

STUDY ON CUSTOMER SATISFACTION OF ELECTRIC
BUS AT MELAKA HISTORIC CITY

NUR ALAWIYAH BINTI ALIAS

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

**STUDY ON CUSTOMER SATISFACTION OF ELECTRIC BUS
AT MELAKA HISTORIC CITY**

NUR ALAWIYAH BINTI ALIAS

**This Report Is Submitted As A Partial Fulfilment for Bachelor of Technology
Management (High-Tech Marketing)**

**FACULTY OF TECHNOLOGY MANAGEMENT AND
TECHNOPRENEURSHIP (FPTT)**

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

JUNE 2017

SUPERVISOR APPROVAL

I hereby declared that I have read this project report and in my opinion this report is sufficient in term of scope and quality to be rewarded for Bachelor Technology Management (High-Tech Marketing) with Honours.

Signature :

Supervisor's name: : **EN HASAN BIN SALEH**

Date :

Signature :

Co Supervisor's name : **PM DR AHMAD ROZELAN BIN YUNUS**

Date :

DECLARATION

I hereby, declared this report entitled ‘Study On Customer Satisfaction of Electric Bus At Melaka Historic City’ is the result of my own research except as cited in references.

Signature :

Author’s name : **NUR ALAWIYAH BINTI ALIAS**

Date :

DEDICATION

Special thanks to:

My beloved parents

Siblings

Friends

Thank you to my supervisor:

En Hasan Bin Saleh

For all the spirituals and moral support that had been given to me all the time.

ACKNOWLEDGEMENT

In the name of Allah, the Most Gracious, the Most Merciful. Alhamdulillah. Praise Allah SWT for His be grace and generosity, I would not have reached this far and able to submit this project.

I would like to express my deepest thanks to my great Supervisor, Sir Hasan bin Saleh, who has given the outstanding guidance all along the way and his support, and critical remarks to complete this project paper. I thank him both for finding time and patience reading my draft repetitively. His precious help and discussion which include those done through email are very much appreciated.

It would not have been possible for me to complete this study without support of my family, love and prayers that give me the strength to complete this study. I also want to thanks all lecturers who have taught me during my study in this faculty. Thank you for the invaluable insight and knowledge sharing during class.

Last but not least, thanks to my fellow friends that helps me with the discussion and support under the same supervisor throughout the completion of my study

ABSTRACT

Transportation is a key requirement of human travel or movement from one place to another place without taking into account the distance to the destination. Customer satisfaction and good service is one basic opportunity that helps run, to improve business and particular company profit to save loyalty customers. It's very important to seize consumer's perspective that companies need to know until get good understand of their needs hence satisfy them. The study purpose is to determine customer satisfaction towards electric bus at Melaka and trying to investigate the level of public transport services provided to customer and the efficient and effectiveness of the services. The quantitative analysis is used to achieve the objectives. Questionnaires were distributed to the respondents and analyzed statistically. As a whole, the results showed that respondents gave a poor perception towards electric bus services that give poor performance in Melaka. In addition, the electric bus components are designed to enhance the value of public bus services in Melaka and differ from other public bus in other developed countries. At the end of the study, there are some suggestions to improve the public transportation of electric bus in Melaka to ensure that the levels of services can meet the need and wants of customers. Besides, electric bus can give performed a good service in order to measure the relationship between the service provide by public transportation and their customer. Among its recommendations is to apply the electric bus component in the management because not only can attract the attention of the public to use public services but also can reduce the traffic congestion in Melaka.

Keywords: public transportation, Customer satisfaction services, performance, efficient and effectiveness.

ABSTRAK

Pengangkutan ialah satu keperluan utama perjalanan manusia atau pergerakan dari satu tempat ke satu tempat yang lain tanpa mengambil kira jarak ke destinasi. Kepuasan pelanggan dan khidmat baik ialah satu peluang asas yang menolong mengendalikan untuk meningkatkan keuntungan perniagaan dan syarikat tertentu untuk simpan kesetiaan pelanggan. Ia amat penting bagi syarikat mengetahui bagaimana untuk mengambil kira perspektif pengguna sehingga dapat memahami keperluan mereka serta memberi kepuasan kepada mereka. Tujuan kajian adalah untuk menentukan kepuasan pelanggan terhadap bas elektrik di Melaka dan cuba menyasat tahap perkhidmatan pengangkutan awam yang diperuntukkan cekap dan keberkesanan perkhidmatan kepada pelanggan. Analisis kuantitatif digunakan untuk mencapai objektif. Soal selidik diagihkan kepada responden dan analisis secara statistik. Keseluruhannya, keputusan menunjukkan bahawa responden memberi sebuah persepsi rendah ke arah perkhidmatan bas elektrik yang memberi prestasi buruk di Melaka. Tambahannya, komponen-komponen bas elektrik yang direka bentuk untuk meningkatkan nilai perkhidmatan bas awam di Melaka dan berbeza dari bas awam di negara-negara maju yang lain. Di akhir kajian, terdapat beberapa cadangan untuk meningkatkan pengangkutan awam bas elektrik di Melaka untuk memastikan bahawa peringkat perkhidmatan boleh memenuhi keperluan dan kehendak pelanggan. Selain itu, bas elektrik boleh memberi perkhidmatan yang baik untuk mengukur hubungan antara perkhidmatan yang disediakan dengan pengangkutan awam dan pelanggan. Antara cadangan-cadangannya adalah untuk memohon komponen bas elektrik dalam pengurusan kerana bukan sahaja boleh menarik perhatian orang awam untuk menggunakan perkhidmatan awam tetapi juga boleh mengurangkan kesesakan lalu lintas di Melaka.

Kata kunci: Pengangkutan awam, Perkhidmatan kepuasan awam, prestasi, cekap dan keberkesanan.

TABLE OF CONTENTS

CONTENTS	PAGES
SUPERVISOR APPROVAL	i
DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
ABSTRAK	vi
TABLE OF CONTENT	vii
LIST OF TABLE	xii
LIST OF FIGURE	xiv
LIST OF ABBREVIATION	xv
LIST OF APPENDIX	xvi
CHAPTER 1 INTRODUCTION	
1.1 Introduction	1
1.2 Background of Study	3
1.3 Problem Statement	4
1.4 Research Objective	6
1.5 Research Question	6
1.6 Scope of Study	6
1.7 Significant Of Study	7
1.8 Summary	8
CHAPTER 2 LITERATURE REVIEW	

2.1	Introduction	9
2.2	Public Bus Transport	9
2.2.1	Public Transportation System	10
2.2.2	Trunk Bus Network	11
2.2.3	The Effectiveness of Public Transportation From Perception of Customer	11
2.3	Customer Satisfaction Determination	12
2.3.1	Perceived Value	12
2.3.2	Perceived Usefulness	13
2.3.3	Perceived Ease of Use	14
2.4	Service Quality	14
2.4.1	Image	15
2.4.2	Comfort and Experience	16
2.4.3	Reliability	16
2.4.4	Smooth and Quiet Ride	18
2.5	Safety	18
2.6	Time Management	19
2.7	Intelligent Transportation System	19
2.8	Customer's Benefit	20
2.9	Service Marketing Triangle	20
2.9.1	Setting The Promises: External Marketing	21
2.9.2	Enabling Promises: Internal Marketing	21
2.9.3	Keeping Promise: Interactive Marketing	22
2.10	Conceptual Framework	22
2.11	Hypothesis Testing	
2.11.1	Hypothesis 1	23

2.11.2	Hypothesis 2	24
2.11.3	Hypothesis 3	24
2.11.4	Hypothesis 4	24
2.11.5	Hypothesis 5	24
CHAPTER 3 METHODOLOGY		
3.1	Introduction	25
3.2	Research Design	26
3.2.1	Descriptive Study	27
3.3	Selection Method	27
3.4	Data Collection Method	28
3.4.1	Primary Data	29
3.4.2	Secondary Data	29
3.5	Data Analysis	29
3.6	Location of This Study	30
3.7	Research Strategy	31
3.8	Population and Sampling	31
3.8.1	Pilot Testing	34
3.9	Questionnaire Design	35
3.10	Time Horizon	35
3.11	Scientific Canons	
3.11.1	Reliability and Validity	36
3.11.2	Construct Validity	37
3.11.3	Internal Validity	37
3.11.4	External Validity	38
3.12	Summary	38
CHAPTER 4 DATA ANALYSIS		

4.1	Introduction	39
4.2	Pilot Test	
4.2.1	Reliability Testing	40
4.2.2	Validity Analysis for Each Question	42
4.2.3	Correlation Analysis	43
4.3	Descriptive Statistics	
4.3.1	Part 1: Respondent General Information	49
4.3.2	Respondent's Gender	49
4.3.3	Respondent's Age	50
4.3.4	Respondent's Race	51
4.3.5	Respondent's Profession	52
4.3.6	Respondent's Income	53
4.3.7	Respondent's Vehicle Ownership	54
4.3.8	Respondent Who Take Bus	55
4.3.9	Descriptive Analysis for Independent Variable and Dependent Variable	57
4.4	Result of Measurement	
4.4.1	Reliability Test	58
4.4.2	Validity Test	60
4.4.3	Pearson Correlation	61
4.5	Linear Regression Analysis	
4.5.1	Service Quality	64
4.5.2	Safety	65
4.5.3	Time Management	66
4.5.4	Intelligent Transportation System	67
4.5.5	Customer's Benefit	68

4.6	Hypothesis Testing Result	70
4.6.1	Hypothesis 1	71
4.6.2	Hypothesis 2	71
4.6.3	Hypothesis 3	72
4.6.4	Hypothesis 4	72
4.6.5	Hypothesis 5	73
4.7	Summary	73
CHAPTER 5	CONCLUSION AND RECOMMENDATION	
5.1	Introduction	74
5.2	Discussion	74
5.3	Conclusion	76
5.4	Recommendation	78
5.5	Limitation	78
5.6	Suggestion for Future Research	79
REFERENCES		81
APPENDIX		85

LIST OF TABLE

TABLE		PAGES
Table 4.1	Reliability Statistics	40
Table 4.2	Cronbach's Alpha for Pilot Test	41
Table 4.3	Validity of 20 Respondents for Pilot Test	42
Table 4.4	Correlation Table of Service Quality for 20 Respondents	43
Table 4.5	Correlation Table of Safety for 20 Respondents	44
Table 4.6	Correlation Analysis of Time Management for 20 Respondents	45
Table 4.7	Correlation Analysis of Intelligent Transportation System for 20 Respondents	46
Table 4.8	Correlation Analysis of Customer's Benefit for 20 Respondents	47
Table 4.9	Correlation Analysis of Satisfaction Level of Customer for 20 Respondents	48
Table 4.10	Frequencies Table of Respondent's Gender	49
Table 4.11	Frequencies Table of Respondent's Age	50
Table 4.12	Frequencies Table of Respondent's Race	51
Table 4.13	Frequencies Table of Respondent's Profession	52
Table 4.14	Frequencies Table of Respondent's Income	53
Table 4.15	Frequencies Table of Respondent's Vehicle Ownership	54
Table 4.16	Frequencies Table of Respondent Who Take Bus	55

Table 4.17	Descriptive Analysis of Independent Variable And Dependent Variable	57
Table 4.18	Cronbach's Alpha Coefficient and Its Strength Of Association	58
Table 4.19	Reliability Statistics for 80 Respondents	59
Table 4.20	Validity Test for 80 Respondents	60
Table 4.21	Coefficient Value	62
Table 4.22	The Result Of Correlation Analysis for All Variable	62
Table 4.23	Simple Regression Result for Service Quality	64
Table 4.24	Simple Regression Result for Safety	65
Table 4.25	Simple Regression Result for Time Management	66
Table 4.26	Simple Regression Result for Intelligent Transport System	68
Table 4.27	Simple Regression Result for Customer's Benefit	69
Table 4.28	Coefficient's Table	70

LIST OF FIGURE

FIGURE		PAGES
Figure 2.1	Conceptual Framework	23
Figure 3.1	Krejcie & Morgan (1970)	33
Figure 4.1	Frequencies Distribution of Respondent's Gender	50
Figure 4.2	Frequencies Distribution of Respondent's Age	51
Figure 4.3	Frequencies Distribution of Respondent's Race	52
Figure 4.4	Frequencies Distribution of Respondent's Profession	53
Figure 4.5	Frequencies Distribution of Respondent's Income	54
Figure 4.6	Frequencies Distribution of Respondent's Vehicle Ownership	55
Figure 4.7	Frequencies Distribution of Respondent Who Take Bus	56

LIST OF ABBREVIATION

BMS	=	Battery Management System
ECAS	=	Electronic Air Suspension
PT	=	Public Transport
BRT	=	Bus Rapid Transit
CSS	=	Customer Satisfaction Survey
OTP	=	One Time Performance
ITS	=	Intelligence Transportation System
GPS	=	Global Positioning System
SPSS	=	Statistic Package for Social Science

LIST OF APPENDIX

NO	TITLE	PAGES
A	Gantt Chart PSM 1 & 2	85
B	Questionnaire Question	87

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Transportation is an integral contributor as considering the bridge that which allow people to use the lower local facilities, journey work and correlated to family and friend. Increasingly, more sustainable transportation system have been calls as a result of the more eco-friendly and more environmentally conscious psyche of the 21st Century global citizen such as cleaner air, safer roads, more convenient access to destination and having a plethora of transportation options made available to them. It is thus promoted the safety, well-being and physical health of the population (Bunting, 2004).

Public transport is define as a shared passenger-transport service as distinct from modes such as taxi, cab, carpooling or hired bus available for use by general public, which are not shared by strangers without private arrangement. Tran and Kleiner (2005) define public transport as a talent which give general continue or specific transportation for public and it plays crucial role because to improve the character of our day by day by accelerating money economic traffic.

Service sector in Malaysia such as public transportation has highly developed in recent years. From an urban perspective, public transport is far more efficient than personal motor vehicles that uses up and the energy it consumes in terms of the road space. In Malaysia, public transport is managed by the authorities and had badly planned compared to other countries like Singapore and Hong Kong in Asia which make it always under consumption of bus services. Insufficient of bus service will blow on excessiveness of fuel consumption, social equity issues, enhanced private car dependence and environmental dependence that will affect life order balance, (Schipper, L., Marie-Lilliu, C. and Gorham, R., 2000).

Public transportation has undoubtedly play a vital role in commuting passengers to places or to work they longing, and more importantly to reduce traffic congestion (Kamaruddin R., Osman I. and Che Pei C. A., 2013). Public transportation play a big role in transportation industry that is become as an option for a people to move and to improve an infrastructure, to provide mobility for those who need, ease congestion that will contribute into effluence to the earth and also create better transport planning. Acknowledged by Crabtree (2007) conclude that better for the environment and safer, public transport is the best choice, when existing and realistic taking into account the scenery of the journey, whether you can organize a day around fixed timetables, and whether you are feeling sociable.

When people used public transportation such as bus, it saves a lot of money which is fare of the bus cheaper than use taxis and private car compared to bus fare to the oil price. It also saves and improved air quality of the environment and people's health as well. Furthermore, there will have no heavy traffic jam during peak hours because people only used public transportation and no need to scramble for parking cars.

1.2 BACKGROUND OF THE STUDY

Customer satisfaction is essential for business success in today's market place. It's a gateway to understanding your customer's expectations, and more importantly to improve customer journey. The terms customer satisfaction and perception are labels use to summarize a set of observable actions related to the product or service, (Hayes,2008). The desire to manage relationship with customer leads to the fact that organizations are starting to pay attention to the development and implementation of service standards.

Satisfaction can be defined as an expected outcome from the know-how of fulfilment consumer. Main expectations about quality level had been influenced the program or facilities of satisfaction, (Sigala, 2004). There is no death of literatures on this research that the satisfaction only depends on the numerous factors.

Service that able to meets the requirement and desired through the people perception will the level of service quality in the public transport, (Zakaria, Z, Hussin, Z, Abdul Batau, M.F, &Zakaria, Z, 2010). In particular, satisfaction research can provide decision makers whereof that customer conceives important as well as information how existing public service seen as dedicate quality dimension used, (Felleson, M &Friman, M, 2008).

This study is about customer satisfaction towards electric bus at Melaka and trying to look into public transportation services level provide and the efficient and effectiveness of the services to customer. Electric bus is the first buses that reduced carbon emissions, improved air quality and lowered pollution used in Melaka on public road that was meant to deliver an environmentally friendly fleet. State Transport and Project Rehabilitation Committee chairman, Datuk Lim Ban Hong stated that jump rise from electric bus service will manage with ticket system of a price and the bus will be electrically buses firstly used in Malaysia on public roads and we believe that electric bus will help reduce traffic congestion, air and noise pollution, (Bernama, 2015).

Electric bus that operates under the state government subsidiary, Panorama Melaka Sdn Bhd, will take the route through historical areas and tourist attractions in Bandar Hilir, Melaka Chief Minister Datuk Seri Idris Haron said the government will create a soft policy where any vehicle using green technology will be allowed to pass through the heritage areas. The company's efforts very compatible with concept of Malacca as green technology, but also Japan, Taiwan and China have been using electric vehicle in their daily life. It has no vibration unlike diesel powered engine and it will definitely provide comfortable ride for passenger. Besides, provided comfortable seat for mother with baby stroller and disabled group, electric bus can automatically adjust its height with contain level to cater the seat. Obviously, the bus is the only first electric bus in Malaysia using Iron Phosphate battery to move. Batteries that had equipped with a Battery Management System (BMS) will not explode and to flame retardant because it controls the voltage and temperature of each cell individually each time. It also moves at maximum speed of 72 kilometres per hour and only need five hours to charge and can travel 300 kilometres and also include security features recognized European countries. The electric bus is also equipped with a suspension Electronic Air Suspension (ECAS) (The Green Mechanics, 2013).

1.3 PROBLEM STATEMENT

Melaka that have poor performance particular in public transport system which is bus transportation become the issues of providing high quality services for the customer and uninteresting thing as it is a largest public transportation that used in Malaysia and very important to Malaysia citizen. Most customers prefer to choose bus transport rather than taxis in order to avoid congestion besides it will reduce the cost and time. Nowadays, many complaint and feedback from customer about the bus service that not completely provided to give convenience towards customer.

There is a greater tendency for the customer to switch to another option when the customers find that the service offered do not meet their expectation. Customer intends to tell the poor services of the buses to their friends, relatives, or their family. This will damage the reputable industry in the future. In order to prevent the customers from switching to the competitor's services or tell other about their bad experience, the public transportation company has to enhance and improve their service quality for the customer. Besides, the company must identify first the elements that produce the quality because customer satisfaction does not rely on the price of service provided but is rely on the quality of the service provided.

Furthermore, public transports are often well-performed low and long. It always delivers significant services are either door-to-door, paratransit-type services and sometimes not follow the standard routes. Banister (2005) stated that long waiting, deficiently proposed transit exchanges, transit direction information that not provide easily, and complicated transit routes are most important reasons that customer give when reeling why it is not their main choice.

In addition, public transport operates frequently in a laissez-faire environment, evoke operators that life in profit margins that are low to aggressive, and sometimes violently, compete for customers. Among the common reasons called for the reluctant to shift to public transportation are often late or cancel, dirty, uncivilized drivers and inadequate provision not enough for disabled people, (Bunting, 2004). Other than that, there are overloaded customers because the drivers want to fill up the space without think about the customer's conveniences while leaving customer waiting until certain number of seat capacity is filled that could take more than an hour. Another thing is unsafe driving habits of driver which give risk to customer's life that may cause accident who use public transport.

1.4 RESEARCH OBJECTIVE

The objectives that can be extracted from this research are:

1. To identify the severity of public transport service from customers' viewpoint.
2. To determine the effectiveness of public transport service from customers' viewpoint.

1.5 RESEARCH QUESTION

Based on research objectives, the researcher construct research question as follow:

1. What is the severity of public transport service from customers' viewpoint?
2. What is the way for effectiveness of public transport service from customers' viewpoint?

1.6 SCOPE OF THE STUDY

The scope of this study is to enhance service of electric bus in Melaka in order to know the satisfaction of customer. Since Melaka the only one that have electric bus, the study will be conducted in the public transportation in Melaka area. The level of customer satisfaction will be identified and analyzed based on the services provided by the electric bus in Melaka. The data will be collected through questionnaires survey from the local citizens.