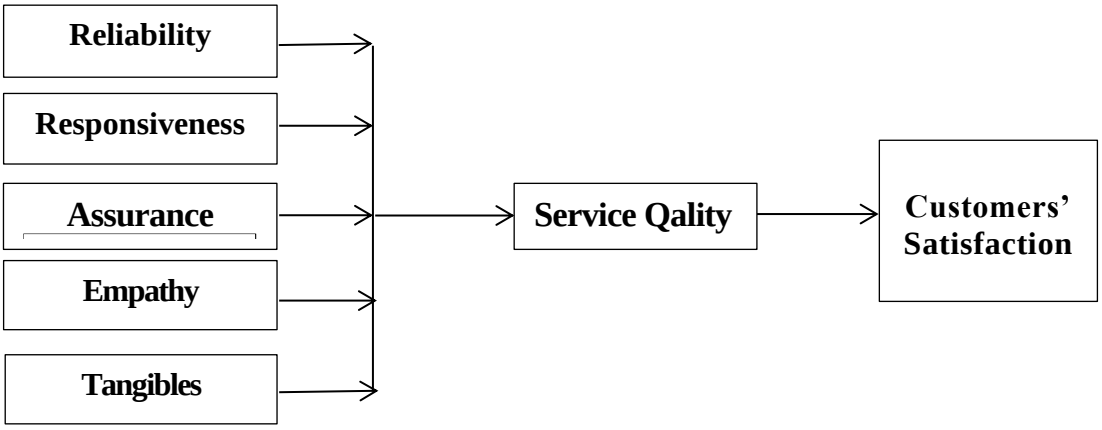
2.5 Measure of Satisfaction on Service Quality

The degree and direction of discrepancy between customers' service perception and expectation is service quality. As customer perception of how well a service meets or exceeds their expectation through the service that provided is also service quality. In other words, the service quality is evaluated based on the customers' expectations and perceptions towards the service that they received.

What the customer expects according to available resources and is influenced by family lifestyle, cultural background, personality, demographics, experience with similar products, advertising and information available online is defined as customer expectation. Based on the customer's interaction with the product or service, customer perception is totally subjective. By the customer's satisfaction of the specific product or service and the quality of service delivery become perception.

Various studies used different methods and conceptual frameworks to analyze customers' satisfaction and service quality. Based on previous literature review, the conceptual framework for this study is developed and shown in figure (2.1). By using the SERVQUAL model, developed by Parasuraman et al. (1988) which was used the five dimensions of service quality for measurement of service quality were adapted for the study.

Figure (2.1) Conceptual Framework of the Study



Source: Conceptual Framework based on Parasuraman et al, (1988)

The research framework shows that to explore the service quality and customers' satisfaction by using five dimensions; reliability, responsiveness, assurance, empathy and tangibles.

(i) Tangibility

Tangibility is defined as physical facilities, equipment, and appearance of personnel are used to provide the service. Tangibility is using physical appearance of measure service quality in public transportation. Tangibility of the service or commonly known as the service scape which is appearance of the employee, and the man-made physical environment surrounding the service (Sureshchandar et al., 2002). Making a good consumption during the delivering the service to the customer is defined as physical quality. Therefore, to satisfy consumers with the service that have been provided to them, the tangibility is important. Passenger's satisfaction and the tangible dimension are positively related.

(ii) Reliability

Reliability of public transport is attributed as the ability to perform the promised service dependably and accurately. Reliability focuses on punctuality and frequency of public transport which shall be able to meet the requirements of the customers. Hence, it could be shown that unreliability in public transport drives away existing and potential passengers, because passengers are affected as increase their anxiety and discomfort for the services by the consequence associated with

unreliability such as delay or early arrival at destination, missed connection and additional waiting period (Bates et al., 2001; Reitvield et al., 2001). The reliability dimension is positively related to customer satisfaction.

(iii) Responsiveness

Responsiveness is defined as the willingness to help customers and provide them without delaying the schedule of travel time to the customer. If the responsiveness is not applied in the quality service it will lead to a bad perception and expectation from the consumer. Thus, the consumers' perception and satisfaction is related with the employee's behavior (Thompson and Schofield, 2002). The responsiveness dimension and customer satisfaction are positively related.

(iv) Assurance

Assurance refers to the knowledge and courtesy of employees and the ability to inspire trust and confidence. The employee can be regarded as a driver of corporate marketing and financial performance. If customers are not comfortable with the employee, higher possibility is that the customer will not return to the company again. Thus, if employees are not able to deliver better service to consumers or failed to inspire trust and confidence, it will have an adverse effect on the company. The assurance dimension is positively related to customer satisfaction (Buttle et al., 1996).

(v) Empathy

Empathy refers to make the customers feel extra valued and special by the company cares and gives individualized attention to their customers. If the customers emote that they receive individualized quality attention, more probably, they will return to the company for the service again. The less empathic skills service providers, the more favorable behavioral intentions of customers towards the service provider. The empathy dimension is positively related to customer satisfaction.

2.6 Review on Previous Studies

The study on public transportation service in Yangon city is limited, especially on urban bus transportation. Carr (1986) provides six indicators that can be used in measuring the effectiveness of a public transportation system, and this includes financial control and keeping the integrity of the system, identifying changes needed for each service, maintaining and improving service quality, controlling sub-contractors among others. He also expressed the view that feedback can be obtained from various stakeholders such as the customer, community, bus and transport agencies and bus drivers. Gomez-Ibazez and Nguyen Xuan Thanh (2012) state that there are more than 80% of the public transport in Yangon city is constituted by bus. Rail transport is constituted only 14% of public transportation in Yangon city because of less efficient. By the description of this study, urban bus transport system is required to improve and investigate for exclusive bus lanes or a rapid transit system. The quality of the service and problems of traffic congestions can be solved by encouraging of public bus transportation. By the traffic congestion, customers face long travel time and environment will be affected by high pollution, usage of non-renewable resources.

Randheer, et al. (2011) state that for all situations and contexts may not always be appropriate by traditional SERVQUAL dimensions. For this reason, they added culture to their study of customer expectations in public transportation. Fellessn & Friman (2008) were generated four factors by the results: buses and bus stop design that make commuters enjoying the travel experience and comfortable, information and reliability, traffic supply, staff skills, attitude toward the customer.

Public bus transportation in Yangon was studied by Khin Sein (2007), Thint Myat Thu (2008), Nay Myo Win Aung (2009), Nyunt Theingi Htwe (2012), Aye Thanda (2012), Theint Theint Aung (2013) and Wai Mon Kyaw (2017). Khin Sein (2007) states that the point of view of supply side on Bandola Transport Company Limited under the Yangon Region Bus Control Committee (Ma Hta Tha). The study mainly stated about of the cost structure, revenue and operation ratio of Bandola transport company limited. The study also includes the costs and usage of CNG, maintenance and conditions of buses, and poor road infrastructure, etc. Aye Thanda (2012) studied the current traffic congestion, carriage of over capacity on the bus, bus stop locations and facilities of bus line transportation in Yangon city. Theint Theint Aung (2013) emphasized service quality by two stages, basis and advanced. Basic

stage includes safety and reliability, speed and convenience. In the advanced level, the study states that comfort and experience by the pyramid of Maslow. The study also states the situations of road transportation in Myanmar during the Colonial Period, Caretaker Government Period, Revolutionary Council Period, Socialist Era and Military Government Period. The study emphasized on No.48 Special Bus Line (Under Ma Hta Tha) of performances, quality, fares and bus lanes in Yangon city by the passengers. Wai Mon Kyaw (2017) studied the No.202 Bus Line (Under Ma Hta Tha) and operations of public bus transport system in urban area. The study conducted the situation of Yangon city, history of public bus transport, conditions of buses and bus stops in YCDC. The study also states the customers satisfaction by the view of passengers by using the method of Parasurama et al (1998).

CHAPTER III
OVERVIEW OF URBAN TRANSPORTATION IN YANGON

Myanmar has not been investing enough in transport. Investments were 1.0%–1.5% of GDP between 2005 and 2015. At a similar level of development, other countries typically invest 3%–5% of their GDPs in their transport infrastructure. Yangon is the former capital of the Republic Union of Myanmar. It is the country's largest city and the most important commercial center. In the early 11th century (1028-1043), Yangon was founded as the name of Dagon, a small fishing village centered around the spectacular Shwedagon Pagoda by Mon, who dominated lower Burma at that time. King Alaungpaya (1715-1760) captured in 1755 the river port of Dagon, which he renamed Yangon (Rangoon) "end of the battle". During the First Anglo-Burmese War (1824-1826), the British conquered Yangon by a large seaborne expedition.

Yangon was seized by the British in the Second Anglo-Burmese War of 1852 and set about transforming it into the commercial and political hub of British Burma. After World War I, Yangon became the center of the Burmese independence movement, and three nationwide strikes against the British Empire all began there. Yangon became the capital of the Union of Burma in January of 1948 when the country gained its independence from British rule.

3.1 Background of Urban Transport System in Myanmar

The urban transport sector in Myanmar shows a range of challenges and the government is looking for the international support across the sector, in urban public transportation system such as highway transit system, railway system. In Yangon, the roadway network system is reasonably getting worse with the terrible traffic congestion, nevertheless this is not comparable with the congestion that has been faced elsewhere in South- East Asia countries such as Kuala Lumpur, Jakarta, and Bangkok. However, the level of traffic growth rate became significant just a few years ago, and could lead to big problem for future urban transport in major cities. It was

caused by floating currency and reduction in restrictions on car import policies in 2012 created the number of vehicles to double within just 3 years. To adjust increasing traffic in major and secondary cities, a good Public transport system is needed.

3.1.1 National Transport Policies and Plans in Myanmar

The government has started to take actions to address the cause of traffic congestion. YCDC implemented a series of traffic management measures, including overpasses at selected intersections as proposed solutions for traffic congestion in Yangon. Unfortunately, it did not help to make traffic flow smoothly. In early 2015, the regional government conducted an initiative to restructure bus operators on main corridors into a joint venture company that would operate qualified buses without conductors under the concept of bus rapid transit (BRT) Lite. With the help of JICA. The Ministry of Transport and Communications (MOTC) and YCDC also planned very first urban master plan (2013) and urban transport master plan (2014), which have not yet been approved as of 2015. With JICA loan support, Myanmar Railways (MR) also procured new coaches to operate the Yangon Circular Railway. However, the good impact of these changes has not yet been achieved. The Project for Comprehensive Urban Transport Plan of the Greater Yangon (YUTRA) was supported by JICA. It is planning to propose a multimodal transport network that helps the role of mobility in the city's economy.

3.1.2 Urban Transport in Yangon City

Yangon has a high population density in the inner city. The transport system is characterized by-

- Road network supporting the inner city
- Private and public bus transport system
- Outdated railway system of about 48 km
- Motorcycles are not allowed to use in the Yangon city limit
- Trishaws and bicycles are used in most parts of the city (exclusive lanes for them are not available)

Urban public transport in Yangon is largely privately operated with a conventional bus network utilizing buses that would appear to be predominantly old. The resources

are not in place to bring services up to an acceptable standard because of the current railway network currently is uneconomical. The circular railway around Yangon offers a very low level of service, is understood to be heavily used. This suggests that there is significant demand for public transport. So, without significant investment, urban public transportation system will not provide the service that covers the demand.

3.2 Brief History of Bus Transportation in Yangon City

During the period of the administration of Myanmar Kings, the people in Yangon use the bullock carts as a traditional mode of transportation. After the Third Anglo-Burmese War (1885), the whole Burma (Myanmar) was conquered by the British and used other modes of transportation system. The history of transportation in Yangon can be classified as before the independence and after the era of independence.

3.2.1 Bus Transport in Yangon before Independence

After the Second Anglo-Burmese War 1852, the lower Myanmar was occupied by the British. The British were used various types of transport system such as Man-drawn carts and Horse-drawn carts. During that period, Lan-Cha were widely used in Yangon, which were similar to those used in India and China. In the colonial era, Lan-Cha was very useful in the downtown area of Yangon City, but to travel of suburbs Horse-drawn carts were more useful.

In 1913, Rangoon Tramway and Supply Company introduced five buses for Road Transportation of Yangon City and run the line along the Shwedagon Pagoda Road. In 1924, the next 15 buses reached to that company and run the route of Theingyi Zay- Shwedagon Pagoda, Yangon Zoo- Nga Htut Gyi Pagoda. In 1931, majority of public transport in Yangon was tramway trolley and buses, which were totally the number of 273. In the public transportation of Yangon, taxies were introduced in 1935 and its later spread to other cities. After the Second World War, Myanmar had altogether 2,000 buses of war surplus vehicles and run in public transportation by the ticketing system.

3.2.2 Bus Transport in Yangon after Independence (1948-1988)

After the independence, private-owned buses were increased about 1600 buses in Yangon and which were provided as a transport service within the city. In 1950, the Central Bus Council was founded to provide systematic administration on all of the bus routes. During the Caretaker Government, the types of the bus were mostly used Chevrolet, Dodge and the bus lines had different names such as Dragon, Rabbit, Rhino, Yacht and Zebra, Train and Fish etc. The population in Yangon City increased rapidly and the number of people who commute daily to and from the Central Business Districts (CBD) were about 26,000 passengers. There had three routes CBD to other suburbs such as Insein, Mingaladon and Toegyaunggalay. The government replaced the names of the bus lines by the numbers because of the frequent conflicts and arguments among these bus lines.

In 1962, the Revolutionary Council initiated the Yangon Division Bus Control Committee (YDBCC) and provided all the private bus lines to nationalized. The State-owned Bus Transport Service was launched in 1963 and there were 15 bus lines. On 1 October 1972, the Road Transport Corporation (RTC) was recognized and bus lines were responsible by RTC. The RTC transferred 7 State-owned bus lines to private owners in order to achieve more efficiency and effectiveness in road transport sector. The YDBCC reformed and revitalized to organize all bus operators and responsible to facilitate commuter's services as possible as safety, speedy and cheaply in their daily lives.

During the socialist era, the public bus transport service in Yangon was cooperated by the YDBCC (Ma Hta Tha) and RTC. In 1975, the number of buses were operated in YDBCC was 1,148 and 326 in RTC. In 1976 and 1979, the number of buses had increased in both agencies because of the forming of new bus lines such as Cooperatives and Veteran (Than Myan Thu) and initiation of Express Buses. To achieve better transport service, the government provided new Express Buses and Ferry Buses in 1980. Myin Pyan Bus Projects were initiated by YDBCC in 1982 and achieved successes. In 1985, the totally number of buses in YDBCC was 1,640 and 503 buses by RTC respectively.

3.2.3 Bus Transport in Yangon (1988-2020)

In 1988, the government reformed and renovated in bus transportation of Yangon. During the late 1988, the SLORC government reforms bus transport system

with 1,600 buses operated in 29 lines (16 ordinary lines and 13 special lines) by the control of YDBCC and 329 buses operated in 18 lines (12 ordinary lines and 6 special lines) by the control of RTC. On 1 April 1989, RTC was again renamed as Road Transport. After the establishment of new satellite towns and industrial zones in Yangon, the new bus lines were needed for commuters and so 3 new bus lines launched in 1989. On the period of 1989 to 1990, 179 buses were imported from Japan and Korea and 988 buses were increased in 1994 to 2004.

Yangon is the second most recent capital of Myanmar; in 2006 the administrative capital was moved from Yangon to Naypyidaw. However, which has a population of around five million, Yangon continues to be the country's largest city and its most commercial center. Mandalay municipality is the second largest cities, which has about one million inhabitants, and the third is Mawlamyine, which has only around half a million of population. In Yangon, the population is quite diverse, with Bamar (ethnic Burmese), Indians/South Asians, Chinese and other living there. As a commercial city, Yangon used various modes of transportation. In Yangon, there are four main types of transportation modes are available: private car, rail, taxi and bus. Although there is a circular rail network in the city, which has a length of 45.9 km with 39 stations and which connects Yangon's satellite towns, it has not been well utilize by the public because of its low service quality. The people of Yangon make the trips mostly by buses, buses are the main transport mode in Yangon, accounting for nearly 50% of all trips (excluding walking). Motorcycle and bicycle are banned in most urban areas in Yangon City. This means that the local people cannot use motorcycle taxis, including cycle rickshaws, in the central business district. Because of the difficulties in car ownership, poor quality of rail services, regulations constraining motorbikes in the central business district, and high taxi fares, most people who commute from suburban areas to the central business district use the bus transport service.

In 2005, the Government of Myanmar started to promote the introduction of compressed natural gas (CNG) engines for bus. This can be attributed to the fact that CNG is cheaper than other fuels in Myanmar because the country produces considerable amounts of CNG since recent times.

Before 2017, Ma Hta Tha and RTC operated in 335 lines with totally about 7,000 buses. On 16 January 2017, Yangon Bus Service (YBS) system is operated under the control of Yangon Region Transport Authority (YRTA) with about 3,000

buses in 79 lines and 1,000 new buses were imported. YRTA controlled the operation of new bus lines in the same route and so restricted 100 maximum bus lines for urban transportation. At the end of 2019, YRTA admitted two new bus lines to fulfill the needs of commuters and students. These buses operated to and from of Universities and named as 101 and 102 bus lines. In 2020, there were 102 lines for urban transport in Yangon City with the number of about 5,000 buses. Table (3.1) shows the total number of registration vehicles between the years of 2010 to 2020 in Yangon City Development Committee (YCDC) territory.

Table (3.1) Number of Vehicles Registered by Type in Yangon

Vehicles / Year	2010-11	2015-16	2016-17	2017-18	2018 Apr-Sep	2018-19	2019-20
Passenger	159854	325963	331786	331782	334820	344132	355589
Truck (Light Duty)	15828	124245	129169	130960	132449	132405	123757
Truck (Heavy Duty)	11263	17675	17379	17729	17295	16496	13644
Bus	11388	15543	14756	15293	15262	17914	16411
Others	11463	30411	30757	33453	33950	33599	31901
Two Wheeler	50660	235711	289863	330494	345372	352522	365075
Three Wheeler	145	3875	5632	8637	9757	11298	11610
Trawlergi	658	2914	4093	4469	4060	3519	3317
Heavy Machine	71	528	633	849	912	1125	1168
Total	**261330**	**756865**	**824068**	**873666**	**893877**	**913010**	**922472**

Source: CSO, Myanmar Statistical Yearbook, Ministry of Planning and Finance (2020-21)

Yangon has the largest population in all of Myanmar, the population density comes to approximately 12,308 individuals living per square kilometer in the urban area of Yangon. According to 2014 census, the total population in Myanmar is over 51.4 million and among them 12% of people live-in Yangon. The total population live-in Yangon City, 75% are commuting every day within the city. Most of the people, who commute to CBD areas used public transport service especially by bus.

The table (3.2) shows the increase of passengers and usage of public services in each year 2010 to 2020.

Table (3.2) Road Transport and Increase of Passenger in Yangon City

Year	Public Taxi Service		Bus Service					
			Public		Private		Total	
	Passenger	Passenger -mile	Passenger	Passenger -mile	Passenger	Passenger -mile	Passenger	Passenger -mile
2010-11	517	7114	31960	1310806	684115	3188934	716075	4499740
2015-16			13027	451505	427825	1994263	440852	2445768
2016-17			12785	440623	726993	3388807	739778	3829430
2017-18	112	1042	12694	436237	542228	2527549	555034	2964828
2018 (Apr-Sep)	53	493	4119	180960	309805	1444120	313924	1625080
2018-19	175	1597	8776	349813	679529	3167551	688305	3517364
2019-20	192	1732	5527	202210	484886	2260251	490605	2464192

Source: CSO, Myanmar Statistical Yearbook, Ministry of Planning and Finance (2020-21)

According to the above Table (3.2), the usage of public taxi is no more different in each year. Passengers used on public bus service and private vehicles are related reversely. In the early years, most of the commuter takes public bus service because of the restriction on car import policies. After 2012, government reduction in the restrictions of car import policies and then the consequence is that private vehicles were increased and the commuter by private cars is also increase. During the recent years, the passengers were decrease both on public and private sector by the impact of COVID-19 pandemic.

3.3 The Challenges of Urban Public Transport in Myanmar and Urban Transport Development Strategy for Yangon

An increasing challenge facing many urban cities is how to maintain access and mobility in an increasingly congested city especially in Yangon. Presently, a window of opportunity exists for policymakers of Yangon to take action with some decisive steps to avoid the experience of other Asian cities where rapidly increasing car ownership has choked cities to a standstill, and despite massive road building programs and in addition they have not been able to resolve the traffic congestion problem. Such a development path will have very negative consequences for the development of Yangon as a city, placing a high economic cost on the city from wasted time and lost production, and severe social and health costs; a polluted environment and a declining standard of living.

As a developing city, Yangon may face issues such as rising cost of energy, management of greenhouse gas emissions and coping with global financial uncertainty. These issues were never previously ranked as very important but must now be managed as part of the city development policy.

City policies on transport and land-use are closely linked and are dependent on each other, as transport defines the way the city develops; but the design of the city can also dictate how transport develops and operates. Good transport and mobility is also an important poverty reduction strategy since good transport options provide more equal opportunities for all people to access jobs, education and services. Proactive actions and problem solving methods for Yangon Urban Transport are the good examples for other major urban Cities.

3.4 Yangon Region Private Transportation Committee (YRTC)

On 8th July 2016, Yangon Region Transport Authority (YRTA) was established by 15 fellowships. Prime Minister of Yangon region is the patron and it was chaired by Minister of Transport and Communications. YRTA abolished Bus-lines Control Committee from four districts and initiated with about 600 staffs (included from four districts). YRTA founded with four departments; Administration, Transportation, Finance and Regulatory. In 2017, YRTA admitted to restore under 1995/96/97 model buses and permitted to import new model private cars. YRTA has to control and conduct the policy, traffic management and public transportation system. The objectives of YRTA are-

- To promote the knowledge about urban transport system
- To control the urban area development
- To provide better public transportation
- To reduce the use of private cars
- To enhance traffic safety for road users

For the sustainable Urban Public Transport system, it is needed to upgrade capacity, and also needed to collaborate with the local people, organizations and also foreign partners. Yangon Regional Authority and Japan International Cooperation Agency (JICA) approve the Greater Yangon Development Program in August 2012. As the second step, to provide the sustainable Urban Public Transport System, they rename the project as "The Comprehensive Urban Transport Plan of the Greater Yangon Project" (YUTRA) Project. For the YUTRA Project, Long term Plan is till 2035, mid-term plan is till 2025, and short-term action plan is till 2018.

On 23 April 2021, YRTA renamed as YRTC and reformed the committee with 10 fellowships instead of 15. The chaired was Minister of Security and Border Affairs of Yangon Region. YRTC included nine departments as follows-

(1) Administration Department
(2) Finance Department
(3) Transport Department (Urban)
(4) Transport Department (Highway)
(5) Freight Department
(6) Rental Department
(7) Ferry Department
(8) Regulatory and Inspection Department
(9) IT Department

Under the control of YRTC, there were operated by 132 bus lines with numbers and 6 bus lines with the names. The urban transport bus lines were totally 138 lines and which were operated in 43 townships of Yangon City. Among them, some of the bus lines (with numbers) were the same number, but run in different routes from different companies such as 1, 6, 15, 21, 23, 33, 39, 40, 65 and 79. So, the commuters faced difficulties to commute their destinations and complained to YRTC. YRTC negotiated the companies to change their bus line numbers as No.1 bus line to

No.103 bus line. In the current situation, some of the bus lines were changed their bus lines numbers and some are not. There were 6 bus lines by named as follows-

- Airport – Sule (Pyay Road)
- Airport – Sule (Kabaraye Pagoda Road)
- Airport –Aung Mingalar Highway Terminal – Dagon-ayeyar Highway Terminal – Airport
- Airport - Dagon-ayeyar Highway Terminal - Aung Mingalar Highway Terminal – Airport
- Twantay – Dala
- Twantay – Hlaing Thar Yar

The following table (3.3) shows that the name of companies, number of bus lines, type of buses and total number of buses operated in Yangon City. There were 138 bus lines, 4833 City Buses, 888 Mini Buses and 5721 total number of buses. Among the bus companies, Yangon Urban Public Transportation Co., Ltd (YUPT) and Yangon Bus Public Co., Ltd (YBPC) are operated by Semi-Government system. Another companies are run by private.

Table (3.3) Companies, Bus Lines and Number of Buses

Sr.No.	Name of Company	No. of Bus Lines	Bus Numbers		
			City Bus	Mini Bus	Total
1	Yangon Urban Public Transportation Co.,Ltd	26	1092	115	**1207**
2	Yangon Bus Public Co.,Ltd	14	615		**615**
3	Bandoola Public Co.,Ltd (YBS)	9	314		**314**
4	Omini Focus General Service Public Co.,Ltd	11	400		**400**
5	Ludumeikswe Public Co.,Ltd	6	265		**265**
6	Khit Thit Bayint Naung Public Co.,Ltd	11	363	170	**533**
7	Golden Southern Transport Public Co.,Ltd	6	173	43	**216**
8	Kong Baung Yangon Public Co.,Ltd	2	194		**194**
9	Holiest Vim Public Co.,Ltd	4	78	59	**137**
10	Power Eleven Public Co.,Ltd	3	163	58	**221**
11	Yangon Northern Taikkyithar Public Co.,Ltd	4	78	24	**102**
12	Shwe Lan Khin Public Co.,Ltd	1	71		**71**
13	GYCT Public Co.,Ltd	12	390	53	**443**
14	Rapid City Bus Transportation Co.,Ltd	10	112	157	**269**
15	Sanwaila Public Co.,Ltd	3	46		**46**
16	Trans Link Public Co.,Ltd	7	182	52	**234**
17	City Liner Bus Public Co.,Ltd	1		11	**11**
18	Shwe Pyi Thar Tharr Public Co.,Ltd	3	190	32	**222**
19	Transport Star Public Co.,Ltd	2	82	18	**100**
20	Thet Yin Aung Transport Public Co.,Ltd	3	25	96	**121**
Total		**138**	**4833**	**888**	**5721**

Source: Yangon Region Private Transportation Committee (YRTC), 2022

3.4.1 Bus Network and Bus Stop Points

The average length of a bus route is about 32 km. Note that the distance from the northern to the southern ends or from the eastern to the western ends of Yangon City is around 30 km each. Most bus routes directly connect the suburban areas and the central business district. In other words, the bus network in Yangon is

characterized as a “point-to-point” network. Most of bus routes are operated from the satellite towns to CBD (Downtown Area) of Yangon City.

Figure (3.1) Routes of Buses in Yangon City

Source: Yangon Bus Route Map, Japan International Cooperation Agency (JICA)

Table (3.4) shows the number of bus stops in 43 townships (in four districts) within Yangon Region. There are 439 bus stop points (8 townships) in the Northern District, 453 bus stop points (14 townships) in the Eastern District, 122 bus stop points (8 townships) in the Southern District and 119 bus stop points (13 townships) in the Western District of Yangon City. There are totally about 60 bus stop points in CBD area of seven townships; Botahtaung, Kyauktada, Lanmadaw, Latha, Pabedan, Pazundaung and Seikkan while the rest are located in suburbs area of Yangon City.

Most of the bus stop points can be seen in the downtown area and along the main roads such as Pyay Road, Insein Road and Kabaraye Pagoda Road. Bus stops in Yangon City are determined by YCDC and mostly are set by the passengers where they concentrated and convenient for them. Therefore, the locations of bus stop points are depended on the conscience of passengers.

Table (3.4) Number of Bus Stop Points in Yangon

Sr.No.	Townships	No. of Bus Stops	District
1	Taikkyi	22	Northern
2	Hmawbi	77	
3	Hlegu	90	
4	Insein	56	
5	Mingalardon	71	
6	HlaingTharYar	58	
7	Shwe Pyi Thar	53	
8	Htantabin	12	
	Total	**439**	
9	Dagon Seikkan	33	Eastern
10	East Dagon	56	
11	South Dagon	54	
12	North Dagon	52	
13	South Okkalapa	41	
14	North Okkalapa	55	
15	Thingangyun	28	
16	Yankin	13	
17	Tamwe	20	
18	Botahtaung	19	
19	Pazundaung	5	
20	Mingalar Taung Nyunt	18	
21	Dawbon	13	
22	Thaketa	46	
	Total	**453**	

23	Thanlyin	45	Southern
24	Kyauktan	16	
25	Khayan	8	
26	Thongwa	6	
27	Twantay	21	
28	Kungyangon	16	
29	Kawhmu	8	
30	Dala	2	
	Total	**122**	
Sr.No.	**Townships**	**No. of Bus Stops**	**District**
31	Ahlone	11	Western
32	Kyeemyindaing	17	
33	Dagon	9	
34	Bahan	27	
35	Lanmadaw	13	
36	Sanchaung	9	
37	Seikkan		
38	Latha	4	
39	Pabedan	8	
40	Kyauktada	11	
41	Kamayut	24	
42	Hlaing	29	
43	Mayangone	34	
	Total	**119**	

Source: YRTA, 2016

3.4.2 Traffic Accidents in Yangon

In Yangon, the street network is adequately dense. Fatalities from road crashes have risen from 2,173 in 2009 to 4,314 in 2014. According to hospital data, 31%–36% of injured people admitted to Myanmar's hospitals were injured in crashes. Full-scale bus rapid transit (BRT) would provide fast, highcapacity service for a far smaller investment than rail-based ones. Deaths and injuries related to traffic accidents remain

a major concern in Myanmar and they were mostly caused by human error – over-speeding, negligent driving and drowsy driving and others which include defective vehicles and severe weather.

In 2018 there were 599 deaths and 3164 injuries from 2684 accidents within the Yangon Region, and a total of 17451 traffic accidents across the country. In 2019, Yangon Region saw 2,324 accidents in which 671 people died and 2,667 were injured. Although motorbikes have been banned and prohibited in 33 townships administered by Yangon City Development Committee, people do not comply with the traffic rules. Therefore, the No.2 traffic police force (Yangon) has taken legal action against disobedient motorcyclists under Vehicle Safety and Motor Vehicle Management Law 2020 to follow the traffic rules and regulations and to reduce road accidents.

A total of 333 car accidents happened in the Yangon region in the first four months of 2021, killing about 160 people, according to the Yangon Region Traffic Police Force. In the year 2021, a total of 6,420 crashes and road accidents were happened, including 915 traffic accidents in Yangon Region. In Yangon Region, 450 people were dead and 915 being injured. Yangon Region had the highest number of traffic accidents in the year 2021, followed by 813 times of traffic accidents in Bago Region. According to a statement from the Road Transport Administration Directorate, Yangon Region has the highest number of fatalities due to traffic accidents, followed by 394 people were dead in Mandalay Region. Yangon City is now controlled by the Ministry of Home Affairs and Yangon City Development Committee (YCDC).

3.5 YBPC and No.105 Bus Line

YBPC was established on 2 May 2015 and the company registering process was admitted by 27 May 2015. On 2 March 2016, the company initially operated by 65 buses in three routes; Htaukkyant – Sule (Pyay Road), Htaukkyant – Sule (Kabaraye Pagoda Road) and Kabaraye – Insein. In the late 2016, the company imported 51 buses as the first phase and then 500 buses were also imported as the second phase. Most buses were imported from China, Korea and Sweden. There were 616 buses in the company till 2020 but in 2021, 6 buses were damaged by accidents and now operated with 610 buses in 14 lines. The type, number of buses and manufacturer of buses were as follows in table (3.5)-

Table (3.5) Type of Vehicles in YBPC

Sr.No.	Type of Bus	No. of Bus	Country (Manufacturer)
1	Scania	5	Sweden
2	Daewoo	14	Korea
3	Hyundai	66	
4	Ankai	245	China
5	Yutong	250	
6	Higer	15	
7	Kinglong	15	
	Total	610	

Source: YBPC, 2022

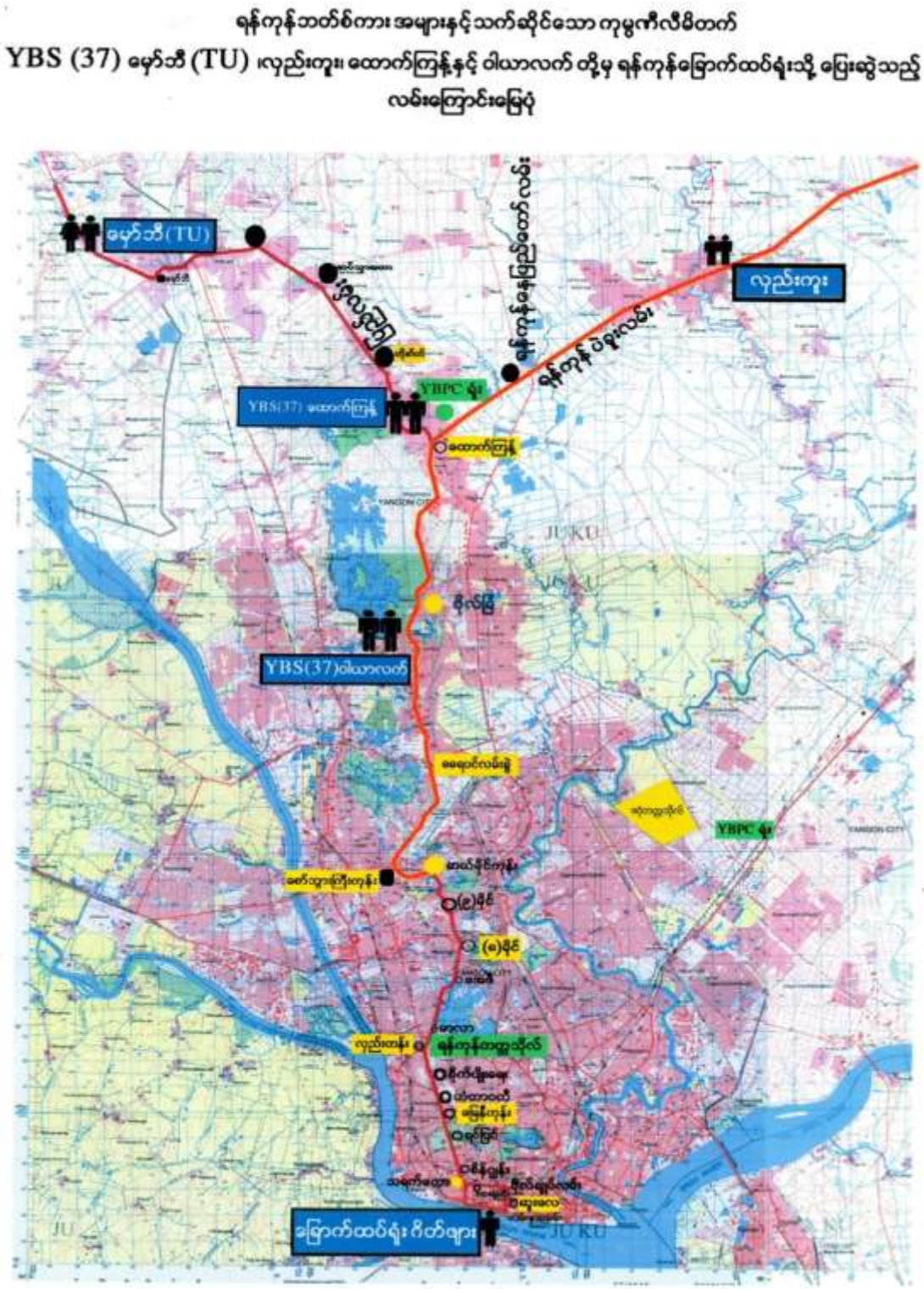
According to the above table, YBPC imported new buses on March 2016 and there were 5 buses from Sweden, 80 buses from Korea, 525 buses from China and totally about 610 buses were imported by the company. On 16 January 2017, Ma Hta Tha was reformed to YBS and YBPC also operated 14 bus lines with 500 new buses in YBS system. All of the buses in YBPC equipped the prepaid card system by Asia Starmar Co. Ltd., China while their buses were imported to Yangon. During 2017 to 11 February 2022, number 37 buses were run in five lines with the same number; YBS-37 (Htaukkyant), YBS-37 (Wireless), YBS-37 (Hlegu), YBS-37 (Hmawbi) and YBS-37 (Okekan). In 12 February 2022, all of YBS-37 lines were renamed as YBS-37 (Htaukkyant) to YBS-37, YBS-37 (Wireless) to YBS-104, YBS-37 (Hmawbi) to YBS-105, YBS-37 (Hlegu) to YBS-106 and YBS-37 (Okekan) to YBS-107 respectively.

In the current situation, YBPC operates 14 bus lines as YBS-37,43,62,87,88,72,89,96,104,105,106,107,108 and 109. Among them, No.105 bus-line run TU (Hmawbi) to Sule by one bus in every 30 minutes. In the formal days (Monday – Friday), the buses were run from Hmawbi to Sule in the evening until 5:00 pm and on Saturday and Sunday, the last bus departs 4:00 pm to 4:20 pm. The buses were rounded in Sule Pagoda and all of the buses were halted in Hmawbi terminals.

Before the COVID-19, the No.105 buses were operated by 32 buses in each day. On March 11, 2020, COVID-19 has declared a global pandemic (Abreu, 2021). This crisis had, has, and will have tremendous impacts on societies, and reducing

public transportation usage. As a result, during the COVID-19 outbreak, the number of work commuters by car will probably drop in the short term. On 23 March 2020, COVID-19 patients were seen in Myanmar and so the number of buses operated in Yangon City, were reduced by the transport companies. No.105 bus line was also reduced by 32 to 15 buses for daily transportation. The bus fair prices for YBS-105 are; Hmawbi-Htaukkyant is 200 Kyats and Htaukkyant-Sule is 300 Kyats. Figure (3.2) shows the route of No.105 bus line operated in Yangon City-

Figure (3.2) Bus Route of No.105 Bus Line



Source: YBPC, 2022

CHAPTER IV
ANALYSIS OF THE CUSTOMERS' SATISFACTION ON USING NO.105 BUS LINE SERVICES

This chapter includes the customers' satisfaction on using No.105 bus line under the YBS and the behavior of the bus drivers in that bus line. Research data was obtained through questionnaires to get user's feedback on the quality of the service. The survey questionnaire composed of two parts. First part presents about the commuters' of general information and socioeconomic conditions. Second part contains the customers' satisfaction of service quality by using public bus line services when they commute into the Yangon City. All 200 distributed survey forms were collected. However, only 188 surveys forms were considered complete and used in this study. During the period of the study, the commuters were randomly selected from the bus stops at (GTU) Hmawbi, Htaukkyant, Mingalardon, 8 Miles, Myaenigone and Sule.

4.1 Survey Design

The independent variable used in this study is overall satisfaction with Yangon Bus Public transportation service. Dependent variables is specific service quality attributes which consist of public bus transport departure frequency, travel time, punctuality, price, ability of drivers, cleanliness, staff behavior, bus comfort, seat availability, seat condition, type of bus (bus condition), safe from accident, on board security, bus stop condition, and information in bus stop.

This study employed a survey research design to collect data from the participants to investigate relationship among five components of service quality and customer satisfaction. Data were collected using questionnaire, the most common tool to evaluate the similar aim.

4.2 Profile of Respondents

In this section composed of the demographic and socioeconomic conditions of the respondents' background information presented by eight factors. They are gender, age, material status, occupation, number of family, education level, monthly income of the respondents and their family. The study involved 188 respondents and can be seen in the following.

4.2.1 Gender and Age of Respondents

Table (4.1) shows the composition of the percentage of male and female passengers by the survey data.

Table (4.1) Gender of Respondents

Sr No	Particular	No of Respondents	Percentage (%)
1	**Gender**		
	Male	97	51.60
	Female	91	48.40
	Total	**188**	**100**

Source: Survey Data, 2022

According to Table (4.1), 51.60% of the passengers are male and 48.40% are female in total respondents. Which means that the commuters numbering are not very different, male passengers are a few more than female according to this random collected sample.

Age of the respondents can be classified into six groups; between 16 and 25 years, between 26 and 35 years, between 36 and 45 years, and 46 and 55 years, 56 and 65, 66 years and above. The results are shown in Table (4.2).

Table (4.2) Age of Respondents

Sr. No	Particular	No of Respondents	Percentage (%)
1	**Age**		
	16-25	95	50.53
	26-35	38	20.21
	36-45	23	12.23
	46-55	22	11.70
	56-65	9	4.79
	66 and above	1	0.53
	Total	**188**	**100**

Source: Survey Data, 2022

According to Table (4.2), the most respondents of the passengers are between 16 and 25 years of age and which consists of 50.53% of total respondents. The second-most largest group is between 26 and 35 years of the passengers and which involves 20.21% of total respondents. The commuters with age between 16 and 55 years are mostly use the public bus lines, so it can be assumed that most of passengers in public bus lines are working-age group. The passenger aged of between 56 and 65 years composed of 4.79% and aged of 66 above is only 0.53% of total respondents.

4.2.2 Marital Status and Occupation of Respondents

The marital statuses of the respondents are shown in the following Table (4.3).

Table (4.3) Marital Status of Respondents

Marital Status	Male	Female	Total	Percentage
Married	38	28	66	35.11
Single	59	63	122	64.89
Total	**97**	**91**	**188**	**100**

Source: Survey Data, 2022

According to Table (4.3), the survey data of marital status indicates that 35.11% persons of respondents are married and 64.89% are staying single. In terms of the survey data, most of the respondents are unmarried about 122 persons of total respondents.

The following Table (4.4) illustrates the occupational status of the respondents and which includes seven categories of occupation such as government staff, private employee, own business, student, vendor, daily worker and others.

Table (4.4) Occupation of Respondents

Sr. No	Occupation	Male	Female	Total	Percentage
1	Government Staff	15	13	28	14.89
2	Private Employee	12	3	15	7.98
3	Own Business	6	18	24	12.77
4	Student	46	36	82	43.62
5	Vendor	3	-	3	1.60
6	Daily Worker	11	9	20	10.64
7	Other	4	12	16	8.50
	Total	**97**	**91**	**188**	**100**

Source: Survey Data, 2022

According to above Table (4.4), the largest proportion of the respondents is students forming 82 persons (43.62%) of total respondents. The second largest group is 28(14.89%) of government staff and the third group is 12.77% own business of total respondents. 20(10.64%) are daily workers, 16(5.50%) are pension/dependent (other), 15(7.98%) are private employee and 3(1.60%) are vendors.

4.2.3 Family member, Education and Household Monthly Income of Respondents

Family members of respondents are divided into three groups; between 1 and 3 members, between 4 and 6 members and between 7 and above. The results are described in Table (4.5).

Table (4.5) Family Members of Respondents

Sr. No	Family Member	Male	Female	Total	Percentage
1	1-3	28	28	56	29.79
2	4-6	63	60	123	65.42
3	7 and above	6	3	9	4.79
	Total	**97**	**91**	**188**	**100**

Source: Survey Data, 2022

According to Table (4.5), 56 respondents (29.79%) are between 1 and 3 members of family, 123 respondents (65.42%) are between 4 and 6 members of family and 9 respondents (4.79%) are 7 and above of family members. The above table is found that the most respondents have between 4 and 6 members of their family. There have only 9 respondents (4.79%) in 7 and above family members.

The following Table (4.6) provides the education level of the respondents and which is classified into four groups; basic education, under graduate, graduate and other (not educated).

Table (4.6) Education Level of Respondents

Sr. No	Education Level	Male	Female	Total	Percentage
1	Basic Education	30	33	63	33.51
2	Under Graduate	15	35	50	26.60
3	Graduate	52	23	75	39.89
4	Other (Not Educated)	-	-	-	-
	Total	**97**	**91**	**188**	**100**

Source: Survey Data, 2022

The above Table (4.6), it is shows that 63 respondents (33.51%) are basic education level, 50 respondents (26.6%) are under graduate level and 75 respondents (39.89%) are graduated level. It can be deducted most of the respondents are graduate level and then there is not educated level in respondents.

In this study, the household monthly-income of the respondents is also analyzed by four groups: under 300,000 Kyats, between 300,001 - 500,000 Kyats, between 500,001 – 1,000,000 Kyats and above 1,000,000 Kyats. The income status of the respondents is shown in the following Table (4.7).

Table (4.7) Household Monthly Income of Respondents

Sr. No	Monthly Income	No. Respondents	Percentage
1	Below 300,000 Kyats	43	22.87
2	300,001 - 500,000 Kyats	84	44.68
3	500,001 - 1,000,000 Kyats	50	26.60
4	Above 1,000,000 Kyats	11	5.85
	Total	**188**	**100**

Source: Survey Data, 2022

According to Table (4.7), 43 respondents (22.87%) are below of 300,000 Kyats of their household monthly income, 84 respondents (44.68%) are earning their monthly income between 300,001Kyats - 500,000 Kyats, 50 respondents (26.60%) are earning 500,001 Kyats – 1,000,000 Kyats and the least group is 11 respondents (5.85%) earning above 1,000,000 Kyats. Accordingly to the above table, the buses are mostly used by the middle income earners.

4.3 Satisfaction of Respondents on Using City Bus Line

This section is based on the general information and reasons of respondents when taking No.105 bus line. Particularly, the commuters' satisfaction examines by the facts such as the frequent usage of time and days per month, behavior of bus drivers, convenience on the bus, problems of taking bus and type of bus more prefer by the commuters.

The survey questions are classified into five groups especially in No.105 bus line. These include reliability of the bus, responsiveness of drivers and bus line, assurance on the bus, empathy by the bus line and tangibles on the bus.

4.3.1 Frequency and Reasons of Taking Public Bus Line

This section is to examine the importance of public transport service by bus for daily commuters. The bus transport service of No.105 bus line is demonstrated by the survey questionnaires, which consists of passengers' usage on bus line, type of bus, reasons for taking bus and most frequent usage time on this bus line.

The following Table (4.8) was presented that the total days on the usage of public bus line per month. The total days by taking public bus transport service per month is classified by five groups. It is consists of below 10 Days, between 11 – 15 Days, between 16 – 20 Days, between 21 – 25 Days and the last is between 26 – 31 Days.

Table (4.8) Usage of Bus Line

Sr. No	Frequency Per Month	No. Respondents	Percentage
1	<10 Days	23	29.26
2	11 - 15 Days	23	12.23
3	16 - 20 Days	27	14.36
4	21 - 25 Days	60	31.92
5	26 - 31 Days	55	12.23
	Total	**188**	**100**

Source: Survey Data, 2022

In the above Table (4.8), 55 (29.26%) respondents take the bus less than 10 days per month, 23 (12.23%) respondents take 11 – 15 days, 27 (14.36%) respondents take 16 – 20 days, 60 (31.92%) respondents are the most travel group per month with the days between 21 – 25 and the last group is 23 (12.23%) respondents who use the bus line 26 – 31 days per month. Accordingly by the survey data, most of the passengers take the bus more than 16 days per month is totally 110 (58.51%) respondents as they are students and working population.

Then the next Table (4.9) shows the frequent travel time on the day as 5 am – 10 am, 10 am – 2 pm, 2 pm – 6 pm and after 6 pm. Base on the survey question, most of the respondents 98 passengers (52.13%) use the bus between the time of 5 am – 10 am and it is because before 10 am is the rush hour for students and staffs. The least travel time for the commuters is after 6 pm and that has 7 respondents (3.72%) of total respondents.

Table (4.9) Frequent Travel Time on Public Bus Transport

Sr. No	Time	No. Respondents	Percentage
1	5 am - 10 am	78	52.13
2	10 am - 2 pm	41	21.81
3	2 pm - 6 pm	62	22.34
4	After 6 pm	7	3.72
	Total	188	100

Source: Survey Data, 2022

The following Table (4.10) observes the purpose and reasons of respondents on taking the public bus line.

Table (4.10) Purpose of Taking Public Bus Line

Sr. No	Purpose/Reason	No. Respondents	Percentage
1	Going to Work	65	34.57
3	Going to School/University	81	43.09
4	Going to Shopping	18	9.57
5	Other	24	12.77
	Total	**188**	**100**

Source: Survey Data, 2022

From the above table, 81 passengers (43.09%) of total respondents take the bus line is the most important reason for going to school. This is because the No.105 bus line started point is Hmawbi Government Technological University (GTU) and run along the Pyay Road, rounded Sule Pagoda and then ended in Hmawbi (GTU).

The second most reason is for going to work and it has 65 (34.57) respondents. Using the bus for the purpose of shopping and others are 18 (9.57%) respondents and 24 (13.77%) respondents respectively.

The following Table (4.11) shows the usage of bus type by the respondents.

Table (4.11) Usage of Bus Types

Sr. No	Type of Bus	No. Respondents	Percentage
1	Mini Bus	26	13.83
2	Standard Bus	162	86.17
	Total	**188**	**100**

Source: Survey Data, 2022

The above table shows that 26 respondents (13.83%) take the mini bus and 162 respondents (86.17%) take the standard bus. This is because almost of the bus lines use the standard buses and only a few bus lines use the mini bus operates from Hmawbi to Yangon.

4.4 Analysis on Customers' Satisfaction of No.105 Bus Line

Customers' satisfaction is important for commuters and it can be examined by the time taking for a bus, bus line services, bus fares, driver's behavior, safety on bus, physical condition of bus, confortable on bus and condition of travel in late evening.

4.4.1 Time Duration for Taking Bus\

One of the factors to analyze customers' satisfaction on No.105 bus line is length of waiting time to take a bus at the bus stop point, duration on a bus and timetable of that bus line. The following Table (4.12) shows that time duration for using a bus for commuters.

Table (4.12) Time Duration for Using a Bus

Particular		No. Respondents	Percentage
Length of Waiting Time at the Bus Stop Point	Less Than 15 min	43	22.87
	15 min - 30 min	103	54.79
	30 min - 1 hr	31	16.49
	Above 1 hr	11	5.85
	Total	188	100
Time Taking on Bus	Less Than 30 min	32	17.02
	30 min – 1 hr	69	36.70
	1 hr - 2 hr	66	35.11
	Above 2 hr	21	11.17
	Total	188	100
Bus Schedule	Satisfied	102	54.26
	Less Satisfied	63	33.51
	Not Satisfied	8	4.26
	Don't Know	15	7.97
	Total	188	100

Source: Survey Data, 2022

According to the above data, most of the commuters 103 (54.79%) of total respondents that waits 15 – 30 minutes to take a bus at the bus stop point. The second most is 43 (22.87%) commuters, who takes less than 15 minutes and the third group is 31 (16.49%) that takes 30 minutes to 1 hour at the bus stop. The least group of passengers who are taking above 1 hour is 11 (5.85%) of total respondents.

In time taking on the bus, 69 (36.70%) respondents take 30 minutes to 1 hour, 66 (35.11%) respondents who take 1 hour to 2 hours and 32 (17.02%) respondents take less than 30 minutes respectively. There are only 21 (11.17%) commuters who are taking above 2 hours on the bus for their trip. From the above table, there are 102 (54.26%) respondents are thinking satisfied on the bus schedule and 63 (33.51%) respondents are less satisfied on the bus schedule of No.105 bus line. 15 (7.97%) respondents reply don’t know on bus schedule and 4.26% is not satisfy that has 8 respondents.

4.4.2 Satisfaction on Driver's Behavior

In this section, behavior of drivers is especially focus on their dress specified by their bus line, helps on passengers on the bus, their ethics and manner while driving, service on passengers, frequency of breaking rules on its route, their discipline and ability on driving.

Table (4.13) Behavior of Drivers on No.105 Bus Line

Particular		**No. Respondents**	**Percentage**
Driver's Dressing their Uniform	Always dressed	109	57.98
	Sometimes dressed	53	28.19
	Not Dressing	26	13.83
	Total	**188**	**100**
Helps on Passengers	Always help	51	27.13
	Sometimes help	127	67.55
	Not helping	10	5.32
	Total	**188**	**100**
Service on Passengers	Good	120	63.83
	Need to Training	58	30.85
	Not Good	10	5.32
	Total	**188**	**100**
Manner of Drivers while Driving	Chewing and Smoking	52	27.66
	Horn Ring	19	10.11
	Use of Mobile Phone	62	32.98
	Others	55	29.25
	Total	**188**	**100**

Table (4.13) Behavior of Drivers on No.105 Bus Line

Particular		No. Respondents	Percentage
Obedience on Rules and Regulations	Always	110	58.51
	Sometimes	70	37.23
	Never	8	4.26
	Total	**188**	**100**
Breaking on Rules and Regulation	Reverse Driving	11	5.85
	Cross Traffic Light	48	25.53
	Irregular Get in/Get out	129	68.62
	Total	**188**	**100**
Disobedience within a Week	Nothing	70	37.23
	1 - 3 times	91	48.41
	4 - 6 times	23	12.23
	7 and Above	4	2.13
	Total	**188**	**100**
Obedience on Speed Limitations	Always	96	51.07
	Sometimes	85	45.21
	Never	7	3.72
	Total	**188**	**100**
Ability of Bus Drivers	Very Expert	150	79.79
	Expert	31	16.49
	Less Expert	6	3.19
	Not Expert	1	0.53
	Total	**188**	**100**

Source: Survey Data, 2022

According to the results Table (4.13), most of respondents reply that drivers dressed their uniform specified by their bus line. It is show that 109 (57.98%) respondents commented on drivers who obeyed their rules and 53 (28.19%) respondents pointed out that the drivers sometimes do not dress their uniforms. About 26 (13.83%) respondents answered that the drivers do not dress their uniforms always. As the service of helping on passengers by drivers, 51 (27.13%) commuters show that the drivers always help and solve their difficulties on the bus and 127 (67.55%)

commuters reply that the drivers solve passenger's problems sometimes. Only about 10 (5.32%) respondents found drivers do no help on their trip. In the service of the driver, 120 (63.83%) of total respondents commented that the drivers are affable for passengers. 58 (30.85%) respondents advice need to training and 10 (5.32%) respondents complaint that is not good on driver's behavior. Regarding on the manner of drivers, 52 (27.66%) respondents irritate on drivers for chewing betel and smoking while driving. 19 (10.11%) respondents do not like horn ring unnecessary and 55 (29.25%) respondents complaints on others. Most of the commuters irritate on the usage of mobile phone while driving and which responds 62 (32.98%) of total respondents.

On the obedience of rules and regulation, about 110 (58.51%) of total respondents prove that drivers obey always on rules and regulations. 70 (37.23%) respondents shows that drivers do not comply traffic rules sometimes and then the least group is 8 (4.26%) respondents commented that drivers are not obedient always on rules and regulations. The next shows that about breaking rules and regulations per month by the drivers. There are 129 (68.62%) respondents complaint that drivers getting in and getting off the passengers before or after of the bus stop points. The second most factors are passing while the red traffic light and getting in and getting off the passengers while the bus stopping in red sign. 11 (5.85%) of total respondents pointed that the drivers in reverse driving. Among the drivers, 70 (37.23%) passengers show that drivers follow the rules and 91 (48.41%) respondents prove that drivers break the rules at least one to three times per week. Moreover, 23 (12.23%) passengers reply that drivers do not follow traffic rules four to six times and 4 respondents answered over seven times break the rules by the drivers. Most of drivers drive their bus within speed limitation and that is shown by 96 (51.07%) of total respondents. 85 (45.21%) respondents commented over speed limitation sometimes and 7 (3.72%) commuters pointed that drivers do not obey speed limitation always. In the ability of the drivers, 150 (79.79%) respondents support the fact that drivers can drive their bus expertly and 31 (16.49%) of total respondents approve very expert. Some 6 (3.19%) of respondents complaint less expert and only one person answered that drivers are not expert in driving.

Most of the commuters need to help by the drivers and they also want to obedience on rules and regulations. The commuters irritated about the manner of the drivers such as chewing, smoking and use mobile phone while driving. Most of the

drivers break rules and regulations about one to three times within a week by making irregular get in and get out along the route.

4.4.3 Convenience on Bus Service

The bus service on No.105 bus line is examined by the situation of getting in and getting off, temperature and ease on the bus, availability of seat, confortable and condition of seats on the bus, and cleanliness on the bus. The results are shown in Table (4.14).

Table (4.14) On Bus Service

Particular		**No. Respondents**	**Percentage**
Get in / Get off	Satisfy	125	66.49
	Less Satisfy	48	25.53
	Not Satisfy	12	6.38
	Don't Know	3	1.6
	Total	**188**	**100**
Temperature and Ease on Bus	Convenient	75	39.89
	Not Convenient	32	17.02
	Depend on the Duration	81	43.09
	Total	188	100
Availability of Seats	Most are Available	49	26.06
	Sometimes Available	119	63.3
	Not Available	20	10.64
	Total	**188**	**100**
Seat Condition	Very Good	24	12.77
	Good	118	62.76
	Need to Repair	37	19.68
	Not Good	9	4.79
	Total	**188**	**100**
Comfort of Seats	Confortable	116	61.7
	Some Requirements Needed	62	32.98
	Not Confortable	10	5.32
	Total	**188**	**100**

Cleanliness on Bus	Clean	89	47.34
	Normal	87	46.28
	Not Clean	12	6.38
	Total	**188**	**100**

Source: Survey Data, 2022

According to Table (4.14), 66.49% respondents showing satisfy in getting in and getting off bus. Second group is less satisfied, who are 44 respondents and 12 respondents not satisfy by their responses. Temperature and ease on bus, most respondent reply that convenience is depend on the time that they take a bus because of the weather condition. 81 (43.09%) of total respondents response by the time when they take a bus and 75 respondents 39.89% is commented convenience on bus. 32 respondents 17.02% is not convenience on the bus. Majority of the respondents 63.3% response on the availability of seats on the bus sometimes and 49 respondents 26.06% regarded most are available on their travelling. Not available on seat is the lowest among 188 of them, i.e. only 20 respondents. Regarding customers' satisfaction on seat condition, most respondents commend on seat condition as good by 118 respondents 62.76%. 37 respondents advise to repair the seats and only 9 passengers commented that the seats are not good condition. On the same of seat condition, 61.70% of total respondents regarded the comfortable of seats and 10 commuters criticize as not comfortable of seats. 62 respondents 32.98% comment on the comfortable of seats on the bus as some requirements needed to reform. Cleanliness is require and important for public transportation. Some of the bus line in public transport is still needed to clean, but cleanliness of No.105 buses are commended as clean in 47.34% and only 6.38% answered as not clean by the respondents.

4.4.4 Physical Condition of Buses

In the physical condition of buses in No.105 bus line is examined in terms of three groups: using trash bin on the bus, fare safety and emergency aids on the bus and location of the bus stops.

Table (4.15) Physical Condition of Buses

Particular		No. Respondents	Percentage
Trash Bin	Always	49	26.06
	Sometimes	81	43.09
	Nothing	58	30.85
	Total	**188**	**100**
Emergency Aids	Always	116	61.7
	Sometimes	61	32.45
	Nothing	11	5.85
	Total	**188**	**100**
Bus Stop	Satisfied	119	63.3
	Some Places are Not Satisfied	57	30.32
	Totally Not Satisfied	7	3.72
	Others	5	2.66
	Total	**188**	**100**

Source: Survey Data, 2022

According to Table (4.15), 26.06% responses there is trash bin on the bus always, 43.09% of respondents see sometimes trash can on the bus and 30.85% reply that no trash can on the bus. 61.70% of respondents regard that emergency aids of fire safety and medical care are there on the bus always. 32.45% of total respondents say that sometimes see emergency aids and 5.85% do not see that. In the specify location of bus stops, 63.3% of respondents satisfy on these locations and 30.32% are not satisfy on some places. Among the respondents, 3.72% reply that totally not satisfy on the location of bus stops and 2.66% says others. Most of the respondents are satisfied on bus stop location and some are not satisfied because of the preparation and distance from one point to another.

4.4.5 Safety and Anxiety on the Bus

In this section, safety of the passengers classified in terms of equipment of CCTV cameras on the bus, anxiety on the bus while taking and robustness and safety of the bus.

Table (4.16) Safety of the Bus

Particular		No. Respondents	Percentage
Equipment of CCTV Cameras	Always	119	63.3
	Sometimes	41	21.81
	Nothing	28	14.89
	Total	**188**	**100**
Anxiety on the Bus	Satisfied	75	39.89
	Sometimes Satisfied	107	56.92
	Totally Not Satisfied	6	3.19
	Total	**188**	**100**
Safety of the Bus	Satisfied	109	57.98
	Sometimes Satisfied	69	36.7
	Totally Not Satisfied	10	5.32
	Total	**188**	**100**

Source: Survey Data, 2022

According to Table (4.16), 63.3% of respondents see CCTV cameras on the bus always and 21.81% of passengers see that sometimes. CCTV cameras are needed due to bad manner of some passengers and to safe on the bus. 56.92% of commuters are feeling anxiety sometimes on the bus and 3.19% passengers always anxiety on the bus. Among the respondents, 39.89% do not worry when they take a bus. On the safety of bus, 57.98% of respondents are satisfied and 36.7% are sometimes satisfied on the safety of bus. So, most of respondents assumed that the bus safety is satisfied but not satisfy on the manner of drivers because most are anxiety while taking a bus.

4.4.6 Satisfaction on the Bus Fare

In this section, satisfaction on the bus fare is analyzed by two parts. First, the daily expenses of commuters for taking a bus and second is satisfaction about the bus fare on public bus transport system.

Table (4.17) Daily Expenses of Bus Fare

Sr. No	Expense	No. Respondents	Percentage
1	Less Than 400 Ks	27	14.36
2	400 Ks - 800 Ks	61	32.45
3	800 Ks - 1,000 Ks	64	34.04
4	Above 1,000 Ks	36	19.15
	Total	**188**	**100**

Source: Survey Data, 2022

In the above Table (4.17), passenger's daily expenses on bus transport are classified as less than 400 Ks, between 400 Ks – 800 Ks, between 800 Ks – 1,000 Ks and more than 1,000 Ks respectively. Among the respondents, spending on daily bus fare less than 400 Ks is 14.36% of respondents and 32.45% respondents are spending between 400 Ks – 800 Ks. Less than 400 Ks and 800 Ks usage of bus fare is spending for a short trip, i.e. Hmawbi – Htaukkyant. Most of the passengers spend between 800 Ks – 1,000 Ks is 34.04% of total respondents and bus fare of more than 1,000 Ks for daily expense is 19.15% respondents who travel for a long trip, i.e. Hmawbi – Sule Pagoda (CBD Area).

Table (4.18) Satisfaction on Bus Fare

Sr. No	Particular	No. Respondents	Percentage
1	Too Much	37	19.68
2	Faire	132	70.21
3	Cheap	19	10.11
	Total	**188**	**100**

Source: Survey Data, 2022

The fare of bus line is single trip from start to Htaukkyant is 200 Ks and Htaukkyant to end is 500 Ks. Therefore, the passengers from after Htaukkyant expense 700 Ks for their single trip. The above Table (4.18) demonstrates that 19.68% of respondents comment the fare price is too much for them and who travels about less than five stop points after Htaukkyant from start point. However, most of the

respondents 70.21% commend that the bus fare is appropriate and 10.11% found cheap in bus fare.

4.4.7 Problems and Commuting in Late Evening

In developing countries, urban bus transportation has many challenges and problems for stakeholders and passengers. Sometimes in the late evening, the commuters face many problems to go back to their homes from their workplace. In this section, the following Table (4.19) shows the respondents demonstrate that their problems on the bus and in the late evening.

Table (4.19) Problems of Respondents on Travel

Sr. No	Particular	No. Respondents	Percentage
1	Bus Schedule	52	27.66
2	Danger of Accidents	6	3.19
3	Traffic Congestion	97	51.59
4	Bus Fare	14	7.45
5	Others	19	10.11
	Total	**188**	**100**

Source: Survey Data, 2022

According to Table (4.19), the results provide that the passengers face many challenges while travelling. Most problems for the commuters classified five components as bus schedule, danger of accidents, traffic congestion, bus fare and others.

From the above table, the major problem for the daily commuters is traffic congestion and which approves 51.59% of total respondents. During COVID–19 pandemic, most bus line reduced their operated bus within the city, so the second most problem is bus schedule and it is 27.66% of respondents. Another problem for passenger is 10.11% on others, 7.45% on bus fare and the least is 3.19% on the worries of accidents.

There are various problems and risks when commuting on the late evening. Occasionally, some passengers have to go back from the workplace to their home in

the late evening. In this section of survey focus on how often takes the bus at late evening per week, emotion of passengers on the bus and difficulties for taking a bus in the late evening.

Table (4.20) Commuting in Late Evening

Particular		**No. Respondents**	**Percentage**
One Week	Under 3 Days	55	29.25
	3 - 5 Days	88	46.81
	5 - 7 Days	45	23.94
	Total	**188**	**100**
Bus on Late Evening	Convenience	45	23.94
	Less Convenience	81	43.08
	Not Convenience	62	32.98
	Total	**188**	**100**
Difficulties on Late Evening	Long Waiting Time for Bus	45	23.94
	Crowded Inside the Bus	90	47.87
	More Fare than Normal Rate	46	24.47
	Not Difficulties	7	3.72
	Total	**188**	**100**

Source: Survey Data, 2022

According to the above Table (4.20), most of the passenger commute within 3 to 5 days in the late evening and which informs that 46.81% of total respondents, 29.25% of passengers have to take under 3 days per week and 23.94% of respondents commute 5 to 7 days per week in the late evening. Among the respondents, mostly reply that late evening commuting is less convenience by 43.08% of total respondents. The second group is 32.98% of commuters who commented there is not convenience and the least is 23.94% of passengers who responds convenience on bus in the late evening because they take a bus from the starting point of that bus line and so they available seats on the bus. In the late evening, workers and staffs are return to their place and therefore most of the buses are crowded and some bus line takes bus fare more than regular rate. Majority problem of the commuters is crowded inside the bus

as 47.87% of respondents. Conductors are not allow to follow on the bus by YRTA, but some of bus lines still follow conductors illegally, especially in northern district bus lines of Yangon City. 24.47% of commuters find that higher bus fare more than regular rate by the conductors in the late evening. After the permission of cars imported from foreign countries, traffic jams are faced on the roads within the city. So, 23.94% of respondents confirm that long waiting time to take a bus at the bus stop. Only 3.72% of commuters who takes bus at the start point reply that not difficulties on the bus in the late evening.

4.5 Customers' Satisfaction on Service Quality

To determine satisfaction about the urban bus transportation service, we used five points Likert scale on respondents who rated the degree of his/her satisfaction or dissatisfaction level according to the describe set of five criteria. The following Table (4.21) shows that the analysis of customers' satisfaction on No.105 bus line and the scores are interpreted as follow-

The score 1.00 means not satisfy (NS).

The score 2.00 means less satisfy (LS).

The score 3.00 means neither satisfy nor dissatisfy (N).

The score 4.00 means satisfy (S).

The score 5.00 means very satisfy (VS).

Table (4.21) Service Quality Analysis

Sr. No	Particular	Mean Value
	Reliability	
1	Bus Schedule	3.03
2	Waiting Time at Bus Stop	2.91
3	Travel Time to Desire Point by Bus	2.69
4	Discipline of Drivers	3.14
5	Ability of Drivers	3.74
	Responsiveness	
1	Driver Dressing	3.26
2	Service/Affable of Drivers	2.89
3	Bus Fare	3.39
4	Bus Line Problems at Late Evening	2.63
5	Cleanliness on Bus	3.28

Table (4.21) Service Quality Analysis

Sr. No	Particular	
	Assurance	
1	Safety on the Bus	2.94
2	Driver's Compliance on Rules	2.93
3	Drive on Speed Limitation	3.19
4	Safety Manner of Drivers	2.57
5	Equipment of CCTV Cameras	3.36
	Empathy	
1	Get In/Out from Bus	3.49
2	Ease on Bus	2.96
3	Seat Condition	3.6
4	Confortable on Seat	3.42
5	Helps of Drivers	2.73
	Tangibles	
1	Emergency Aids on Bus	3.14
2	Trash Bin on Bus	2.83
3	Bus Car Condition	3.5
4	Types of Bus	3.65
5	Location of Bus Stop Points	3.51

Source: Survey Data, 2022

The service quality in urban bus transportation is important both for daily commuters and stakeholders. If the urban bus transport has good quality and service, the passengers will satisfy and continue to use bus transport service for their daily commuting and moreover we can reduce traffic congestion, emission, energy and save money for daily commuters.

Reliability: Reliability of public transport is regarded as the ability to perform the promised service dependably and accurately.

Base on the research analysis, the mean value 3.03 indicates that the respondents are satisfied on bus schedule of the bus line, the mean value 2.91 indicates that the commuters are thinking neutral or less satisfied on waiting time at the bus stop to take a bus. The mean value 2.69 also indicates less satisfied or neutral on the travel time to reach their desire points by bus and 3.14 indicates satisfied upon discipline of drivers. In the ability of driving bus by drivers, the mean value 3.74 indicates that the respondents are satisfied.

Responsiveness: Responsiveness refers to the willingness to help customers and provide them without delaying the schedule of travel time to the customer.

Base on the research finding, the mean score 3.26 indicates that satisfied on dressing uniforms of drivers at the bus line, 2.89 seen less satisfied on service and affable of drivers on the bus. The mean score 3.39 shows that the respondents are satisfied on bus fare for their commuting, 2.63 means that the respondents are less satisfied on the problem of bus line in late evening and the mean value 3.28 indicates satisfied on the cleanliness of bus that they usually used.

Assurance: Assurance refers to the knowledge and courtesy of employees and the ability to inspire trust and confidence.

According to the research finding, the mean score 2.94 indicates that less satisfied or neutral upon the safety of bus and 2.93 also indicates that the commuters are less satisfied upon the compliance of traffic rules and regulations by drivers. The mean value 3.19 shows that the respondents are satisfied on speed limitation, 2.57 means that less satisfied on the safety manner of drivers while driving and the mean score 3.36 indicates that the passengers satisfied on the equipment of CCTV cameras on the bus.

Empathy: Empathy refers to how the company cares and gives individualized attention to their customers, to make the customers feel extra valued and special.

Base on the research, the mean value 3.49 represents that the respondents are satisfied on the passenger's get in/out in the bus, the mean value 2.96 shows that not ease on the bus by their taking time and the mean score 3.6 indicates that satisfied upon the seat condition of bus. The mean score 3.42 represents that passengers are satisfied on the confortable of seats on the bus and the mean value 2.73 are shows that less satisfied on the helping of drivers upon the commuters.

Tangibles: Tangibility is defined as physical facilities, equipment, and appearance of personnel are used to provide the service.

Base on the research finding, the mean score 3.14 indicates that the respondents are satisfied on emergency aids on the bus, 2.83 shows that less satisfied upon trash bin in bus and the mean value 3.5 indicates that satisfied on the bus condition when they take. On the type of bus, the mean score 3.65 shows that the respondents are satisfied on it and the mean score 3.51 also indicates that satisfied on the specification of bus stop locations.

CHAPTER V
CONCLUSION

This chapter is the conclusion which is discussed based on the research. In this chapter consists of findings and discussions, recommendations and suggestions for further research.

5.1 Findings

The findings of the study supported the importance of urban public transportation and various challenges which impacts on daily commuters, households, society, health, environment and business. Urban public transport service is indispensible for the urban population growth and economic expression. Commuters, who use urban bus transport service is mostly incurred by the costs for transportation. After 2016, old model of buses in public transport are restored and public transport sector was promoted by the state government of Yangon Region. The impact of COVID-19 pandemic, the current status of public bus transport sector and customers' satisfaction is not efficient and some requirements are needed to fulfill in this sector. To become a sustainable transportation in the future, public bus transport service is part of a solution. To measure customers' satisfaction, measures related by the waiting time facilities at bus stop and on the bus, drivers behavior, qualitative characteristic of the trip, emergency aids and tangible facilities are mostly taken into consideration. The main objective of the study is to analyze service quality of bus transport sector especially from northern district of Yangon City.

According to the survey data, in gender of respondents are almost the same and male respondents are more 7 person than female respondents. Among the respondents, major age group is between 16 and 25 years and which has formed 50.53% of total respondents. Most of the respondents are students and totally 43.62% of respondents. In studying on job of the respondents, the second most is working at government departments by 14.89% of total respondents. 64.89% of respondents are not married and 39.89% of respondents are graduated. 65.42% of total respondents

have 4 – 6 of family members and 44.68% has majority level of family income between 300,001 to 500,000 Ks per month.

In the study, 31.92% of passengers take bus transport about 21 – 25 days per month and the largest of passengers in taking time is between 5 am – 10 am of total respondents, which has formed by 52.13% of respondents. Among the respondents, major reason of taking bus by 43.09% is going to school/university and 34.57% used for work. To measure satisfaction on public transport, the questionnaire was classified in terms of seven groups: time duration for taking a bus, behavior of drivers, bus on service, physical conditional of buses, safety of buses, bus fare for daily expenses and difficulties of passengers by using bus line. The questionnaire is using convenience sampling method and collected opinion/data of the passengers.

According to the analysis, majority of the respondents are satisfied on bus schedule but some passengers suggested that to operate more buses in No.105 bus line. Majority of respondents found that drivers are talking over mobile phone, chewing betel and smoking while driving. In addition, most of commuters point out that drivers getting in and getting off the passengers before or after of the bus stop points. Moreover, the passengers found that drivers disobey once or three times on rules and regulations per week. In the part of bus on service, passengers replied that they are confortable on the bus in the early morning but not confortable at noon and late evening. The passengers want to travel with air-conditioned on the bus and some passengers suggest that to equip more seats on some buses.

In the rating of cleanliness and physical conditions of bus, the passengers found that most of bus equipped trash bin but there is not trash bin on some bus. So, some passengers found that trash near their seat discarded by bad manner of some passengers. For the safety of passengers, most buses are followed materials for emergency case but not in some bus of the bus line. Most of bus stop-points are reformed last few years but some stop points are not still upgrade. Among the respondents, most suggested that to repair in some bus stop points and they want to wait the bus for their trip easefully at the bus stop.

Regarding the safety, most of the bus on No.105 bus line was equipped CCTV cameras for the safety of passengers. In the current situation, there are many pickpockets on the public bus lines and they feign as a passenger. So, some passengers want to care and to take action for them by the bus line. In addition, most of the passengers face anxiety sometimes while taking bus due to cross over in the

yellow traffic light and talking of mobile phone while driving. The daily cost of passengers commuting on No.105 bus line is between 800 – 1,000 Ks and which is responded by most respondents. Majority of the respondents are satisfied on bus fare but not satisfied by some respondents who live between Htaukkyant and Wireless. For commuting in late evening, almost half of passengers commute 3 – 5 days per week and most of commuters face traffic congestion and crowed inside the bus. Moreover, longer time waiting for bus and some of the bus line takes higher bus fare more than regular rate by the conductor. The conductors are not allowed by the YRTA since 2017.

5.2 Recommendations

The study recommends that to operate more buses from suburbs to CBD area of Yangon. Before Covid-19, bus schedule is proper for commuters and in the current situation the passengers have difficulties to take bus because of changing on bus timetable from the start point. To get satisfaction of passengers, the bus schedule and the number of bus should not fix in the whole day. This means that the number of bus should increase during peak hour (i.e. a bus should operate every 15 minutes from start point instead of regular rate every 30 minutes). To reduce traffic accidents and improve the relations with the passengers, bus line authority should manage to regulate and train driver's behavior as regular speed driving and to follow rules and regulations while driving. Some of respondents commended that drivers drive very fast and stop temporarily in the bus stop, so the passengers face difficulties to make getting in and off very quickly at the bus stop. Therefore, the bus companies need to fulfill convenient of passengers in getting in and off the bus. To achieve customers' satisfaction, the bus-line companies need to make effective training and programs on their drivers and that are perquisite with the utilization of regulatory framework.

Base on the results, passengers are not ease on the bus because of air conditioned and crowded on the bus especially in rush hour and in the evening. Confortable is very important on public transportation service and it is positively related to reduce overcrowded cars within the city. So, in some bus line, especially operated by old model buses need to reform the seat condition and air conditioned of the bus. Another suggestion is that all of the bus operated within Yangon City should equip Emergency aids, trash bin to improve lifestyle of passengers and environment.

The next suggestion is that to reform bus stop points for the passengers while they waiting bus by easefully.

Safety is also important for customer satisfaction of public transportation. The passengers are faced difficulties by pickpockets while using on public bus transport service. In the new buses, operated within Yangon City are equipped CCTV cameras and which is vital to prevent criminal activities in bus and limit the opportunity for pickpockets. Another problem is to solve on the bus fare, it is concerned with both the bus line and passengers. Firstly, on the supply side commend that some passengers do not insert their bus fare within the box exactly and some insert imperfect money to the box. Second is on the demand side, the bus fare is too much for short trip users because of the fix price. Therefore, the bus fare is needed to reform by the distance of the trip or the prepaid card system with the specify distance and faire price is needed to implement to solve such problems.

Another problem is to reform the manner of passengers, in most new buses offer special seats for disable and pregnant woman are specified by the orange color of seats but some passengers do not know about that so the bus line authority should announce by the letter on those seats. The next problem is traffic congestion, Yangon urban area is expended by the rapid growth rate of population and economic infrastructures. According to the growth of population in urban area, the use of private vehicles within the city is also growing. It is one of the factors for traffic congestion and other factors of traffic congestion are street vendors on platform, no active traffic light by the electricity and unregulated vehicles on the street. In order to mitigate on this problem, effective prizing and penalties are required. To solve traffic congestion, effective urban public transportation is indispensible for the people. It is concluded that if the urban bus transport will improve, reliable and satisfactory level among users will belong to at various levels.

5.3 Needs for Further Study

This study only focuses on No.105 bus line, Northern District of Yangon region. To get a generalized of findings, further studies should focus on a wider geographical scope to cover on the urban bus transport service of Yangon City. The other variables should also be considered to reform and improve or upgrade on public transportation.

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APPENDIX

Dear Respondent,

I am a master student of public administration in Yangon University of Economics. The research is meant for academic purposes only; therefore you are kindly requested to participate in the study by providing all appropriate information in the spaces provided honestly and precisely.

Part I

Profile of Respondent

1. Gender

(1) Male ☐ (2) Female ☐

2. Age (Years)

(1) 16-25 years ☐ (2) 26-35 years ☐

(3) 36-45 years ☐ (4) 46-55 years ☐

(5) 56-65 ☐ (6) 66 Above ☐

3. Marital Status

(1) Single ☐ (2) Married ☐

4. Occupation

…….

5. Family Member

…….

6. Education Level

(1) Basic Education ☐ (2) Under Graduate ☐

(3) Graduated ☐ (4) Other (No Educated) ☐

7. Estimate Individual Income

(1) Under 200,000Ks ☐ (2) 200,001 Ks – 300,000 Ks ☐

(3) 300,000 Ks – 500,000 Ks ☐ (4) Above 500,000 Ks ☐

8. Estimate Family Income

(1) Under 300,000Ks ☐ (2) 300,000 Ks – 500,000 Ks ☐

(3) 500,000 Ks – 1,000,000 Ks ☐ (4) Above 1,000,000 Ks ☐

Part II

If you take the bus by the public bus transport service, I request you to answer the following questions. Please tick your answer in the following statement.

1. Frequency of using the public bus transportation.

(1) Less Than 10 Days ☐ (2) 11 – 15 Days ☐

(3) 16 – 20 Days ☐ (4) 21 – 25 Days ☐

(5) 26 – 31 Days ☐

2. The Bus that I usually most.

(1) Mini bus ☐ (2) Standard bus ☐

3. The bus number that I usually most is

Bus line number……Trip from ( ) to ( )

4. The purpose to use the public bus transportation

(1) Work ☐ (2) School/University ☐

(3) Shopping ☐ (4) Others ☐

5. Please define the waiting time at the bus stop.

(1) Less than 15 minutes ☐ (2) 15 – 30 minutes ☐

(3) 30 minutes – 1 hour ☐ (4) Above 1 hour ☐

6. Please define time duration on the bus when you travel to desire point.

(1) Less than 30 minutes ☐ (2) 30 minutes – 1 hour ☐

(3) 1 hour – 2 hours ☐ (4) Above 2 hours ☐

7. Are you satisfied on the schedule of the bus that you usually use?

(1) Satisfied ☐ (2) Less satisfied ☐

(3) Not satisfied ☐ (4) Don’t know ☐

8. The most frequent time that you usually use public bus line is

(1) 5 am – 10 am ☐ (2) 10 am – 2 pm ☐

(3) 2 pm – 6 pm ☐ (4) After 6 pm ☐

9. Are you satisfied in getting in and getting off of the bus line?

(1) Satisfied ☐ (2) Less satisfied ☐

(3) Not satisfied ☐ (4) Don’t know ☐

10. Please describe the temperature and ease of the bus.

(1) Comfortable ☐ (2) Not Comfortable ☐

(3) Depend on the duration ☐

11. Please classify the availability of the seats on the bus.

(1) Most are available ☐ (2) Sometimes available ☐

(3) Not available ☐

12. Please describe the number of seats and condition of the seats.

(1) Very good ☐ (2) Good ☐

(3) Need to repair ☐ (4) Not good ☐

13. Please describe the comfortableness when you take the seats on the bus.

(1) Comfortable ☐ (2) Some requirements are still need ☐

(3) Not Comfortable ☐

14. Please describe the trash and cleanliness on the bus.

(1) Always clean ☐ (2) Normal ☐

(3) Not clean ☐

15. Whether the trashcan is available on the bus.

(1) Always ☐ (2) Sometimes ☐

(3) Never ☐

16. Please describe the equipment of CCTV cameras on the bus.

(1) Always equipped ☐ (2) Sometimes equipped ☐

(3) Never equipped ☐

17. Please describe drivers dressed their uniform specified by the bus line.

(1) Always dressed ☐ (2) Sometimes dressed ☐

(3) Never dressed ☐

18. Please describe drivers solve the request of passengers on the bus line.

(1) Always helped ☐ (2) Sometimes helped ☐

(3) Never helped ☐

19. Please describe the affable and behavioral of the drivers.

(1) Good ☐ (2) Need to training ☐

(3) Not good ☐

20. Please define the most irritated manner of the drivers.

(1) Smoke or chewing betel while driving

(2) Use honk unnecessarily

(3) Use mobile phone while driving

(4) Others

21. Please rate that the drivers follow the traffic rules and regulations.

(1) Always follow (2) Sometime break

(3) Never follow

22. Please define the reason that the drivers break the traffic rules and regulations.

(1) Smoke or chewing betel while driving

(2) Pass through the red light (or) Pickup and drop off at traffic light

(3) Pickup and drop off not at the bus stop

23. Do you think how many times that the drivers break the rules and regulation?

(1) Never (2) 1 – 3 times per week

(3) 4 – 6 times per week (4) Above 7 times per week

24. Please define that drivers follow on speed limitations.

(1) Always follow (2) Sometime break

(3) Never follow

25. Please describe the ability of drivers expertly while driving.

(1)Very expert (2) Expert

(3) Less expert (4) Not expert

26. Please define that you feel anxiety while taking bus.

(1) Do not worry (2) Sometime worry

(3) Always worry

27. Please define the robustness and safety of the bus.

(1) Satisfied (2) Sometime satisfied

(3) Totally not satisfied

28. Please rate that whether the essential things (e.g fire distinguisher, medicines bags) are available on the bus?

(1) Always (2) Sometimes

(3) Never

29. Please describe daily expense for taking a bus.

(1) Under 400 Kyats ☐ (2) 400 – 800 Kyats ☐

(3) 800 – 1,000 Kyats ☐ (4) More than 1,000 Kyats ☐

30. Please describe that the feeling upon the fare for the bus.

(1) Not faire ☐ (2) Faire ☐

(3) Very faire ☐

31. Please define the satisfaction upon the location of the bus stop.

(1) Satisfied ☐ (2) Some places are not satisfied ☐

(3) Totally not satisfied ☐ (4) Others ☐

32. Please describe the most frequent problem while taking a bus.

(1) Bus schedule ☐ (2) Traffic accidents ☐

(3) Traffic congestion ☐ (4) Bus fare ☐

(5) Others ☐

33. Please define the total time that you use the bus after 6 pm.

(1) Under 3 days per week ☐ (2) 3 – 5 days per week ☐

(3) 5 – 7 days per week ☐

34. Do you feel comfortable when you take the bus after 6 pm.

(1) Comfortable ☐ (2) Less comfortable ☐

(3) Not comfortable ☐

35. Please define the problem faced when you take the bus after 6 pm.

(1) Long waiting time ☐ (2) Crowded on the bus ☐

(3) Additional fare ☐ (4) No problem ☐

36. If you want to define strength and weakness of the public bus line.

Strength (1) **…….....**

…….....

Strength (2) **…….....**

…….....

Weakness (1) **……....**

…….....

Weakness (2) **……....**

…….....

37. If you want to define the reason why you usually take that number of bus.

Reason (1) **…….....**

…….....

Reason (2) **…….....**

…….....

Reason (3) **…….....**

…….....

38. The difficulties that you faced when you take that number of bus.

Problem (1) **……..…….....**

…….....

Problem (2) **……..…….....**

…….....

Problem (3) **……..…….....**

…….....

39. Please give advices to solve such problems.

Advice (1) **…….....**

…….....

Advice (2) **…….....**

…….....

Advice (3) **…….....**

…….....

40. Please tick your answer in the following statement by using the scales 1 to 5.

Note: 1 = Very Satisfied 2 = Satisfied 3 = Neutral

4 = Not Satisfied 5 = Totally Not Satisfied

Sr. No	Particular	1	2	3	4	5
	Reliability					
1	Bus Schedule					
2	Waiting Time at Bus Stop					
3	Time Duration on the Bus to Travel Desire Point					
4	Discipline of Drivers					
5	Ability/Expertness on Driving					

Sr. No	Particular	1	2	3	4	5
	Responsiveness					
6	Drivers Dressing					
7	Affable of Drivers					
8	Bus Fare					
9	Bus Line Problem in Late Evening					
10	Cleanliness on the Bus					
	Assurance					
11	Feeling of Anxiety and Safety on the Bus					
12	Obedience of Drivers on Traffic Rules					
13	Drivers Drive on Speed Limitation					
14	Manner of Drivers for Dangerous Action While Driving					
15	Equipment of CCTV Cameras on the Bus					

	Empathy					
16	Get In/Out from Bus					
17	Ease on the Bus					
18	Condition/Number of Seats					
19	Comfortable of Seats					
20	Service of Drivers					
	Tangibles					
21	Emergency Aids					
22	Trash Bin					
23	Bus Car Condition or Robustness					
24	Types of Vehicles					
25	Location of Bus Stop Points					