

**FACTOR INFLUENCING CONSUMER SATISFACTION OF ELECTRONIC
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SITI BALQIS BINTI AB MALEK

A project report submitted in partial fulfilment of the
requirements for the award of the degree of
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DEDICATION

This project report is dedicated to my beloved and supportive parents Haji Ab Malek bin Sulaiman and Hajah Rafingah binti Abdullah for their love, prayer, support and encouragement in making this study a success. To my beloved siblings that gives me big courage to complete this project report. Also special dedication to my classmates on their understanding and support. And to my late mother, Adbiah binti Md Rahim. I love and miss you so much. May Allah s.w.t grant her the highest Jannah. Amin

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In the Name of Allah, Most Beneficent Most Merciful. All the praises and thanks to Allah, the lord of ‘Alamin and Salat (Blessing of Allah) and Salam (Peace) be upon the last end of Allah’s Prophets and Messengers Muhammad S.w.t

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ABSTRACT

Smart card technology is being implemented in many country around the world as a substitute for cash transaction for example the implementation of electronic payment system on MRT feeder bus in Malaysia. In February 2019, Rapid Bus Sdn Bhd have responsible for introducing e-payment system for all MRT feeder bus across all the 57 routes. The development of e-payment system is an effort to support the cashless payment system with the government aspiration to increase the efficiency of the national payment system. But the system are started have problem rising from human error because of invalid of the card and also minor problem in the system that resulting error. However, the aim of this study is to identify factor influencing consumer satisfaction of electronic payment system that have been developed on MRT feeder bus. A total of 180 sets of questionnaires were distributed to MRT feeder bus users at 4 MRT station namely MRT Kajang, MRT Maluri, MRT Muzium Negara and MRT Sungai Buloh. It was found that there are several issues regarding this system that can be identified that effect on the consumer satisfaction of e-payment system. One of the issues is the electronic payments are often unable to read consumer smart card, resulting in disrupted service of buses and impacting the quality of services on MRT feeder bus. By using the Pearson correlation coefficient analysis, the consumer trustworthiness on e-pay reliability was a factor that influence consumer satisfaction in MRT feeder bus with a P-value of 0.638. So, it is a positive significant between e-pay reliability with the consumer satisfaction. Consumer feel that with the new system has made transactions become easier and faster. Consumer find that their trips are more organized and the system was user-friendly. To improve the electronic payment system on the MRT feeder bus, there is several suggestion such as maintaining the e-payment system, develop contactless system (RFID) and also provide mobile payment application for better service in future.

ABSTRAK

Penggunaan teknologi kad pintar sedang giat dilaksanakan di banyak negara di seluruh dunia sebagai pengganti transaksi tunai sebagai contoh pelaksanaan sistem pembayaran secara elektronik di bas pengantara MRT di Malaysia. Pada Februari 2019, Rapid Bas Sdn Bhd sebagai syarikat yang bertanggungjawab untuk memperkenalkan pembayaran secara elektronik di kesemua bas pengantara MRT yang melibatkan 57 laluan. Akan tetapi sistem yang dibangunkan telah menghadapi masalah dari segi kesilapan manusia dimana kad pintar pengguna tidak sah untuk digunakan dan juga berlakunya ralat pada sistem. Matlamat kajian ini adalah untuk mengenalpasti faktor yang mempengaruhi kepuasan pengguna mengenai pembayaran secara elektronik yang telah dibangunkan di bas pengantara MRT. Sebanyak 180 set borang kaji selidik telah diedarkan kepada pengguna bas pengantara MRT di 4 buah stesen MRT iaitu di stesen MRT Kajang, MRT Maluri, MRT Muzium Negara dan juga MRT Sungai Buloh. Daripada kajian lapangan tersebut mendapati bahawa ada beberapa isu yang dikenalpasti dan telah memberi kesan kepada kepuasan pengguna. Antara isunya adalah kekerapan pembayaran secara elektronik ini tidak dapat membaca kad pintar pengguna sehingga menyebabkan perkhidmatan bas tergendala dan memberi kesan kepada kualiti servis bas pengantara MRT. Dengan menggunakan pekali korelasi Pearson, telah mendapati bahawa kebolehpercayaan pengguna mengenai sistem pembayaran secara elektronik merupakan faktor yang mempengaruhi kepuasan pengguna dengan nilai P adalah 0.638. Pengguna merasakan bahawa dengan sistem baru telah menyebabkan transaksi lebih mudah dan pembayaran secara elektronik lebih cepat dilakukan. Pengguna juga mendapati bahawa perjalanan mereka lebih teratur dan sistem mesra pengguna. Untuk penambahbaikan sistem pembayaran secara elektronik di bas pengantara MRT, ada beberapa cadangan dibuat antaranya adalah penyelenggaraan sistem secara sistematik, membangunkan sistem tanpa sentuh dan juga menyediakan aplikasi pembayaran mudah alih untuk perkhidmatan yang lebih baik di masa akan datang.

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LIST OF ABBREVIATIONS

MRT	-	Mass Rapid Transit
KTM	-	Kereta Api Tanah Melayu
LRT	-	Light Rail Transit
E-Payment	-	Electronic Payment
ServQual	-	Service Quality
SBK	-	Sungai Buloh-Kajang Lane
SPSS	-	Statistical Analysis of Social Science
RFID	-	Radio Frequency Identification

LIST OF SYMBOLS

n	-	Sample size
N	-	Population Size
e	-	Margin of Error

LIST OF APPENDICES

- Appendix A** - Questionnaire
- Appendix B** - Proof of Data Collection
- Appendix C** - Example of SPSS Data Analysis

CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter shall explain an introduction to this study and comprises eight sections. The first three sections illustrate the background of the studies. The rest of the following sections discuss foundation of the concerns and consequence of the problems if unattended, research objectives, research questions and so on.

1.1 Study Background

On February 1, 2019, Rapid Bus Sdn Bhd which manage the MRT feeder bus, is set to start a completely cashless payment framework for the all their MRT feeder Bus. Rapid Bus presented a wide scope of changes to its transport framework, it totally redesigned new technology for their public transportation services. And this implementation of e-payment system on MRT feeder bus is based on the current cashless penetration on MRT feeder bus with the average of 49 percent consumer who adopting for the cashless as their payment method. It's portrays the open transport changes in Malaysia and evaluates the factor that influencing customer satisfaction of electronic payment system on MRT feeder Bus.

Due to the higher number of payment system that already implemented and use in transportation system in Malaysia such as the use of electronic payment system in monorail, parking, toll highway, commuter railways and many more. Currently Malaysia has already in the right track in order to achieve development country by in providing the new methods of payment system for bus services, such as electronic payment system on MRT Feeder Bus. The systems that have been provided for the user, will increased convenience to customers and better operations to carriers for their future plan in upgrading in public transportation services. (Sumanjeet, 2009).

The implementation of electronic payment system will generate more connectivity in the network of bus services and also that allows many more place to be served seamlessly across the MRT feeder bus usage. With the removing the cash on the services by proving the electronic system will increase the innovation fare of the services. With the cashless payment system have covered for all 57 feeder bus routes from MRT Sungai Buloh to MRT Kajang Depot.

1.2 Problem Statement

As the development and introduction of the Electronic payment system in MRT feeder bus have shown, focusing on technological and business during the development of a new product service system can result in a suboptimal market introduction. A good implementation of an electronic payment system on MRT feeder bus could increase the simplicity of and satisfaction with the Malaysia public transportation system. However, the efforts to deal with these cashless transactions, have also been disagreeable and seem to be inconvenient for those who rarely use MRT feeder bus and they feel are not worth it because they have to buy a card and reload it into the card for only one-way travel. (Berita Harian, 2019). The provision complexity of the combined concessions for certain

categories of passengers can arise the problem in the implementation of electronic payment system in bus services.

This study have been identify that the electronic payment systems on MRT feeder bus are started to problems arising by human error because of invalid on the card and it will also from the technology itself by the error that come from the machine or from the data that have been installed in the system. Any minor problem in the software or hardware can cause problem such as the system wide break down and will resulting in services error and the worst is the fares can't being collected due to the problem itself. Working at this issues, a study identify the factor influencing consumer satisfaction of electronic payment system on MRT feeder bus.

1.3 Aim

This study aims to discover the factor influencing consumer satisfaction of electronic payment system on MRT feeder bus from the consumer perspective.

1.4 Research Objectives

The primary goal for this research is to identify the factor that influencing consumer satisfaction on the implementation of electronic payment system on MRT feeder bus. It is also aim to get better picture on the current opinion or perception of the bus passenger and thus this will help Rapid Bus Sdn Bhd to improve their services in the future.

To achieve the stated research goal, several objective from this study are developed:

- i. To investigate on the current experience of consumer on E-payment system in MRT feeder Bus. .
- ii. To identify the factor influencing consumer satisfaction on the E-payment system in MRT Feeder Bus.
- iii. To provide suggestion for improving the e-payment systems in bus services.

1.5 Research Questions

Below are the research question based on the research objective that need to be answering:

- i. What is current experience on E-payment system among the consumer? (RQ1)
- ii. What is the factor influencing consumer satisfaction on the implementation of E-payment system in bus service? (RQ2)
- iii. What is the suggestion to improving the E-payment system?(RQ3)

The passenger's expectation on the implementation of electronic payment system in MRT feeder bus, the consumer satisfaction of the system itself and improvement that be done was the core of the study. In this research, the consumer satisfaction was based on the user perception that established in the study in chapter 4. The effectiveness has been defined in various other study as the increasing the rate in public transportation patronage. However this study applies on the satisfaction as the related measure to the increase of ridership or patronage level. For this matter, the survey related to the bus consumers survey that used the MRT feeder bus.

1.6 Research Gap

There are limited study on the level of consumer satisfaction on electronic payment system of bus services inside Malaysia and all that relevant studies are about the electronic payment system in bus services was conducted outside Malaysia. Due to the developments & upgrading the bus services by using electronic payment system in Malaysia, it is a good time to examine the consumer satisfaction particularly in the Malaysian of their opinion on that e-payment usage that will take place for future development. Quality is expected to hope that consumers will be received from the bus services. Service received is what consumers feel when they receive services from the bus service. When consumers get more than they expected then the consumers feel satisfied, but if the consumers received less than they expected then the consumers are not satisfied.

1.7 Research Design

This research was focused on the consumer satisfaction on the electronic payment system in MRT Feeder bus. This involves the evaluation of current situation in the payment system that been provided by MRT Feeder bus and the effect to the current and future ridership level. It is focus mainly on the basic issue that derives the ridership demand. The total number of ridership daily for this study area is 13000 people in 2018 (Statistic 29), which occupied along MRT Sugai Buloh - Kajang line. The study area cover only the 4 station of MRT due to limitation of time and resource that we have in this project. This study will focus on the factor influencing consumer satisfaction of electronic payment system on MRT Feeder bus. This can be done by getting the current opinion from the consumer of MRT Feeder bus along the line. Table 1 shows the feeder bus route that already implemented the electronic payment system in MRT feeder bus.

Table 1.1: Feeder Bus Routes

Route No	Origin	Destination
T100	Hospital Sg Buloh	MRT Station Sg Buloh
T101	MRT station Sg Buloh	Bukit Rahman Putra
T772	MRT Muzium Negara	Bukit Subang
T807	MRT station Surian	Ara Damansara
T809	MRT station Mutiara Damansara	Seksyen 4 & 5 Kota Damansara
T820	MRT station Pusat Bandar Damansara	LRT Bandaraya
T400	MRT station Cochrane	Bandar Sri Pemasuri
T411	MRT station Taman	Alam Damai
T451	MRT station Stadium Kajang	UKM Bangi
T461	MRT station Kajang	Taman Kajang Utama

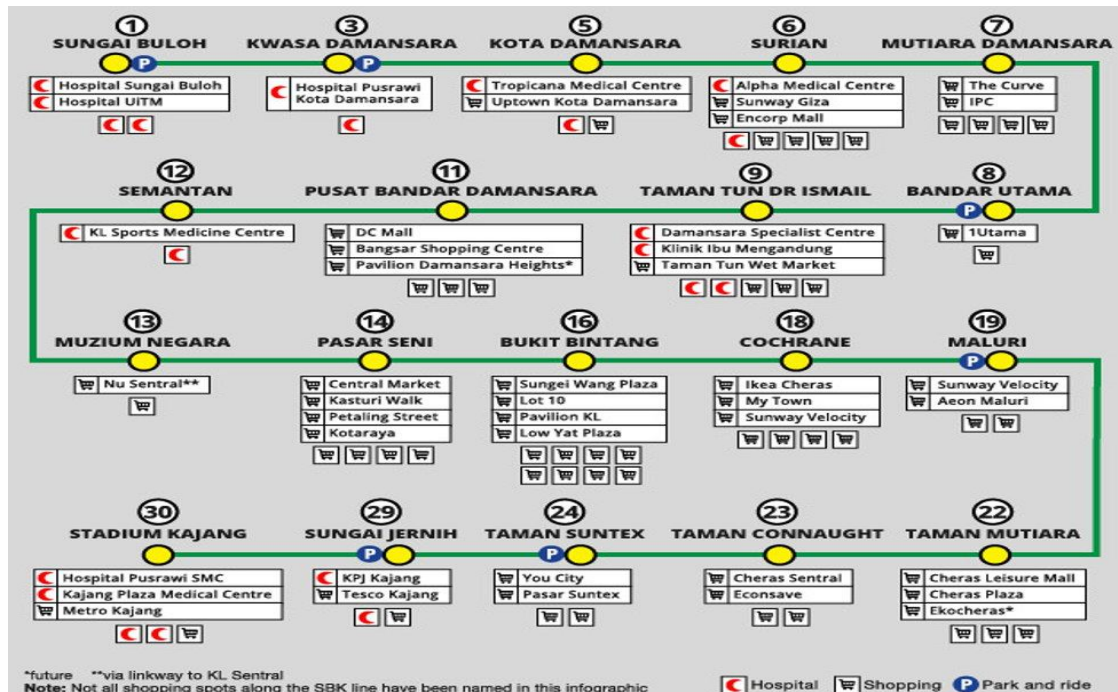


Figure 1.1 : MRT Sungai Buloh – MRT Kajang Line

1.8 Expected Outcome

It is generally believe that when the changes in the payment system in the transportation can attract more user to use the MRT feeder bus. For case of MRT feeder bus, the current state on the electronic payment system that have been provided still need a lot of improvement. The goal are to provide passenger with the better bus services. For this matter, the purposed of the study on the factor that influencing consumer on electronic payment system will greatly assists MRT feeder bus in the following areas:-

- i. Providing the current opinion from the user of the MRT Feeder bus mainly on their satisfaction level on usage of electronic payment system. This is also related to the reliability and the efficiency of the system itself.
- ii. Providing the current satisfaction level of the public on the MRT Feeder bus. Improvement can hence, be made to the current management and operation of data gathering, processing, analysis and dissemination for the wider public transport industry.

1.9 Significant of Study

This research is important in order to identify the gaps between the current and ideal situation of the smartcard payment system in transportation system in Malaysia. Focusing at the quantitative solution that involves not only in bus services but also for rail, transit and other infrastructure such as the road and etc. but neglecting on the qualitative solution and basic this such as providing the accurate information to passenger.

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