CUSTOMER SATISFACTION ON PANORAMA BUS NETWORK SYSTEM

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DEDICATION

Saya dedikasikan tesis ini kepada Ayah dan Mama saya yang sentiasa memahami, memberi dorongan dan berdoa untuk saya bagi menyiapkan kajian ini. Tesis ini juga saya dedikasikan kepada arwah nenek saya yang mengingatkan saya agar sentiasa bersyukur kerana mempunyai peluang untuk belajar dan tidak berputus asa. Dedikasi khas kepada rakan-rakan sekelas saya yang banyak membantu dan memahami.

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ABSTRACT

User satisfaction is one of the main considerations when operating a successful city bus service from the perspective of both passenger and operator. An increase number of private vehicles in the city causes traffic congestion and it is the result because of low level of usage for public transportation in Melaka. Unattractive public bus system might be the reason why the usage of public bus in Melaka is low. Thus, performance analysis is crucial in order to improve the bus service provided by Panorama Bus Sdn. Bhd. as this is the only public bus service that were offered in Melaka Tengah district. Under the study, the performance of bus network system has been evaluated and identified on the selected route in case study area. For this purpose, quantitative method was applied in this study and a total of 143 passengers of Panorama bus were interviewed with a predetermined structure questionnaire to know their trip characteristic, level of satisfaction and opinion about the existing bus service. The results indicate that the performance of the bus network on those selected routes mostly at moderate level of service. Frequency and timetable variable are the factors that most affect moderate performance of bus network system on those routes in the case study area. In order to retaining the current passengers and to attract new passengers, the findings of this study can be utilized by the bus service operator and also the Melaka state transportation organization.

ABSTRAK

Kepuasan pengguna adalah salah satu pertimbangan utama ketika mengendalikan perkhidmatan bas bandar yang berjaya dari perspektif penumpang dan pengendali bas. Peningkatan jumlah kenderaan persendirian di bandar menyebabkan kesesakan lalu lintas dan ini adalah kesan daripada tahap penggunaan kenderaan awam yang rendah di Melaka. Sistem bus yang tidak menarik mungkin menjadi sebab kepada penggunaan kenderaan awam yang rendah. Oleh itu, analisis prestasi sangat penting untuk meningkatkan perkhidmatan bas yang disediakan oleh Panorama Sdn. Bhd. oleh kerana hanya perkhidmatan bas awam ini yang ditawarkan di daerah Melaka Tengah. Di dalam kajian ini, prestasi sistem rangkaian bas telah dinilai dan dikenal pasti mengikut laluan yang dipilih di kawasan kajian kes. Untuk tujuan ini, kaedah kuantitatif diterapkan dalam kajian ini dan sejumlah 143 penumpang bas Panorama ditemu ramah dengan borang kaji selidik yang berstruktur yang telah ditentukan untuk mengetahui ciri perjalanan mereka, tahap kepuasan dan pendapat mereka mengenai perkhidmatan bas yang ada. Hasil kajian menunjukkan bahawa prestasi rangkaian bas di laluan terpilih tersebut kebanyakannya berada pada tahap perkhidmatan yang sederhana. Pemboleh ubah frekuensi dan jadual waktu adalah faktor yang paling mempengaruhi prestasi sederhana sistem rangkaian bas di laluan tersebut di kawasan kajian kes. Untuk mengekalkan penumpang semasa dan menarik penumpang baru, hasil kajian ini boleh dimanfaatkan oleh pengendali perkhidmatan bas dan juga organisasi pengangkutan negeri Melaka.

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LIST OF ABBREVIATIONS

MITC/M	-	Melaka International Trade Centre
a.m.	-	Before midday
p.m.	-	After midday
UP	-	Ujong Pasir
BB	-	Batu Berendam
BK	-	Bukit Katil

LIST OF SYMBOLS

p	-	*number of respondents*
m	-	*score mark*
n	-	*total number of respondents*
y	-	*4, highest value of score*

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter shall explain an introduction of this research topic entitled Panorama's bus network system. It will start with discussion on study background, problem statement, research gap, aim and objectives, research questions and so on.

1.2 Research Background

Malaysian government is very committed to promote public bus service as travel mode throughout the country. An agency who supervise and manage all public transport in Malaysia which is The Land Public Transport Commission (APAD) has various initiatives on how to regulate bus services in major towns in the country. Providing monetary subsidies and bus are some of the initiatives to ensure the public bus in the country are frequent and efficient. There are at least five major state capitals in the country have been known for their town bus system under the general name rapid bus services and one of it is in Melaka.

A successful of a public transport system can be seen through number of passengers it can attract and retain their passenger to use the system. The performance of public transport is related to factors that describing the bus transport service which is the bus network system. As mentioned by Xiang & Loh, (2014) in the bus planning process, the highest level of sub-problem are related to bus network and frequency setting in which have a long-term impact on bus network performance. An improvement in the bus network will not only improve the attractiveness and ridership of the bus service but this public transport can also increase their return which is cost-effective for the bus operator and benefit the passenger as the waiting time could be reduce.

The public transport system can widely view as an effective option to mitigate air pollution, energy use, noise levels, congestion and accidents and improve mobility. In particular emerging and developing countries, the economic, physical structures and social of urban areas can be improved by designing an operationally and economically efficient public transport network system.

1.3 Problem Statement

In becoming a green technology city, Melaka are currently in a sustainable growth path but according to (Sukri et al., 2017) due to Melaka's popularity as a Heritage town which is a tourist destination, Melaka experiences significant traffic congestion. These researchers also mentioned that, the main issue in land public transportation at Melaka Tengah that is Ayer Keroh is the low level of usage of land public transportation among the community in Melaka.

Even so, to tackle this public transportation problem, Melaka state government has tried to implement free public bus project at certain road to encourage people using public bus. 290 000 commuters in the state will benefited from that complimentary service as mentioned by former Chief Minister Adly Zahari in the newspaper (The Star Online, 2018). After the implementation of the project, the rate of congestion in Melaka is still high especially during peak hour and holiday season. It shows that the project that was implemented by the government was not successful to attract people to use the bus service.

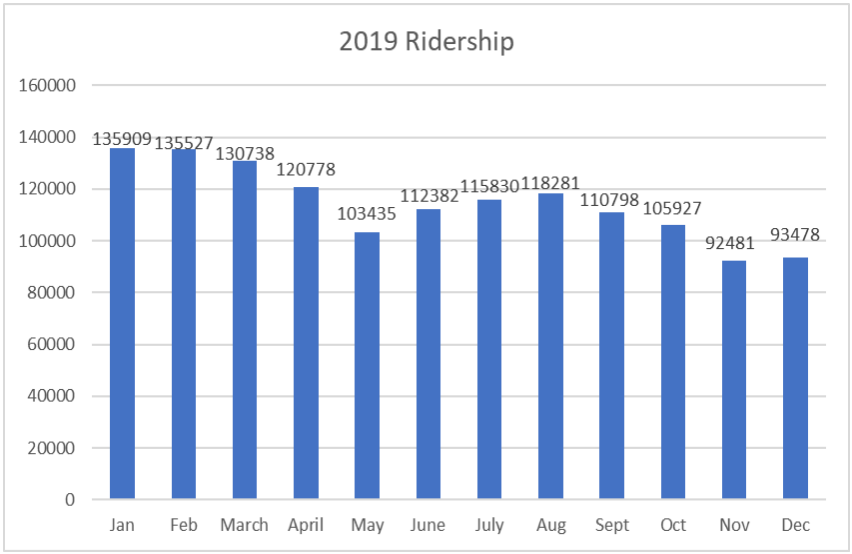

Figure 1.1 Panorama ridership for 2019
(Source: Panorama Bas Sdn. Bhd.)

Figure 1.1 above shows that, even though the implementation of the free bus, number of ridership for 2019 still in decreasing trend. In addition, there are complaints from Panorama public bus as mentioned by State Public Works, Transport and Public Works Committee chairman, Mohd. Sofi Abdul Wahab said, passenger need to wait almost three hours as the bus delayed in certain areas that raise dissatisfaction and complaint from passenger (Utusan Online, 2018). Even there are some people employ personal vehicle to reach destination, there are still a lot of people use public transportation to commute. However, the private transport usage will be increased if the transport system is unable to attract the travellers to use them. Thus, as the rate congestion still high and there are public complaints regarding the delayed bus, this indicates that Panorama bus network system needs to be improved.

Although public bus is very important for Malaysian citizen, it may become uninteresting transportation mean in the city because of its poor performances. Weak performance of the public bus will lead towards the increase of congestion rate in the city as the demand to use public bus from people is decrease. Thus, it is very important to evaluate the current bus network system that affect the Panorama bus's performance and identify improvement needed as it is important for the economic, social and physical structure of that city.

1.4 **Research gap**

Past studies conducted on Melaka's public bus system mainly focuses on the service quality that were offered. Nevertheless, less study looking at the public bus network system performance were done. This study will help to evaluate current Panorama's bus network system and to suggest an improvement that can be made to public transportation in Melaka as to encourage more people using it. Efforts to induce greater use of public transport are plenty. There is plenty effort in order to increase the bus ridership but in order to help focus to suggest an improvement that can support the efforts, it is also crucial for this study to understands the passenger trip characteristic.

1.5 Aim

This study aims to evaluate the performance of Panorama bus network system in Melaka Tengah district which can be used as reference for other bus operator to ensure that this network system meet the passenger demand.

1.6 Research Objectives

There are three research objectives that will be highlighted in this study. The primary objective for this research is to know the performance of Panorama bus which is to evaluate the current bus network system. In order to understand the passenger as this study is based on passenger satisfaction towards the bus network system, it is important to know the passenger's travel characteristic. The research objectives will be shown at below:

1. To identify travel characteristic of passenger for Panorama Bus.
2. To evaluate Panorama bus network system that can affect performance of the bus on each selected route.
3. To propose recommendation towards the performance of Panorama bus network system.

1.7 Research Questions

The following research questions have been created with the purpose to guide this study:

1. What is the passenger's travel characteristic when using this bus service?
2. How is the performance of network system of Panorama bus on each selected route?
3. What is the recommendation towards the performance of bus network system?

1.8 Scope of Study

This study focuses on the passengers' satisfaction regarding the Panorama public bus network system in order to evaluate the current performance of the network system. This study is approaching passenger of Panorama bus from selected route in this study.

1.9 Significant of Study

From this research, the parties such as Panorama bus operator, government and customers and future researchers will be able to gain a lot of useful information and benefit.

1.9.1 Bus Operator

This study gives benefits and advantages to Panorama Melaka bus operator. From this study, the bus operator is able to recognize the weakness of their bus network system. This study is able to become guideline for the bus operators to make further innovation or implementation to improve their bus network system. In addition, the bus operator can review or evaluate their business strategy through the outcome of this study.

1.9.2 Future Researchers

This study indirectly can become the main reference or guideline for the future researchers who wish to carry out similar research. From this study, the future researcher is able to improve the accuracy of the study and able to identify

other factors that affecting performance of Panorama bus network system.

1.9.3 Government

As the Melaka government targeting to increase the modal split of the public vehicle in Melaka from 14% of public transport and 86% of private vehicle to 40% of public transport and 60% of private vehicle on the Melaka structure plan 2035, this study give useful information indicating the problem of public bus network in Melaka. Besides that, this study also give benefit towards the government regarding suggestion on how to improve bus public transport in Melaka to reduce traffic congestion.

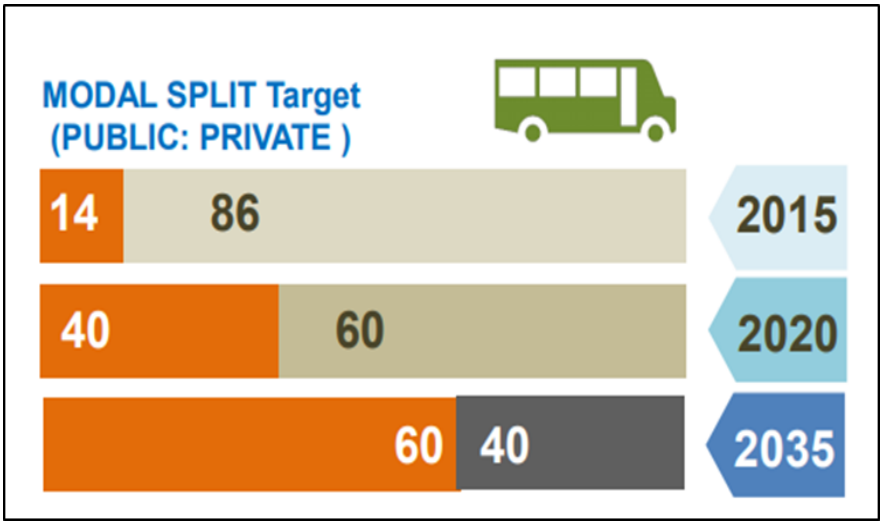

Figure 1.2 Melaka Modal Split Target
Source: Melaka Structure Plan 2035

1.10 Chapter Summary

This study is organized into 5 chapters. Background of study and problem statement was discussed in the chapter 1 and specific research objectives, research questions and significance of the study were described.

Besides that, chapter 2 present the literature reviews that are related towards this study such as bus network design, transport system and trip characteristic. Chapter 3 describes the proposed research framework of this study and explaining the methodology adopted in this study in order to answer some of research questions. It outlines the research setting and instrument, data collection process and data analysis approach.

The data were analysed and interpreted in the chapter 4. The data analysis begins with respondent demographic analysis and is followed by trip characteristic analysis. This then continues with the main data analysis of this study. The result and finding were discussed in chapter 5 and recommendation were provided to suggest further improve the Panorama bus network system.

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