



**UNIVERSITI PUTRA MALAYSIA**

***ATTRIBUTES AFFECTING PASSENGERS' SATISFACTION OF PUBLIC BUS  
TRANSPORT SERVICE IN KERMAN, IRAN***

**EHSAN KHAJOEI**

**Fk 2012 99**



**ATTRIBUTES AFFECTING PASSENGERS' SATISFACTION OF PUBLIC  
BUS TRANSPORT SERVICE IN KERMAN, IRAN**

By

**EHSAN KHAJOOEI**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,  
in Fulfilment of the Requirement for the Degree of Master of Science**

**December 2012**

## **COPYRIGHT**

All material contained within the thesis, including without limitation text, logos, icons, photographs and all other artworks, is copyright material of Universiti Putra Malaysia unless otherwise stated. Use may be made of any material contained within the thesis for non-commercial purposes from the copyright holder. Commercial use of material may only be made with the express, prior, written permission of Universiti Putra Malaysia.

Copyright © Universiti Putra Malaysia



## DEDICATION

This thesis is dedicated to my parents, especially my father, who taught me that the best kind of knowledge to have is that which is learned for its own sake. Next, I lovingly dedicate this thesis to my wife, who supported me each step of the way. And last but not least, I would like to dedicate this thesis to Kerman, a city where I was born and adopted my childhood.



Abstract of thesis to be presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirements for the degree of Master of Science

**ATTRIBUTES AFFECTING PASSENGERS' SATISFACTION OF PUBLIC  
BUS TRANSPORT SERVICE IN KERMAN, IRAN**

By

**EHSAN KHAJOOEI**

**December 2012**

**Chair: Sulistyo Arintono, PhD**

**Faculty: Engineering**

Public bus transport is the major mode of transportation in urban areas in Iran since other alternative mode of public transportation such as railways are not extensively developed yet. However, the public bus service has not been able to keep up with the population and travel demand growth. In short, supply has been maintained at the same level, whereas the travel demand has been thriving. Thus, passengers have slowly switched from using the public bus transport services to available and alternative modes of transportation such as mini-vans, taxis and private vehicles. Air pollution and heavy congestion in Kerman is particularly linked with an increased number of vehicles on the road, poorly maintained motorized vehicles and poor strategies for traffic rule enforcement. In addition, bus fares are gradually increased over time to sustain its operation but the public bus transport service level remains poor.

In order to attract passengers to use public bus services and leave their private cars or other alternative mode of transportation, the understanding of passengers' needs and expectations are important. Considering that issues of bus public transport is a localized problem and cannot be cut-and-paste from a successful story of another nation, this research seeks to determine the attributes of passengers' satisfaction on public bus transport services, specifically in the city of Kerman, Iran.

This study employed factor analysis along with one sample T-Test to identify and weigh the importance of each attributes of public bus service quality. The methodology is empirical, where all analyses were based on feedbacks from surveys and interviews conducted on public bus transport users. It was found that public bus transport passengers' satisfaction comprise of five major criterions which is comfort,

reliability, security, accessibility and cost. Overall, the determined needs and expectations of public bus transport users in Kerman, Iran will be useful for corrective measures to improve its performance and service quality and attract more people to use the public bus transport service.



Abstrak tesis untuk dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan Ijazah Master Sains

## **SIFAT MELIBATKAN PENUMPANG KEPUASAN BAS AWAM PERKHIDMATAN PENGANGKUTAN DI KERMAN, IRAN**

Oleh

**EHSAN KHAJOOEI**

**Disember 2012**

**Pengerusi: Sulistyo Arintono, PhD**

**Fakulti: Kejuruteraan**

Pengangkutan bas awam ialah cara pengangkutan utama di kawasan bandar di Iran memandangkan mod alternatif pengangkutan awam seperti kereta api belum lagi dibangunkan dengan meluas. Bagaimanapun, perkhidmatan bas awam tidak mampu bersaing dengan kadar pertumbuhan penduduk dan permintaan perjalanan. Ringkasnya, bekalan perkhidmatan bas masih lagi pada tahap yang sama, manakala permintaan perjalanan semakin meningkat. Maka, penumpang telah dengan secara perlahan mula bertukar daripada menggunakan pengangkutan bas awam kepada mod pengangkutan alternative van mini, teksi dan kenderaan persendirian. Pencemaran udara dan kesesakan jalan raya di Kerman kini dikaitkan dengan jumlah kenderaan yang semakin bertambah atas jalan, kenderaan bermotor yang tidak diservis dengan baik dan strategi-strategi penguatkuasaan peraturan trafik yang lemah. Tambahan pula, tambang bas dinaikkan secara beransur-ansur sepanjang masa untuk menampung kos operasinya tetapi perkhidmatan pengangkutan bas awam masih berada pada paras yang rendah.

Bagi menarik penumpang untuk menggunakan perkhidmatan bas awam dan meninggalkan kereta persendirian mereka atau mod pengangkutan alternatif yang lain, adalah penting untuk memahami keperluan dan jangkaan penumpang. Memandangkan bahawa isu pengangkutan awam bas ialah satu masalah setempat dan bukannya boleh salin begitu sahaja dari keberkesanan yang dibuat oleh sebuah negara lain, penyelidikan ini bertujuan untuk menentukan sifat-sifat kepuasan penumpang bagi perkhidmatan pengangkutan bas awam terutamanya di bandar raya Kerman, Iran.

Kajian ini menggunakan analisis faktor dan juga satu sampel Ujian T untuk mengenal pasti dan mempertimbangkan kepentingan setiap sifat kualiti perkhidmatan bas awam. Kaedah empiris, di mana semua analisis adalah berdasarkan maklum balas dari kajian dan temuramah telah dikendalikan ke atas pengguna-pengguna pengangkutan bas awam. Ia mendapati kepuasan penumpang-penumpang pengangkutan bas awam terdiri daripada lima kriteria utama yang merupakan keselesaan, kebolehpercayaan, keselamatan, kebolehcapaian dan kos perbelanjaan. Secara keseluruhannya, pengetahuan mengenai keperluan dan jangkaan para pengguna pengangkutan bas awam di Kerman, Iran amatlah berguna bagi langkah-langkah pembetulan untuk mempertingkatkan prestasi dan kualiti perkhidmatannya serta menarik lebih ramai orang untuk menggunakan perkhidmatan pengangkutan bas awam.





## ACKNOWLEDGEMENTS

‘In the name of Allah, the Beneficent, the Merciful’

“All praise and thanks are due to Allah”

The author wishes to express his most sincere gratitude to Dr. Sulisty Arintono and Dr. Hussain Hamid for their supervision, encouragement, general guidance and valuable advice throughout the course of this thesis work.

Deep gratitude and thanks are also extended to Department of Civil Engineering, Faculty of Engineering, Universiti Putra Malaysia, the Staffs of Kerman Municipality Bus Organization, Traffic Organization, and all my dear friends for their cooperation during data collection.

To his family members, the author wishes to express his appreciation especially to his dear father and mother for giving their support to pursue his higher education in a foreign country.

Last but not least, a sincere gratitude is also addressed to his beloved wife for her patience and understanding throughout the times of his research study.

I certify that a Thesis Examination Committee has met on 19 December 2012 to conduct the final examination of Ehsan Khajooei on his thesis entitled "Attributes Affecting Passengers' Satisfaction of Public Bus Transport Service in Kerman, IRAN" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

Members of the Examination Committee are as follows:

**Zainuddin Md. Yusoff, PhD**

Senior Lecturer  
Faculty of Engineering  
Universiti Putra Malaysia  
(Chairman)

**Ratnasamy a/l Muniandy, PhD**

Professor  
Faculty of Engineering  
Universiti Putra Malaysia  
(Internal Examiner)

**Ahmad Rodzi Mahmud, PhD**

Associate Professor  
Faculty of Engineering  
Universiti Putra Malaysia  
(Internal Examiner)

**Johnnie Ebioye Ben-Edigbe, PhD**

Associate Professor  
Universiti Teknologi Malaysia  
Malaysia  
(External Examiner)

---

**NORITAH OMAR, PhD**

Associate Professor and Deputy Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date: 21 January 2013

This thesis is submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee are as follows:

**Sulistyo Arintono, PhD**

Senior Lecturer  
Faculty of Engineering  
Universiti Putra Malaysia  
(Chairman)

**Hussain Hamid, PhD**

Senior Lecturer  
Faculty of Engineering  
Universiti Putra Malaysia  
(Member)

---

**BUJANG BIN KIM HUAT, PhD**

Professor and Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date:

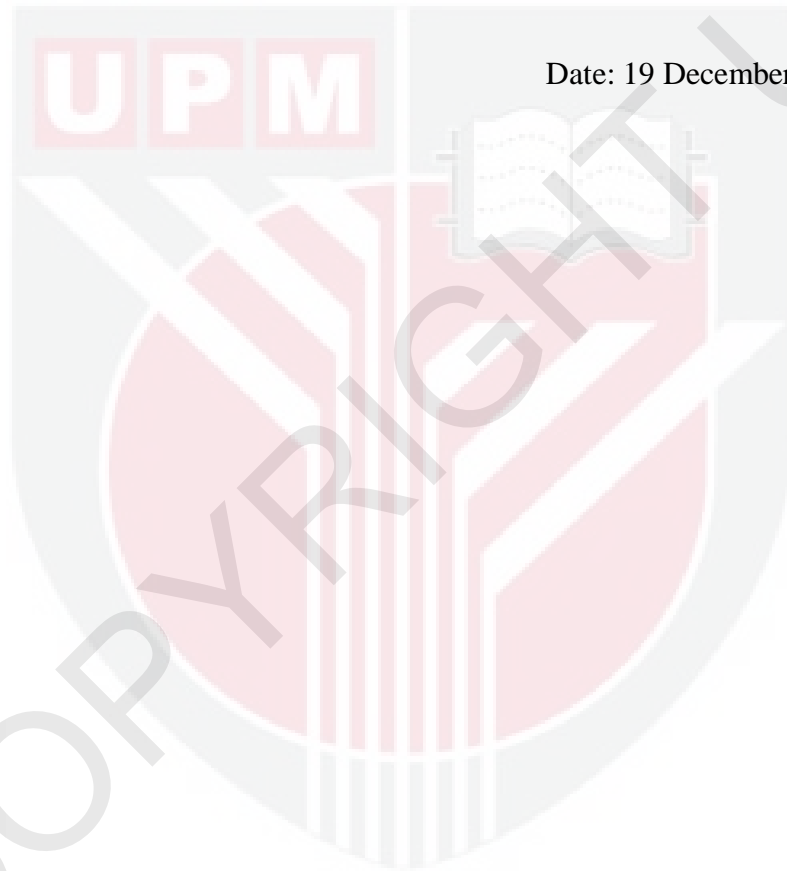
## DECLARATION

I hereby declare that the thesis is based on my original work except for citations and quotations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Putra Malaysia or any other institutions.

---

**EHSAN KHAJOOEI**

Date: 19 December 2012



## TABLE OF CONTENTS

	<b>Page</b>
<b>DEDICATION</b>	i
<b>ABSTRACT</b>	ii
<b>ABSTRAK</b>	iv
<b>ACKNOWLEDGEMENTS</b>	vi
<b>APPROVAL</b>	vii
<b>DECLARATION</b>	ix
<b>LIST OF TABLES</b>	xii
<b>LIST OF FIGURES</b>	xiv
<b>LIST OF ABBREVIATIONS</b>	xv
<b>CHAPTER</b>	
<b>1 INTRODUCTION</b>	<b>1</b>
1.1 Background	1
1.2 Public Bus Transport in Kerman	2
1.3 Problem Statement	3
1.4 Objectives	4
1.5 Scope and Limitation	5
1.6 Organization of Thesis	5
<b>2 LITERATURE REVIEW</b>	<b>6</b>
2.1 Introduction	6
2.2 Customer Satisfaction	6
2.3 Customer Dissatisfaction	7
2.4 Past Surveys on Customer Satisfaction	7
2.5 Attributes Influencing Passengers' Satisfaction	8
2.6 TRB Determinants of Service Quality	12
2.7 Travel Experience Factors	15
2.8 Linking Customer Satisfaction to Performance Measures	17
2.9 Past Studies on Public Bus Transport in Kerman	19
2.9.1 Moshtagh Studies in 1997	20
2.9.2 Metra Studies in 2005	21
2.10 Public Bus Operating Performance in Kerman	24
2.11 Summary	26

<b>3</b>	<b>METHODOLOGY</b>	<b>28</b>
3.1	Introduction	28
3.2	Questionnaire Design	28
3.3	Sample Size Determination	30
3.4	Data Collection	31
3.5	Data Entry and Editing	34
3.5.1	Define Variables and Enter Data	34
3.6	Refining the Samples	37
3.7	Reliability of Questionnaire	37
3.8	Validity of Research Tools	38
<b>4</b>	<b>DATA ANALYSIS AND RESULTS</b>	<b>39</b>
4.1	Demographic Characteristics of Passengers	39
4.2	Passenger's Responses to Variables	40
4.3	Factor Analysis Results	42
4.4	Reliability of Determined Factors	44
4.5	Descriptive Statistics of Observed Variables	45
4.6	Dissatisfaction Rating	46
4.7	Effects of Gender on Passengers' Satisfaction	51
<b>5</b>	<b>CONCLUSION AND RECOMMENDATIONS</b>	<b>53</b>
5.1	Conclusion	53
5.2	Key Concluding Remarks	53
5.3	Recommendations	55
	<b>REFERENCES</b>	<b>58</b>
	<b>APPENDIX-A</b>	<b>63</b>
	<b>APPENDIX-B</b>	<b>67</b>
	<b>APPENDIX-C</b>	<b>70</b>
	<b>BIO DATA OF STUDENT</b>	<b>78</b>