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AN ANALYSIS OF THE DETERMINANTS INFLUENCING THE CONSUMERS' INTENTION TOWARDS ADOPTION OF E-TICKETING ON TRANSPORTATION IN MALAYSIA

BY

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DECLARATION

We hereby declare that:

(1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the research project.

(4) The word count of this research report is 13,113.

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DEDICATION

This project is dedicated to

Our supervisor,

Mr Khor Heng Ghee

Who inspired us to conduct this research project for the contribution to this field.

Tertiary Educational Institution

Hope we made a contribution.

Family and friends,

For your love.

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LIST OF ABBREVIATIONS

IATA	International Air Transport Association
IS	Information Systems
IT	Information technologies
KTMB	Keretapi Tanah Melayu Berhad
LPTC	Land Public Transport Commission
MAS	Malaysia Airlines
TAM	Technology Acceptance Model

PREFACE

This research is conducted by 5 members who are Fok Lai Feel, Loo Chooi Yin, Ng Shen Yee, Tang Jia Jiin and Wong Mei Gee. This research is conducted in Malaysia in order to determine the intention of consumer towards adoption of e-ticketing on transportation.

The development of e-ticketing system in Malaysia is still needed to be strengthened especially in train and bus coach transportation. In order to have a better understanding on Malaysian's intention, this research is conducted to investigate on influence of convenience, security, perceived usefulness, perceived ease of use, and perceived risk on consumers' intention towards adoption of e-ticketing on airline, railway and bus coach transportation in Malaysia.

The result of this research can assist the management team in transportation industry to understand consumers' intention in Malaysia after having a deep consideration on Malaysian online shoppers' intention. With this research, they can distinguish which areas should be improved in order to increase the adoption of e-ticketing on transportation in Malaysia.

ABSTRACT

The purpose of this research is to illustrate the key factors influencing consumers' intention towards adoption of e-ticketing on transportation in Malaysia. Owing to the insufficient development of e-ticketing system in Malaysia especially train and bus coach transportation, consumers' intention towards adoption of e-ticketing is an important issue that should be addressed to improve the deficiency of the system. In this research, Technology Acceptance Model (TAM) was used as the theoretical foundation to examine the key determinants comprise convenience, security, perceived usefulness, perceived ease of use and perceived risk on consumers' intention towards adoption of e-ticketing on transportation in Malaysia. The primary data had been collected through 290 valid questionnaire surveys from target respondents who are students and working adults between 18 and 55 years old in the five most populous states in Malaysia. The data analysis techniques of Pearson's Correlation Analysis and Multiple Linear Regression were used to test the hypotheses of the study. The results illustrated that perceived usefulness and perceived ease of use have positive relationship with consumers' intention towards adoption of e-ticketing on transportation while convenience, security and perceived risk were proven to have no significant relationship with consumers' intention. The findings of the study were useful for transportation industry as a reference in identifying consumers' perception and attitude to further improve the e-ticketing system. This paper would also contribute to the transportation companies and to the public on future trend and development of e-ticketing.

CHAPTER 1: INTRODUCTION

1.0 Introduction

This chapter presents a brief introduction providing a general idea of the research. It starts with the research background by giving a brief idea on e-ticketing, following by the problem statement, research objectives which consist of general objectives and specific objectives, research questions, hypotheses of the study, significance of the study, chapter layout and lastly the conclusion of this chapter.

1.1 Background of the Study

In the new era of technology, habitual access to the Internet has become the routine lifestyle of people particularly the young generation. According to Internet World Stats (2011), there were approximately 16.9 million Internet users in Malaysia as of March 2011 which shown a 356.8% user growth since 2000. The development and advancement of technology has changed the consumers' method to purchase products and services. Many businesses have started to move towards IT approach as an alternative marketing tool to pursue the objectives of cost efficiency and competitive advantage.

Years ago, many industries had begun to utilize Internet for marketing their products and services. The trend of commercialization on Internet had also directed to the development of e-ticketing especially in airline industry. The concept of e-ticketing was first arisen in United States during 1980s and it was initially adopted by U.S. domestic carriers, United Airlines in 1984. E-ticketing refers to a technique for documenting sale, tracking usage and accounting for a

passenger's transportation without requiring the issue of paper value documents (Ng-Kruelle, Swatman & Kruelle, 2006). With an e-ticket, it is unnecessary to issue a physical ticket to passengers upon booking. Instead, the details of passengers are stored in the database and can be easily recovered by a unique code. E-ticketing, as the new way of issuing and documenting tickets, has brought many benefits especially cost reduction to the airline businesses. International Air Transport Association (IATA) (2005) indicated that 100% e-ticketing would save up at least US$ 3 billion cost per year for airline industry. In addition, e-ticketing also brings convenience to the passengers hence they can check in via Internet and mobile and it eliminates the pressure of tickets misplacement.

In Malaysia, the adoption of e-ticketing was first launched by the low cost carrier, AirAsia about a decade ago. According to Consumer Confidence Survey conducted by AC Nielsen (2008) in April 2008, 55% among the Internet users in Malaysia bought airline ticket or made ticket reservation. This result had shown the gaining popularity of e-ticketing in the country. On the other hand, the government-owned carrier, Malaysia Airlines (MAS) started to implement e-ticketing on October 28, 2007. Apart from the airline industry, other transportation services including train and bus coaches have begun to adopt e-ticketing services to align with the penetration of Internet into most of the business activities. Keretapi Tanah Melayu Berhad (KTMB), the only railway operator in Malaysia, has launched e-ticketing system in October 2001 which was established by TATA Consultant from India (Arshad, Ahmad & Janom, 2008). The application of e-ticketing in bus transportation, however, is still in the initial stage. It only can be found that some bus companies have adopted IT in their businesses lately by having websites providing information for the customers and also e-ticketing system. Recently, the Land Public Transport Commission (LPTC) has invited bus operators to adopt e-ticketing for preventing touts and price hikes. In fact, the development of e-ticketing on land transportation is still on the beginning stage and it needs much effort to achieve its prospect.

1.2 Problem Statement

E-ticketing is a new way of business strategies especially in airline industry that widely adopted by companies in different countries. In Malaysia, awareness of railway and bus coach e-ticket by public is still limited although certain companies had provided such service in recent years.

Past studies were conducted prevalently in airline industry rather than land transportation. Alam and Yasin (2010) had examined the factors that influenced the trust from customers towards online airline ticket purchasing in Malaysia. The study indicated that there is a difficult task to understand consumers' intention on online brand trust thus lead to challenges faced by online retailers, therefore, in-depth investigation is needed in this account.

Sulaiman, Ng and Mohezar (2008) examined the reasons of customers purchasing tickets online in Malaysia. However, this study only identified the trends and patterns of e-ticketing among community principally in Kuala Lumpur area. This may lead to the lack of persuasive of identification on customers' adoption in e-ticketing for explaining the overall customers' perception in adopting e-ticketing in Malaysia.

Arshad et al. (2008) examined the customers' intention on the quality of Internet service regarding to the train and bus transportation in Malaysia. However, this empirical study only indicated that some of the bus operators have advanced their transaction systems and provided online ticketing through websites. However, it did not clearly examine the customers' intention on bus transportation. Similarly, the study only conducted their questionnaires within the Klang Valley.

In overall, the studies on consumers' intention towards e-ticketing in public transportation are not significant and limited in many countries included Malaysia. In the studies aforementioned, none of such studies examined the purchasing intention from consumers particularly in transportation industry included airline, railway and bus operators. Other than that, the results are not fully representing

the overall customers' intention in Malaysia as the research area is only limited in Klang Valley. In conclusion, a research on different parts of Malaysia shall be conducted to have a broader picture of the customer intention and behaviour towards this e-ticketing on transportation.

1.3 Research Objectives and Questions

1.3.1 General Objective

This research is carried out with general objective to investigate the key determinants influencing consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

1.3.2 Specific Objectives

(1) To examine the relationship between convenience and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

(2) To examine the relationship between security and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

(3) To examine the relationship between perceived usefulness and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

(4) To examine the relationship between perceived ease of use and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

(5) To examine the relationship between perceived risk and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

1.3.3 General Question

What are the key determinants influencing consumers' intention towards adoption of e-ticketing on transportation in Malaysia?

1.3.4 Specific Questions

(1) Is there any relationship between convenience and consumers' intention towards adoption of e-ticketing on transportation in Malaysia?

(2) Is there any relationship between security and consumers' intention towards adoption of e-ticketing on transportation in Malaysia?

(3) Is there any relationship between perceived usefulness and consumers' intention towards adoption of e-ticketing on transportation in Malaysia?

(4) Is there any relationship between perceived ease of use and consumers' intention towards adoption of e-ticketing on transportation in Malaysia?

(5) Is there any relationship between perceived risk and consumers' intention towards adoption of e-ticketing on transportation in Malaysia?

1.4 Significance of the Study

This research is significant in investigating the factors affecting consumers' intention comprise convenience, security, perceived usefulness, perceived ease of use and perceived risk. As mentioned, Internet has become an indispensable element to the people especially the young generation, thus e-ticketing which is included in one part of the e-commerce becomes more popular and more favourable for the consumers. Hence, the transportation sector has tried to develop e-ticketing which covers all online ticketing progress, start from booking, payment to receipt of travel itinerary. However, comparing to the development of e-ticketing in airlines, the e-ticketing of railway and bus transportation is still on early stage and needs more improvement though the Land Public Transportation Commercial (LPTC) has put much effort on conducting feasibility studies on e-ticketing.

This research intends to draw transportation sectors attention, especially for the bus coach and railway transportation, to understand consumers' behaviour in order to comprehensively improve and adopt e-ticketing system in Malaysia. Hence, they can improve their e-ticketing process based on consumers' need through this study. It may act as a reference on the issue of the factors influencing the consumers' intention towards adoption of e-ticketing.

This study creates contribution for consumers and transportation companies. In addition, the findings of this study might serve references for future researches on similar topic. For instances, the future researchers can conduct a better research after understanding the limitation in this study.

1.5 Outline of the Study

The research comprises five chapters. Chapter one is the introduction chapter which delivers overview of the research study, identify research objectives and define the research problems. Chapter two is a comprehensive review of the

relevant journals and articles to build a theoretical foundation, identification research issues, proposed conceptual framework, investigation and hypotheses development. Chapter three presents of the research methodology, which consists of research design, data collection method, target population, constructs, measurement, approaches of data analysis and the result of pilot test. Chapter four demonstrated the presentation and interpretation of the results from calculated data by using SPSS version 16.0. Chapter five will include the summary and discussion of major research, managerial implication, limitation and recommendation of the study.

1.6 Conclusion

In conclusion, chapter one discusses the current trends of e-ticketing in transportation and problems that will influence consumer's intention toward adoption e-ticketing in Malaysia. The following chapters will provide more comprehensive information on the issue based on the prior research studies and the theoretical foundation for the research.

CHAPTER 2: LITERATURE REVIEW

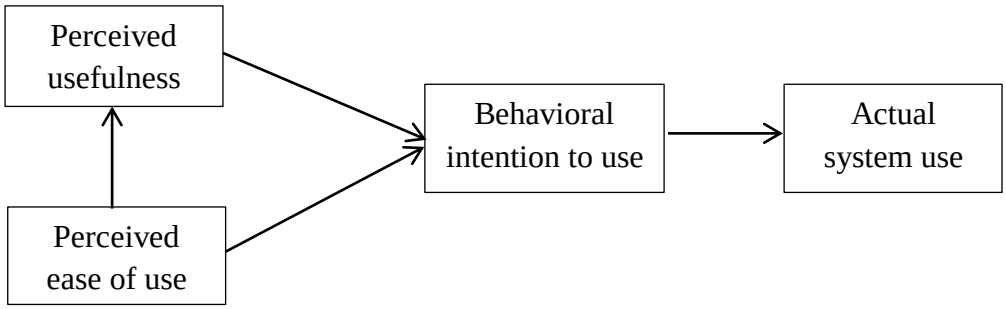
2.0 Introduction

This chapter will present various relevant prior empirical studies with the function of supporting of the possible outcomes for each independent variable. Research model is created to further investigate the relationship between variables and research objectives. Apart from that, five hypotheses are developed to explain the proposed conceptual framework.

2.1 Theoretical/Conceptual Foundation

2.1.1 Technology Acceptance Model (TAM)

Figure 2.1: Technology Acceptance Model



Adapted from: Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science, 35*(8), 982-1003.

Technology Acceptance Model (TAM) was developed by Fred D. Davis in 1989, to identify and explain user acceptance towards information technology. The model proposed that a number of factors may affect an individual's intention and decision of how and when a user will adopt when a new technology is introduced. TAM practises two main variables which are "perceived usefulness" and "perceived ease of use". Perceived usefulness was defined as the extent to which a person believes that using a particular system would enhance his or her job performance while perceived ease of use is the degree of a user's belief of requiring minimum effort when using new technology (Davis, 1989; Davis, et al., 1989). This model explained that a person's intention on using technology is influenced by his/ her perception on the perceived usefulness and perceived ease of use of that particular technology (Davis, 1989; Davis et al., 1989). The two primary constructs are the factors affecting attitudes towards adoption of information technologies (IT), user's intention to use technology and the actual usage (Chau & Lai, 2003).

Through the review of related researches, it shows that the theory of TAM is one of the most popular theories used to explain consumers' intention and behaviour in an online shopping environment. A review on TAM conducted by Legris, Ingham and Collerette (2003) concluded that TAM is useful in assisting to explain and recognize user behaviour in IS application and it has been proven to be a of quality tool that produce reliable and satisfying results. Lee, Kozar and Larsen (2003) examined one hundred and one articles related to TAM and found that TAM is able to predict technology acceptance behaviour in different IS implementations. Over the years, TAM model is always used to carry out research on the intention to use e-ticketing, both perceived usefulness and perceived ease of use have positive impact on intention to use e-ticketing (Al-Maghrabi, Basahel & Kamal, 2011; Dehbashi & Nahavandi, 2007; Wan & Che, 2004).

Comes into event of information technology, TAM model is widely used since the variables of perceived ease of use and perceived usefulness are so

significant towards the customers' intention or behaviour to adoption of ideas. Alfawaer, Awmi and Al-Zoubi (2011) suggested that TAM model is the most influential research model to study the determinants of IT acceptance. Therefore, to carry out this research, these two variables are taken into consideration to investigate the most persuasive determinants of customers' intention towards e-ticketing on transportation in Malaysia.

2.2 Review of the Prior Empirical Studies

2.2.1 Convenience

According to Kolsaker, Lee-Kelly and Choy (2004), convenience is mentioned as the key online buying driver resulting from factors such as availability to shop at home 24hr /7 days a week, usability, speed and time savings, provision of delivery services by suppliers and information capacity. Convenience as the influential independent variable had been proven by the analysis that there is a positive relationship between perceived convenience of the e-commerce and the adoption of online shopping, banking, investing and Internet (Eastin, 2002). An empirical study done by Delafrooz, Paim and Khatibi (2011) had concluded that there was a significant and positive relationship between convenience and attitude toward online shopping since online shopping is more convenient comparing to shopping in-store.

Kare-Silver (as cited in Sulaiman et al., 2008) discovered that 'convenience is at the heart of what fundamentally drives demand for the Internet'. Wolfinbarger and Gilly (2001) found that convenience is one of the most important attributes of online shopping to consumers. A research conducted by Sulaiman et al. (2008) on motivators and barriers of e-ticketing had clearly indicated that convenience serves as the second positive perception of the consumers towards e-ticketing. Simultaneously,

Alam and Yasin (2010) indicated that convenience is the factor that causes purchasing of air tickets online become more popular in Malaysia.

However, previous studies also found that convenience is not the great concern to the consumer to purchase ticket online. An empirical research conducted by Hwang, Powell-Perry and Lai (2003) in order to examine the pre-purchase behaviour of Taiwanese travellers has found that over half of the respondents ranked the convenience of ticket purchasing as either last or second last concern. Moreover, Paynter and Lim (2001) indicated that due to the business environment which is culturally different in Malaysia, convenience of time and spatial are not the main reasons motivated Malaysian consumers to shop online.

Since previous studies have different perceptions towards the relationship between convenience and consumers' intention to purchase ticket online, it is significant to examine whether convenience will significantly influence customer's intention towards adoption of e-ticketing on transportation in Malaysia.

2.2.2 Security

When a technology of e-commerce is introduced, consumers always concern whether their credit card information which has been given out will get hacked. They hardly predict that intended party would not misuse the information that they have provided. Therefore security is always controversial and significant to consumers' intention of using e-ticketing. Customers would only prefer to e-ticketing only if they were confident with the security of the payment system (Allred, Smith & Swinyard, 2006; Paynter & Lim, 2001). Kolsaker et al. (2004) examined that respondents need to be guaranteed about the safety of online transaction and some service back-up from vendors.

Park and Kim (2003) suggested that perceptions of security are significantly affected the consumers' actual purchase intention. Law and Leung (2000) indicated the significance of security for e-ticketing adoption to protect consumers by increasing safety of security information, more research study could be done on interaction of credit card security. It has shown that the relationship between security and intention of e-ticketing is significant. Salisbury, Pearson, Pearson and Miller (2001) study had shown that the higher the security, the higher the consumers' intention on purchasing products online. Other researchers have also developed safeguard model like SSL protocol, eTRON tamper-resistant chip to increase level of security and safety of trade (Khan, Takeshi, So, Bessho & Sakamura, 2009; Sun & Zhang, 2010). Customers were worried about data security and this was found to be the major reason for not purchasing tickets on websites; without security, high reluctance of customers will purchase tickets online (Shon, Chen & Chang, 2003; Sulaiman et al., 2008). However, Arshad et al. (2008) claimed that security was not that concerned by organisations and consumers as consumers were confident in security measures by organisations.

Since security is always a great concern and has a great influence on the consumers' intention of purchasing tickets online based on the past studies, this variable is adopted to examine the relationship between security and consumers' intention towards adoption of e-ticketing on transportation.

2.2.3 Perceived Usefulness

Davis (1989) and Davis et al. (1989) identified perceived usefulness as a fundamental construct to determine the behavioural intention of users and mentioned that the functions of an application it performs for users drive them to adopt. Davis (1989) concluded in his study that perceived usefulness has a high correlation with user acceptance of information technology. Previous research on Internet banking (Wang, Wang, Lin &

Tang, 2003) had found perceived usefulness a significant derivation of users' intention on using Internet banking system. Lee et al. (2003) mentioned that there were 74 related studies showed the strongly significant relationship between perceived usefulness and behavioural intention. Nonetheless, Wan and Che (2004) identified that perceived usefulness is not a significant factor influencing intention to use e-ticketing system as some people do not concern much since holding the belief in usefulness of innovation or the reason of non e-ticketing users' uncertainty to e-ticketing usefulness. In addition, Bigné, Sanz, Ruiz and Aldás (2010) stated in their findings that perceived usefulness has no direct relationship with the intention to purchase air tickets online.

In the previous researches conducted, perceived usefulness has been constantly proven as a significant factor of behavioural intention (Davis, 1991; Venkatesh & Davis, 2000). A review of relevant studies has shown the perceived usefulness as the influential determinant of the behaviour on adopting technology (Davis, 1989; Davis et al., 1989; Szajna, 1996). According to the study of Curran and Meuter (2005), perceived usefulness is found to be a vital predictor of attitude for the self-service technologies adoption. Delafrooz et al. (2011) claimed that perceived usefulness is one of the areas in which online traders should emphasize on to improve customers' attitude towards online shopping.

Perceived usefulness, as one of the variables in TAM, is widely used by researchers in conducting studies and has proven its importance on determining behavioural intention of consumers. Thus, perceived usefulness is adopted as one of the independent variables that would likely to affect the consumers' intention.

2.2.4 Perceived Ease of Use

Davis (1989) and Davis et al. (1989) recognized the perceived ease of use as one of the users' intention of acceptance using online services system. Perceived ease of use is defined as how the standard to which the prospective consumer anticipates in the online purchases would be free of external and internal effort (Koufaris & Hampton-Sosa, 2002). According to Barnes and Vidgen (2006), the online system operationalized the construct 'usability' as a clear and understandable website will be easy for customer to use. It should have easy searching capability for immediately leading users to their required information in the complex structure of the Website (Huizingh, 2000).

Perceived ease of use is identified having a significant influence on consumer intention as the easier the usage of website an Internet user perceives, the greater the trust in the website's honesty, thus resulting in higher consumer intention (Bigné et al.,2010; Kim, Kim & Shin, 2009; Li & Huang, 2009; Moon & Kim, 2001). Empirical study done by Yi and Hwang (2003) also found that ease of use had a significant effect on behavioural intention. Nevertheless, the study of Ayo, Adewoye and Oni (2011) concluded that perceived ease of use has negative significant effect on intention to purchase.

The Ernst and Young (2001) reported that Internet users purchased online with the reason of ease of use. The ease of use has a vital influence on a consumer's shopping channel preference and satisfaction (Devaraj, Fan & Kohli, 2002). There was a greater demand for a website that was no difficulty to find, use and navigate within (Arshad et al., 2008). Perceived ease of use permits consumers to easily understand and digest the information before they need to make a sensible choice. Conducting a purchases activity through using the Internet can save time and effort. Moreover, the ease of using the system can improve efficiency and after

all increase user satisfaction. Therefore, perceive ease of use plays an important role in influencing consumer intention online purchase action.

2.2.5 Perceived Risk

Perceived risk is a fundamental concept in consumer behaviour which implies that consumers experience on pre-purchase uncertainty as to the type and degree of expected loss resulting from purchasing and use of a product (Cunningham, Gerlach, Harper & Young, 2004). Perceived risk caused consumers uncertainty due to high level risks existing with online shopping in the virtual world (Boksberger, Bieger & Laesser, 2007; Martin & Camarero, 2008).

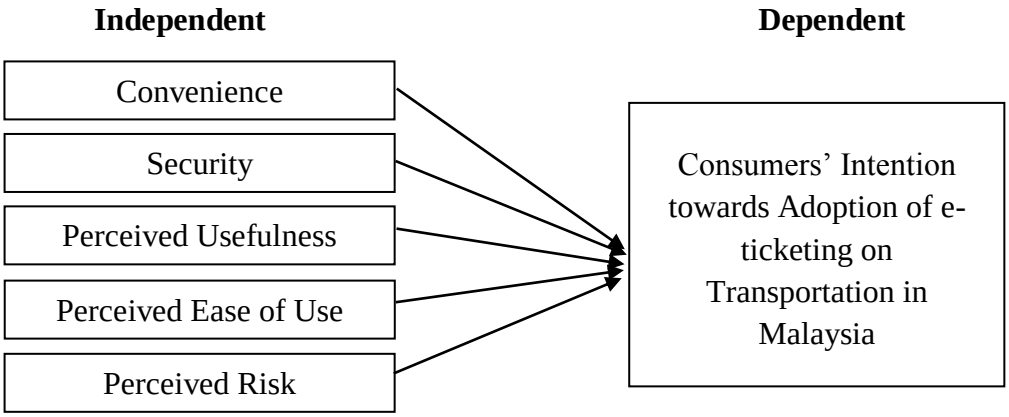
Samadi and Yaghoob-Nejadi (2009) has justified that the greater the perceived risk of online buying, the lower the future purchasing intention via the Internet. Bigné, et al. (2010) claimed that perceived risk has a negative impact on the consumers attitude towards airlines tickets online shopping because of non-shoppers' worries that there will be a theft of embezzler when using credit card as the payment method and it concerns with transaction privacy and confidentiality. Moreover, Samadi and Yaghoob-Nejadi (2009) indicated that there have a few of the researchers have successfully proved that purchase intention is negatively associated with perceived risk when online purchase.

However, Kanungo and Jain (2004) study showed that there is an insignificant negative impact of perceived risk on the intention to purchase over Internet because perceived usefulness acts as a mediator effect between the perceived risk and perceived intention. When perceived risk is high, consumers will become more risk adverse. Thus, perceived risk was insignificantly negatively correlated impulsive buying intention (Lee & Yi, 2008).

Perceived risk is broadly known as important determinants of consumer behaviour and act as important predictors of impulsive buying (Lee & Yi, 2008). Bigné et al. (2010) found that risk, trust and perceived behaviour control will affect the intention of consumers. In addition, previous researches done by Chen (2006) and Kamarulzaman (2007) have found risk perception to be an important component when adopting Internet tourism service. Thus, with TAM as the theoretical foundation, perceived risk should also be considered to give a well explanation on the consumers' intention to use online services.

2.3 Proposed Conceptual Framework/ Research Model

Figure 2.2: Conceptual Framework of Key Determinants and Consumers' Intention towards Adoption of e-ticketing on Transportation in Malaysia



Adapted from: Davis (1989); Forsythe and Shi (2003); Sulaiman et al. (2008).

2.4 Hypothesis Development

There are five key determinants selected as the independent variables, which include convenience, security, perceived usefulness, perceived ease of use and perceived risk. To test whether there is a relationship between dependent and independent variables, the hypotheses are:

H_1: There is a positive relationship between convenience and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

H_2: There is a positive relationship between security and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

H_3: There is a positive relationship between perceived usefulness and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

H_4: There is a positive relationship between perceived ease of use and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

H_5: There is a negative relationship between perceived risk and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

2.5 Conclusion

Articles which related to this study are reviewed and TAM model is adopted. This model is further developed into the proposed conceptual framework and is used to construct the hypotheses. The following chapter is an overview of research methodology of describing how the research will be conducted.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

Chapter 3, as an introductory chapter for research methodology, provides description of the method used to collect and analyse the data in order to go with the research objectives and research questions. This chapter contains research design, data collection method, sampling design which embraces of target population, sampling frame and location, sampling elements, sampling technique and sampling size, data collection method, variables and measurement, data analysis technique, data processing, pilot test and lastly the conclusion.

3.1 Research Design

This research is a descriptive research to identify the influence of determinants which included convenience, security, perceived usefulness, perceived ease of use and perceived risk on consumers' intention towards adoption of e-ticketing in Malaysia.

This study is a quantitative research as data is collected through questionnaire survey and is created using numerical data for data analysis.

3.2 Population, Sample and Sampling Procedures

3.2.1 Target Population

Owing to the purpose of this study is to analyse the determinants influencing the customers' intention towards adoption of e-ticketing on transportation in Malaysia, the target population for this research is focus on those who have purchasing ability, over 18 years of age in Malaysia.

3.2.2 Sampling Frame and Sampling Location

Sampling frame is representation of the elements of the target population which consists of a list or set of directions for identifying the target population (Malhotra & Peterson, 2006). It would not be adopted in this study due to the use of non-probability sampling technique.

According to the Population and Housing Census Malaysia 2010 by Department of Statistics (2010), the total population of Malaysia was 28.3 million. Population distributed by states indicated that Selangor was the most populous state (5.46 million), followed by Johor (3.35 million), Sabah (3.21 million), Sarawak (2.47 million) and Perak (2.35 million). The population share of these states to the population of Malaysia was 59.5 %.

Thus, the survey was conducted in Selangor, Johor, Sabah, Sarawak and Perak which represent more than half of the population in Malaysia. Furthermore, Perak, Johor and Selangor were chosen as those states represent the main state in North, Middle and South regions of the Peninsular Malaysia whereas Sabah and Sarawak represent the whole East Malaysia. In addition, those cities are convenient to gather data.

3.2.3 Sampling Elements

For this research, the unit of analysis of the research was restricted to those who have purchasing ability. Thus, the targeted respondents were students who had incentives from parents, above 18 years old and working adults who have stable incomes, age between 18 to 55 years old. Students are included in this study because they are upcoming generation and highly dependent on Internet especially for online shopping. While working adults with stable income enable them to have purchasing ability through Internet.

3.2.4 Sampling Technique

The sampling technique that applied in this research study is non-probability sampling technique due to inability to obtain sample frame and non-probability sampling technique is cheaper and faster than probability sampling technique in terms of capital and commodity.

In this research study, the types of non-probability sampling technique that being adopted are convenience sampling and snowball sampling where all the targeted respondents have been acquired most conveniently or being distributed the survey questionnaire on a friend-to-friend basis. Convenience sampling is chosen because it has the advantages of cost-efficient and least time consuming and most convenient if compare with other sampling techniques whereas snowball sampling is chosen because it can estimate rare characteristic.

3.2.5 Sample Size

According to Malhotra and Peterson (2006), the bigger the sample size, the more accurate the data generated but the sample size is different in various

situations. Thus, due to time and other resources constraints, a sample size of 300 is used in this research. This sample size is determined by reference to the rules of thumb for determining the sample size which was proposed by Roscoe (1975). The rules identify that sample size between 30 and 500 is appropriate for most research.

3.3 Data Collection Method

In this research, primary data was obtained by self-administered questionnaire survey method which was conducted in Selangor, Johor, Sabah, Sarawak and Perak. This method is adopted because it is more accurate, easier and reliable and the results would directly reflect the consumers' true behaviour.

Delivery and collection method is used to target a higher response rate. The questionnaire is distributed to targeted respondents either through personal face to face contact or through online survey.

A pilot test was conducted of 30 samples among students to investigate validity and reliability of the questionnaires before the questionnaires distributed to public.

3.4 Variables and Measurement

3.4.1 Nominal Scale

Nominal scale is used in the part A of demographic profile in this study's questionnaire which included gender and living states. The components are grouped accordingly and are assigned numbers for easy understanding and convenient category labels with no intrinsic value, apart from assigning one of two non-overlapping or mutually exclusive categories. In addition,

this scale is also applied in the part B of general information which concerns the general questions of adopting Internet and e-ticketing.

3.4.2 Ordinal Scale

Ordinal scale is used in the survey to categorise the respondents' age in the range of 18 to 55 years old, to measure the variables of level of difference. Subsequently, ordinal scale is also used to collect the information about the occupation, income level and education level of the target respondents which are under part A of demographic profile.

3.4.3 Interval Scale

Interval scale of measurement is used with 5-Likert Scale to measure five of the independent variables which are convenience, security, perceived usefulness, perceived ease of use and perceived risk impact on consumer adopting e-ticketing. This scale collects information based on the target respondents measurement about the level of agreement or disagreement on the constructed statements in the range of one (1) strongly disagree, two (2) disagree, three (3) neutral, four (4) agree to five (5) strongly agree in each series of the statement.

3.5 Data Analysis Techniques

The data was collected from the survey conducted through questionnaire, and this research used Statistical Package for the Social Science (SPSS) techniques software of version 16.0 in the process of data transforming.

3.5.1 Descriptive Analysis

Descriptive analysis is used to describe and explain the information of sample collected and summarizes a given data set, which can either be a representation of the entire population or a sample. The measures used to describe the data set are measures of central tendency and measures of variability or dispersion. In this research, descriptive analysis is used in part A of demographic profile and part B of general information.

3.5.1.1 Frequency Distribution

Frequency distribution is used for obtaining a count of the number of responses associated with different values of one variable and to express these count into percentage terms. Frequency distribution is used to analyse respondents' demographical profile in part A such as gender, age, living states, occupation, income level and education level as well as general information in part B. For an example, frequency distribution of a monthly income in a population shows how many individual has the income of certain level. The mean and average are measures of central tendency which are used to analyse data collected in the part C of the questionnaire.

3.5.2 Scale Measurement

Scale measurement is used mainly to verify quality of the data collected and this can be determined by the reliability level of the data.

3.5.2.1 Normality Test

Normality test is used for testing whether the input data or variables are normally distributed. This research's sample size is 290 thus Kolmogorov-Smirnov test is used to analyse the data. Other than that, histogram and normal probability plot (P-P plot) are used to justify whether the data is normally distributed. If the data inspected are normal distribution, the histogram should be represented by a bell-shaped curve while P-P plot should produce a straight line.

In general, significant value from the Kolmogorov-Smirnov tests:
Sig. value ≤ 0.05: data is not normally distributed
Sig. value > 0.05: data is normally distributed

3.5.2.2 Reliability Test

Reliability test is used to determine the stability and consistency with which the research instrument measures the constructs (Malhorta & Peterson, 2006). For this research, reliability test is carried out to verify whether the items in the questionnaire are related to each other. Cronbach's Alpha reliability test is used by averaging the coefficient varies from 0 to 1. The following table shows the level of reliability:

Table 3.1: Rules of Thumb about Cronbach's Alpha Coefficient Size

Alpha Coefficient Range	Strength of Association
<0.6	Poor
0.6 to <0.7	Moderate
0.7 to <0.8	Good
0.8 to <0.9	Very Good
0.9	Excellent

Adapted from: Hair, J. F., Money, A. H., Samouel, P. & Page, M. (2007). *Research Methods for Business* (2nd Ed.). Chichester, West Sussex, UK: John Wiley & Sons Ltd.

3.5.3 Inferential Analysis

Inferential analysis is an analysis of a set of data to test a specific assumption. Correlation indicated was used for the inferential analysis of this research to investigate the relationship between convenience, security, perceived usefulness, perceived ease of use, and perceived risk and consumers' intention on adopting e-ticketing.

3.5.3.1 Pearson's Correlation Analysis

Pearson's correlation analysis is used to indicate the strength and direction of relationship between two variables. In this study, this analysis is chosen to measure the co-variation between the five independent variables and consumers' intention towards adoption of e-ticketing.

The coefficient (r) indicates both the magnitude of the linear relationship and the direction of the relationship. The correlation coefficient ranges from +1.0 indicated perfect positive relationships to -1.0 which indicates perfect negative relationships while value of 0 shows no linear relationship.

Correlation coefficient value range from 0.10 to 0.29 is deemed to be weak, from 0.30 to 0.49 is regarded as medium and from 0.50 to 1.0 is believed to be strong (Cohen, 1988). Nevertheless, to avoid multicollinearity problem among independent variables, this value should not go further than 0.9 (Hair et al., 2007).

3.5.3.2 Multiple Linear Regressions

Multiple linear regression (MLR) attempts to investigate the relationship between two or more independent variables and a dependent variable by fitting a linear equation to observed data (Malhorta & Peterson, 2006). In this study, multiple regression equation is used to answer certain basic equation between dependent variable of consumers' intention adopting e-ticketing and independent variables including convenience, security, perceived usefulness, perceived ease of use and perceived risk on whether the relationship exists; how strong is the relationship; and whether the relationship is positively or negatively skewed.

To examine the relationship between the variables, it will be estimated by the following equation,

$$\mathbf{ITAE = \alpha + \beta_1 C + \beta_2 S + \beta_3 PU + \beta_4 PEOU + \beta_5 PR}$$

Whereby,
ITAE = Intention towards adopting e-ticketing
C = Convenience
S = Security
PU = Perceived usefulness
PEOU = Perceived ease of use
PR = Perceived risk
α = Constant Coefficient
$\beta_1 \ldots \beta_5$ = Regression Coefficient for C, S, PU, PEOU & PR

3.6 Data Processing

There are numerous steps have to be taken before the data is being analysed, which are questionnaire checking, data editing, data coding, and data transcription.

3.6.1 Questionnaire Checking

The initial step of data preparation process is checking questionnaire. It involves checking acceptable questionnaire for completeness and interviewing quality. The pilot test had been conducted before the large amount of questionnaires are distributed to respondents to reduce the risk of potential problems like question content, wording, sequence, form and layout, question difficulty, and instruction misunderstanding. Therefore, problems can be detected and corrective action can be taken before the surveys have been completed. In this research study, the initial set of questionnaire has been edited after receiving the feedback from pilot test.

3.6.2 Data Editing

Data editing is being implemented to review the questionnaire to increase accuracy and precision of the research. It consists of screening the questionnaires to identify illegible, incomplete, and inconsistent or the ambiguous responses. In this study, all the incomplete data from collected questionnaires and online survey were being excluded for the data analysis.

3.6.3 Data Coding

As mentioned, the study conducted is a quantitative research. Thus, the data was being coded into numerical forms to simplify the data entry

process. For instance, gender of respondents, male was coded as "1" and female was coded as "2". Meanwhile, in section C, all the answers were coded '1' for 'Strongly Disagree', '2' for 'Disagree', '3' for ' Neutral', '4' for ' Agree' and '5' for ' Strongly Agree'. The advantage of coding was the simplistic storage of data with a few-digit code and easier to categorize comparing to lengthy alphabetical descriptions.

3.6.4 Data Transcription

All the data collected were keyed into the data analysis software, Statistic Package for Social Science (SPSS) version 16.0 in order to obtain desired result. Information of relevant variables is inserted into the "variable view". These included the variable name, data type, measurement scale, decimals and others. When entering data into "data view" of SPSS, data are arranged and categorized into different rows and columns respectively following the variables assigned. Instead, the data entering process have been carried out with due care in order to achieve the accuracy and completeness of data by minimising the avoidable human errors.

3.7 Pilot Test

Table 3.2: Cronbach's Alpha Coefficient for Pilot Test Survey (Each Industry)

Reliability Statistics

Constructs	Airline		Railway		Bus	
	Cronbach's Alpha	N of items	Cronbach's Alpha	N of items	Cronbach's Alpha	N of items
Convenience	0.746	4	0.805	4	0.843	4
Security	0.839	5	0.824	5	0.859	5
Perceived Usefulness	0.808	5	0.852	5	0.888	5
Perceived Ease of Use	0.883	5	0.843	5	0.814	5
Perceived Risk	0.718	5	0.762	5	0.758	5
Customer Intention	0.881	3	0.946	3	0.957	3

Table 3.3: Cronbach's Alpha Coefficient for Pilot Test Survey (Transportation)

Constructs	Cronbach's Alpha	N of items
Convenience	0.899	12
Security	0.802	15
Perceived Usefulness	0.882	15
Perceived Ease of Use	0.865	15
Perceived Risk	0.834	15
Customer Intention	0.839	9

Source: Developed for the research.

Table 3.2 and 3.3 show the results of Cronbach's Alpha for the items in the pilot test of 30 samples. All the value of Cronbach's Alpha for each item satisfied the requirement of having Cronbach's Alpha value of 0.6 or above, implying that the questions used in the survey are reliable.

3.8 Conclusion

As a conclusion, this chapter was illustrated all the processes done in this research. Once the questionnaires had been collected, all useful data were entered into SPSS software accurately and completely. The normality and reliability tests are first necessary to be tested to ensure that the data is normally distributed and highly reliable. Subsequently, the information will undergo several tests such as Pearson's Correlation and Multiple Linear Regression to examine whether the variables supports the hypotheses stated in chapter 2. The following chapter shows the results of the statistical test which had been conducted and discussion on the variation of results.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

Chapter 4 demonstrates the results of the research by using the research methodology which was discussed in the previous chapter. Data collected from questionnaires were analysed using SPSS Version 16.0. After filtering, there are total 290 questionnaires were completed and analysed for this research.

Descriptive analysis is used to describe the results on the Demographic profile (Section A) and General Information (Section B). Independent variable (Section C) will be analysed using Kolmogorov-Smirnov test, Pearson's Correlation Analysis and Multiple Linear Regression.

4.1 Descriptive Analysis

4.1.1 Demographic Profile of the Respondents

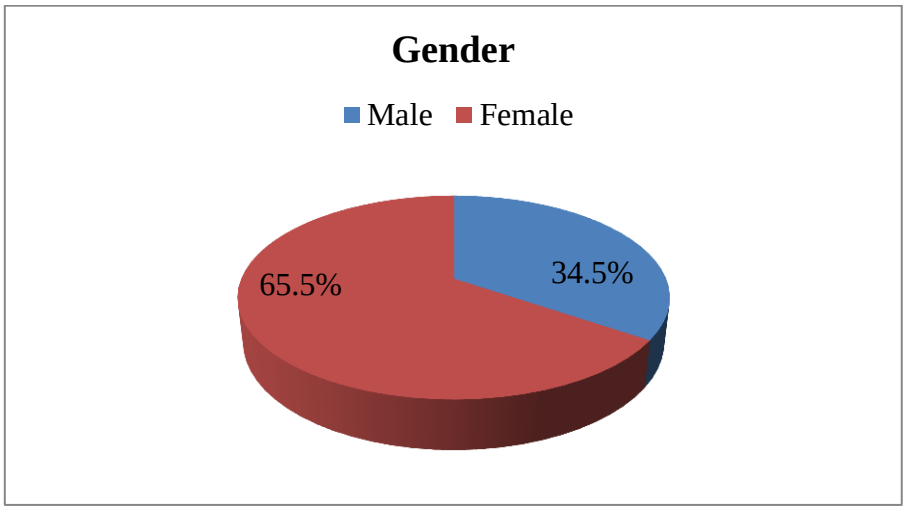
This section describes the respondents' profile which consists of gender, age, occupation, income level, education and current living states. The 290 complete and valid questionnaires were used for the quantitative analysis.

4.1.1.1 Gender

Table 4.1: Frequency Table for Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	100	34.5	34.5	34.5
	Female	190	65.5	65.5	100.0
	Total	290	100.0	100.0	

Figure 4.1: Percentage of Respondents Based on Gender



Source: Developed for the research.

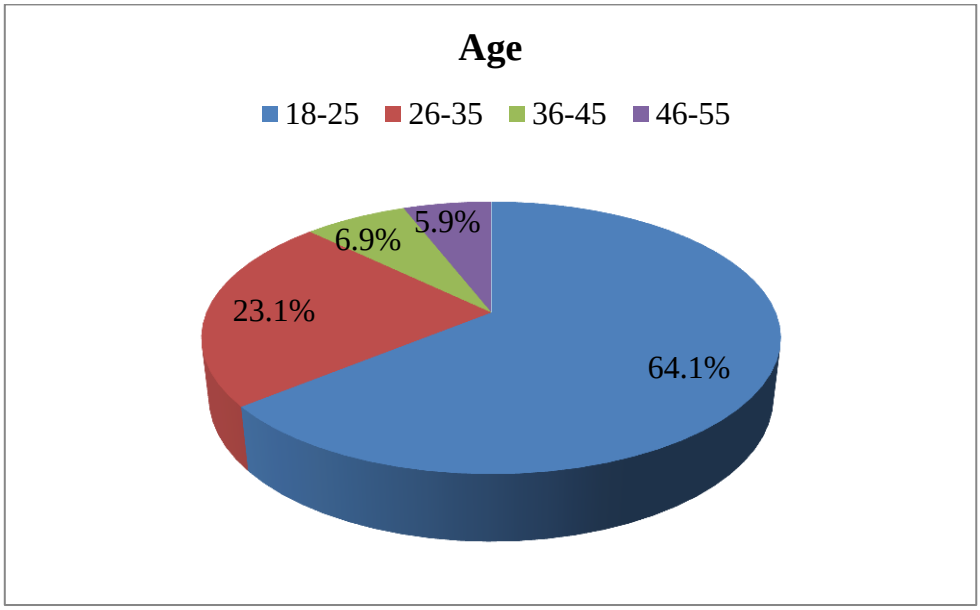
According to table 4.1, female respondents are more than male respondents. For males, there were 100 which consist of 34.5% and the females were 190 which consist of 65.5 %.

4.1.1.2 Age

Table 4.2: Frequency Table for Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	186	64.1	64.1	64.1
	26-35	67	23.1	23.1	87.2
	36-45	20	6.9	6.9	94.1
	46-55	17	5.9	5.9	100.0
	Total	290	100.0	100.0	

Figure 4.2: Percentage of Respondents Based on Age



Source: Developed for the research.

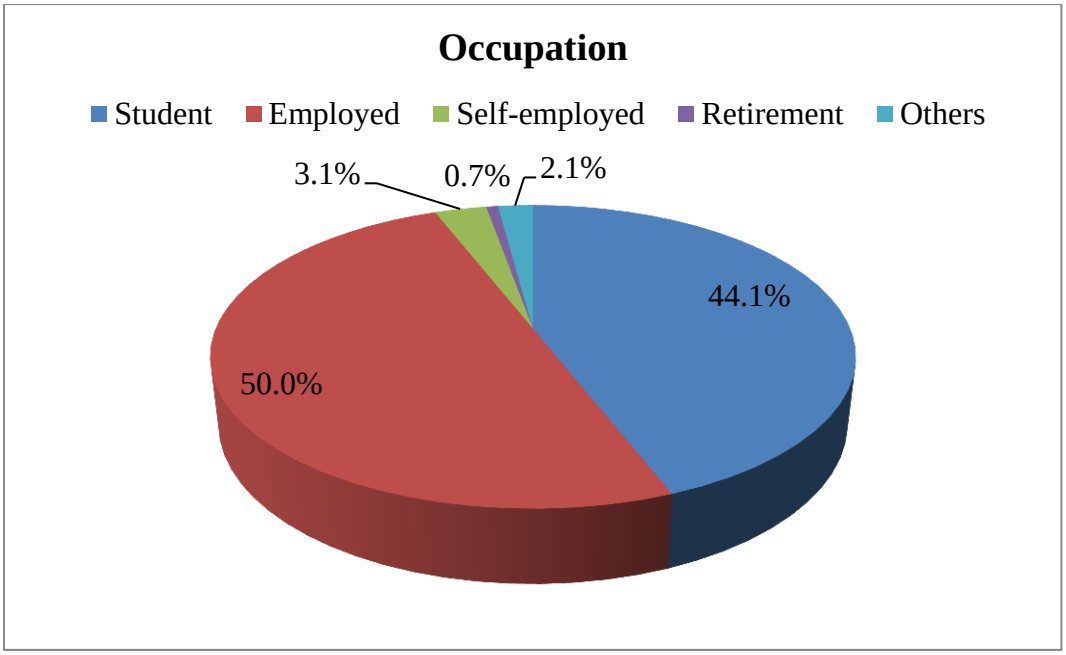
The pie chart has shown the frequency of the respondents' age group. Majority of the respondents falls into the age group of 18 to 25 years old which is 186 (64.1%), followed by the age group of 26 to 35 years old which is 68 (23.1%). Meanwhile, 19 (6.9%) of the respondents are between 36 to 45 years old. Only 17 (5.9%) of the respondents are 46 to 55 years old.

4.1.1.3 Occupation

Table 4.3 Frequency Table for Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	128	44.1	44.1	44.1
	Employed	145	50.0	50.0	94.1
	Self-employed	9	3.1	3.1	97.2
	Retirement	2	0.7	0.7	97.9
	Others	6	2.1	2.1	100.0
	Total	290	100.0	100.0	

Figure 4.3: Percentage of Respondents Based on Occupation



Source: Developed for the research.

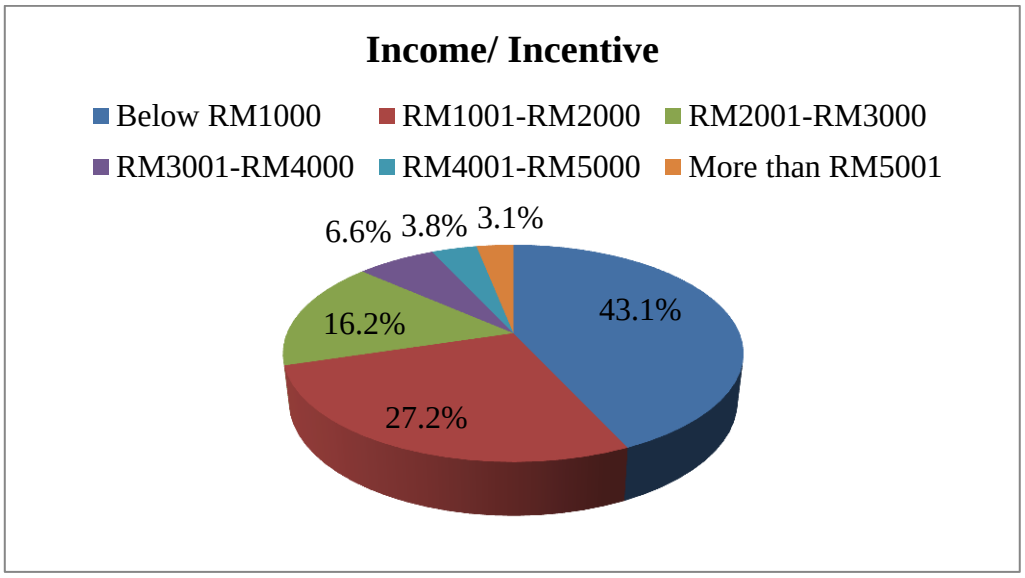
Majority of the respondents are employed workers which consist of 50.0%. A total of 44.1% of respondents are students. Meanwhile, self-employed consists of 3.1%. Other occupation such as freelancer, politician and unemployed consists of 2.1%. The least respondents are retirement which consists of 0.7%.

4.1.1.4 Income/ Incentives

Table 4.4: Frequency Table for Income/ Incentives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below RM1,000	125	43.1	43.1	43.1
	RM1,001 - RM2,000	79	27.2	27.2	70.3
	RM2,001 - RM3,000	47	16.2	16.2	86.6
	RM3,001 - RM4,000	19	6.6	6.6	93.1
	RM4,001 - RM5,000	11	3.8	3.8	96.9
	More than RM5,001	9	3.1	3.1	100.0
	Total	290	100.0	100.0	

Figure 4.4: Percentage of Respondents Based on Income/ Incentive



Source: Developed for the research.

The income/ incentive for the majority of 125 (43.1%) respondents falls into the category of below RM1,000, 80 (27.2%) respondents earn between RM1,001 to RM2,000, while 46 (16.2%) respondents are having RM2,001 to RM3,000 monthly income level. The 19 (6.6%) respondents fall into the category of RM3,001 to RM4,000 whereas 11(3.8%)

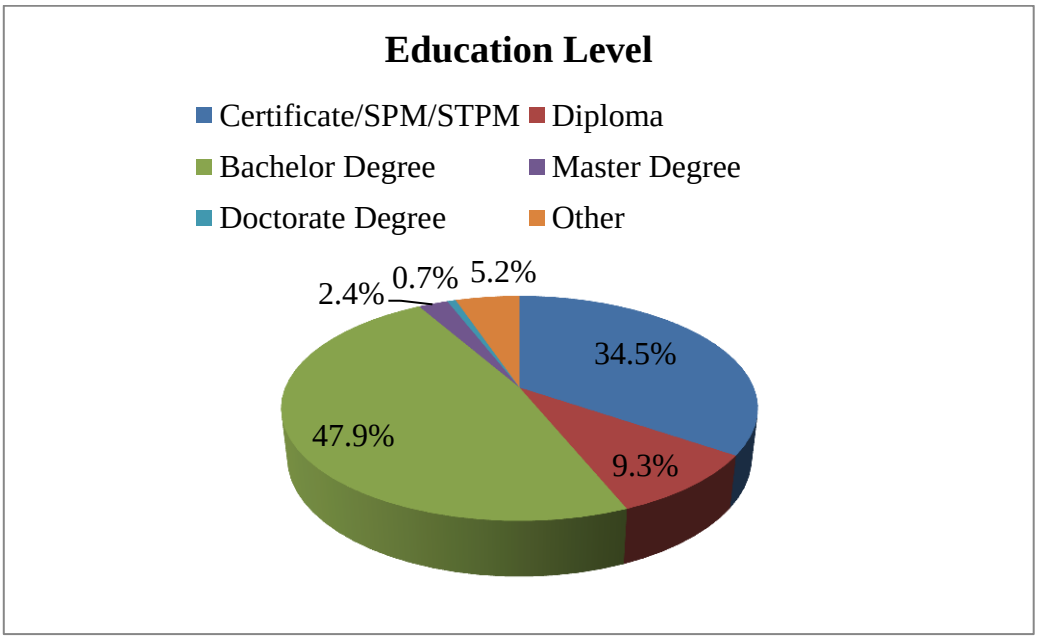
respondents earn RM4,001 to RM5,000 and 9 (3.1%) respondents receive more than RM5,000.

4.1.1.5 Education

Table 4.5: Frequency Table for Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Certificate/SPM/STPM	100	34.5	34.5	34.5
	Diploma	27	9.3	9.3	43.8
	Bachelor Degree	139	47.9	47.9	91.7
	Master Degree	7	2.4	2.4	94.1
	Doctorate Degree	2	0.7	0.7	94.8
	Other	15	5.2	5.2	100.0
	Total	290	100.0	100.0	

Figure 4.5: Percentage of Respondents Based on Education Level



Source: Developed for the research.

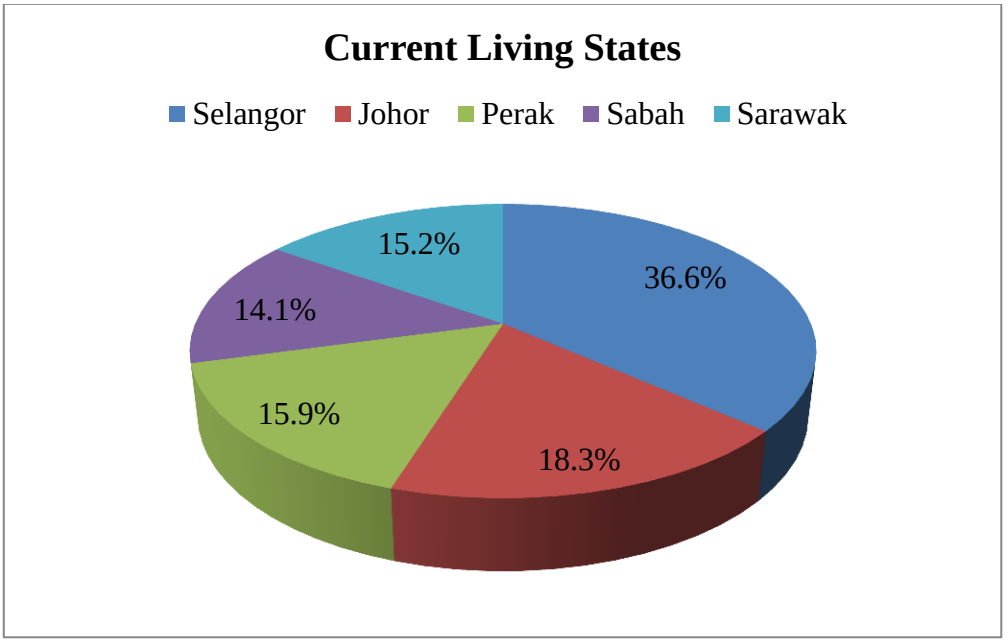
Majority of the respondents' education level are bachelor degree (47.9%), followed by certificate SPM /STPM (34.5%). Total 9.3% of the respondents completed their diploma level while other such as UPSR, UEC and professional certificate which consists of 5.2%. Master degree comprises 2.4% and doctorate degree consists of 0.7%.

4.1.1.6 Current Living States

Table 4.6: Frequency Table for Current Living States

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selangor	106	36.6	36.6	36.6
	Johor	53	18.3	18.3	54.8
	Perak	46	15.9	15.9	70.7
	Sabah	41	14.1	14.1	84.8
	Sarawak	44	15.2	15.2	100.0
	Total	290	100.0	100.0	

Figure 4.6: Percentage of Respondents Based on Current Living States



Source: Developed for the research.

From the population distributed by states indicates that most of the respondents come from Selangor, which hold 36.6%. The following respondents are from Johor which consist of 18.3% while Perak, represents the main state in North consists of 15.9%. Sabah and Sarawak represent the whole East Malaysia hold 14.1% and 15.2% respectively.

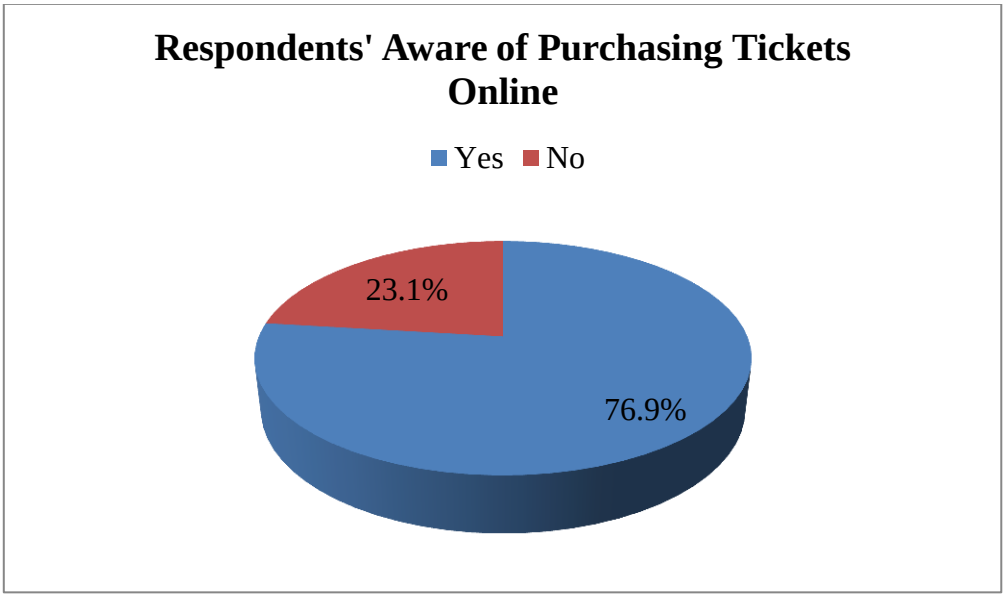
4.1.2 General Information

4.1.2.1 Respondents' Aware of Purchasing Ticket Online

Table 4.7: Frequency Table for Respondents' Aware of Purchasing Tickets Online

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	223	76.9	76.9	76.9
	No	67	23.1	23.1	100.0
	Total	290	100.0	100.0	

Figure 4.7: Percentage of Respondents' Aware of Purchasing Tickets Online



Source: Developed for the research.

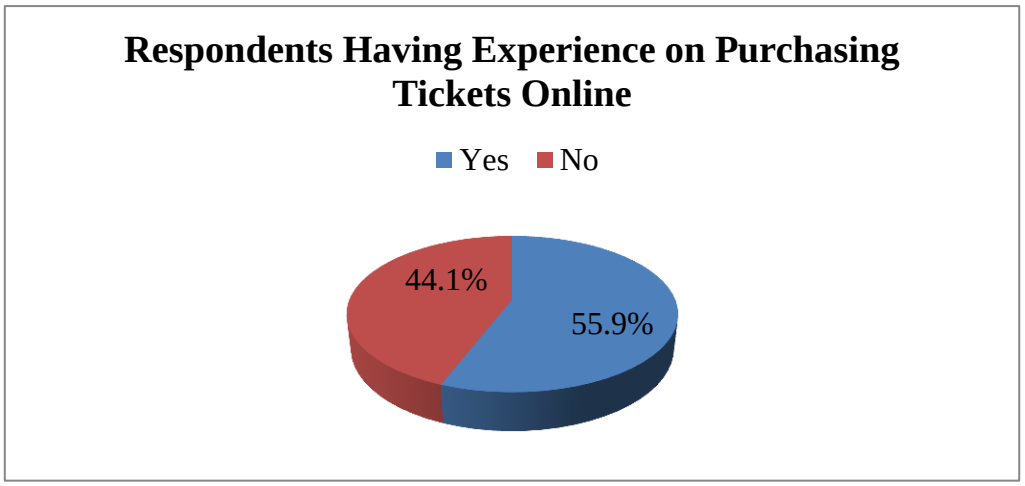
Among 290 questionnaires received, 223 questionnaires showed that the respondents do well aware of the purchase of tickets online. In opposite, the remaining 67 respondents do not have the conscious about they can purchase tickets online.

4.1.2.2 Respondents Having Experience on Purchasing Ticket Online

Table 4.8: Frequency Table for Respondents Having Experience on Purchasing Tickets Online

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	162	55.9	55.9	55.9
	No	128	44.1	44.1	100.0
	Total	290	100.0	100.0	

Figure 4.8: Percentage of Respondents Having Experience on Purchasing Tickets Online

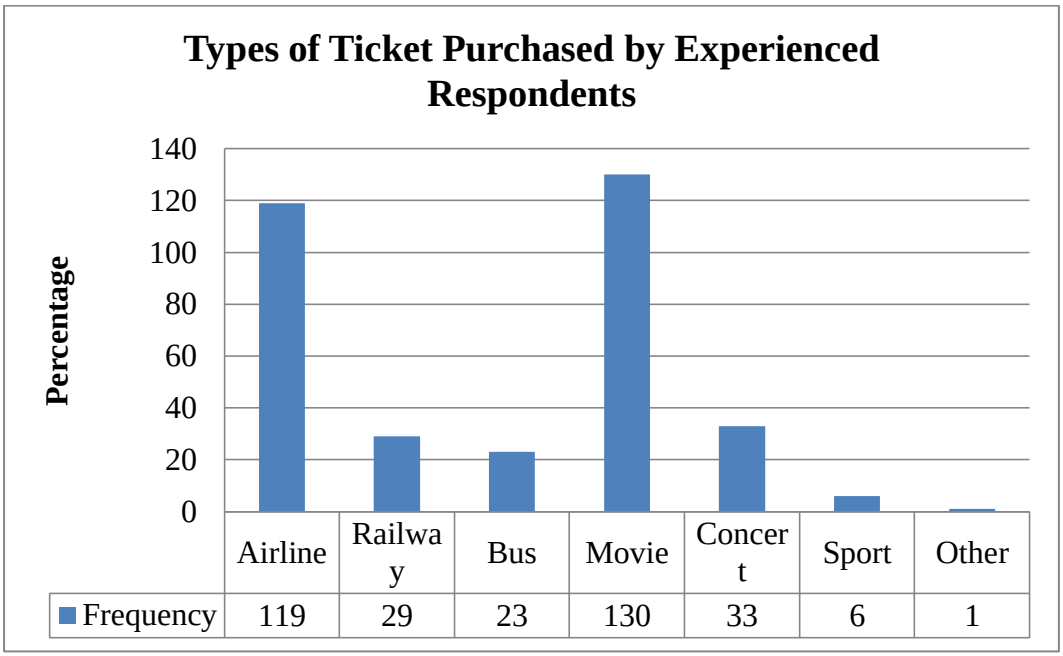


Source: Developed for the research.

The pie chart illustrates that 55.9% of respondents have experience on purchasing tickets through Internet. The remaining 44.1% of respondents have no any experience.

4.1.2.3 Types of Ticket Purchased by Experienced Respondents

Figure 4.9: Types of Ticket Purchased by Experienced Respondents



Source: Developed for the research.

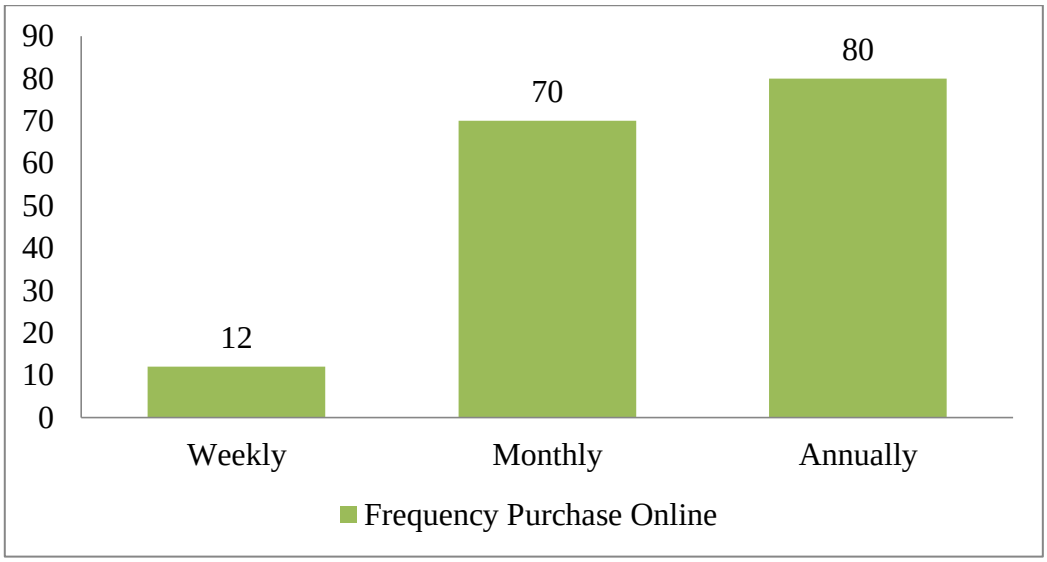
Various types of online tickets had been purchased by the 162 out of 290 respondents, 119 (73.5%) respondents have experience on purchase of airline tickets, 29 (17.9%) on railway tickets, 23 (14.2%) on bus tickets, 130 (80.2%) on movie tickets, 33 (20.4%) on concert tickets and 6 (3.7%) on sport tickets while others such as coupons comprises 1 (0.6%) only.

4.1.2.4 Frequency of Respondents Purchase Ticket Online

Table 4.9: Frequency of Respondents Purchase Ticket Online

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weekly	12	7.4	7.4	7.4
	Monthly	70	43.2	43.2	50.6
	Annually	80	49.4	49.4	100.0
	Total	162	100.0	100.0	

Figure 4.10: Bar Chart for Respondents Purchase Ticket Online



Source: Developed for the research.

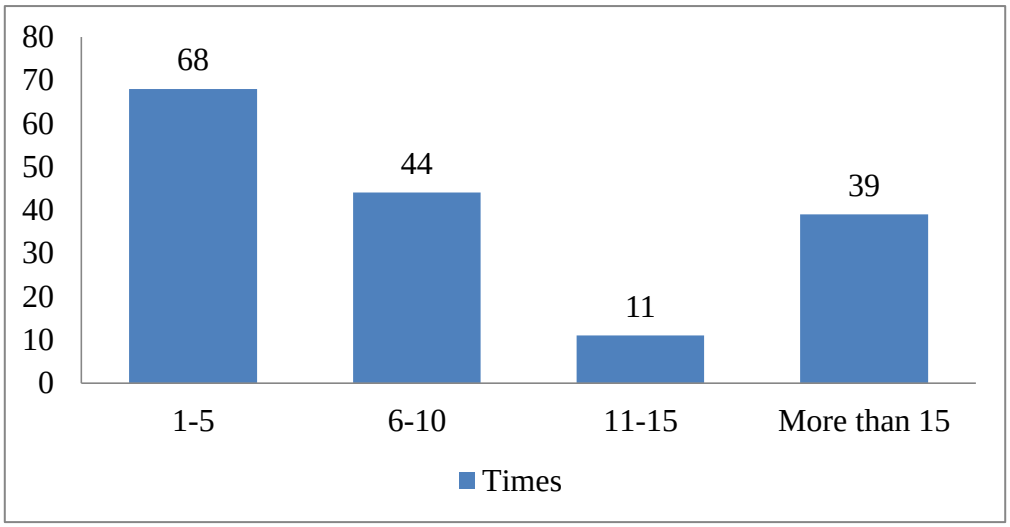
The research categories the frequencies of respondents purchase tickets online. The bar chart showed that there are only 12 respondents purchase tickets weekly, 70 respondents purchase monthly and 80 respondents purchase e-ticket annually.

4.1.2.5 Times of Purchase Ticket Online

Table 4.10:Times of Purchase Ticket Online

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5	68	42.0	42.0	42.0
	6-10	44	27.2	27.2	69.1
	11-15	11	6.8	6.8	75.9
	more than 15	39	24.1	24.1	100.0
	Total	162	100.0	100.0	

Figure 4.11: Bar Chart for Times of Purchase Ticket Online

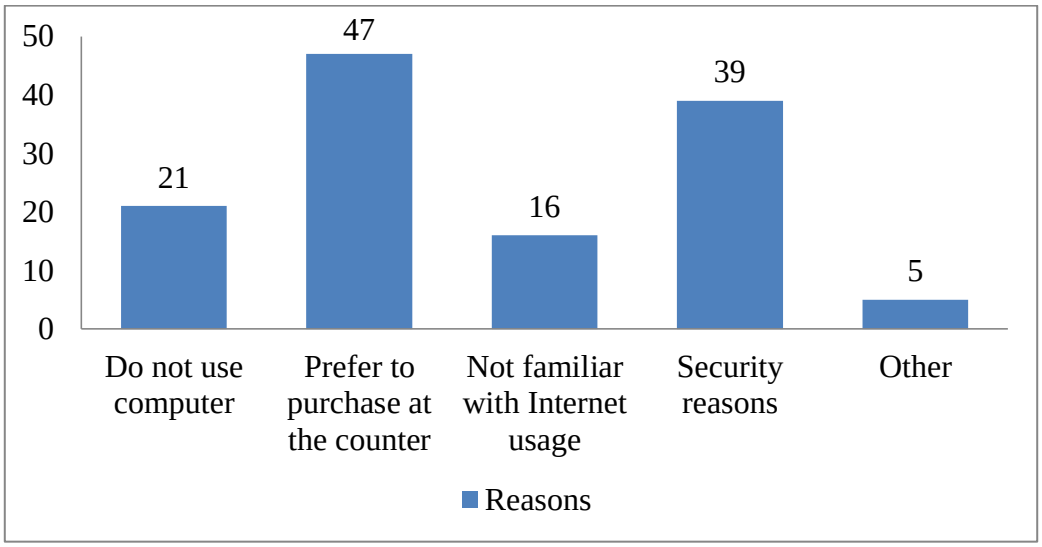


Source: Developed for the research.

The bar chart had shown that 68 respondents (42.0%) had purchased ticket online 1 to 5 times, 44 respondents (27.2%) purchased 6 to 10 times, 11 respondents (6.8%) purchased 11 to 15 times while 39 respondents (24.1%) had purchased tickets online more than 15 times.

4.1.2.6 Reasons of Respondents Do Not Purchase Ticket Online

Figure 4.12: Reasons of Respondents Do Not Purchase Ticket Online



Source: Developed for the research.

From the 290 questionnaires received, there are 128 respondents do not have any experience on purchase ticket online. The reasons included 21 (16.4%) of them do not use computer, 47 (36.7%) prefer to purchase at the counter, 16 (12.5%) are not familiar with Internet usage, 39 (30.5%) for security reasons, and 5 (3.9%) of them due to other reasons such as do not own credit card.

4.1.3 Central Tendencies Measurement of Constructs

Total 290 of items with its mean value and standard deviation were obtained through the SPSS output. The tables below are showing the results by combining the results of airline, railway, and bus industry. All the constructs were tapped on 5-point Likert scale which 1 indicates "strongly disagree" and 5 indicates "strongly agree."

SD = Strongly Disagree

D = Disagree

N = Neutral

A = Agree

SA = Strong Agree

4.1.3.1 Convenience

Table 4.11 (a): Central Tendency of Convenience for Transportation

		SD	D	N	A	SA	Mean	Std. Dev.
C1	The transportation website is a convenient way of purchasing e-ticket.	5.1%	15.8%	18.0%	30.3%	30.8%	3.66	1.1898
C2	Saving time while purchasing e-ticket is important.	6.7%	14.1%	20.3%	29.1%	29.8%	3.61	1.2262
C3	I want to be able to purchase e-ticket at any time of the day.	4.1%	7.6%	23.4%	34.2%	30.8%	3.80	1.0681
C4	E-ticketing can save the effort of visiting counters.	3.2%	4.5%	18.6%	37.8%	35.9%	3.99	1.0032

Table 4.11 (b): Central Tendency of Convenience for Airline Industry

	Airline						
	SD	D	N	A	SA	Mean	Std. Dev.
C1	5.2%	12.1%	7.2%	31.7%	43.8%	3.97	1.2094
C2	8.6%	14.1%	20.0%	31.7%	25.5%	3.51	1.2512
C3	5.5%	11.7%	30.7%	29.0%	23.1%	3.52	1.1320
C4	2.1%	4.1%	16.6%	34.1%	43.1%	4.12	0.9680

Table 4.11 (c): Central Tendency of Convenience for Railway Industry

	Railway						
	SD	D	N	A	SA	Mean	Std. Dev.
C1	4.1%	19.0%	21.7%	30.7%	24.5%	3.52	1.1711
C2	6.2%	15.5%	25.5%	25.9%	26.9%	3.52	1.2165
C3	3.4%	5.2%	19.7%	36.6%	35.2%	3.95	1.0327
C4	4.1%	4.5%	22.1%	37.2%	32.1%	3.89	1.0411

Table 4.11 (d): Central Tendency of Convenience for Bus Industry

	Bus						
	SD	D	N	A	SA	Mean	Std. Dev.
C1	5.9%	16.2%	25.2%	28.6%	24.1%	3.49	1.1889
C2	5.2%	12.8%	15.5%	29.7%	36.9%	3.80	1.2110
C3	3.4%	5.9%	19.7%	36.9%	34.1%	3.92	1.0396
C4	3.4%	4.8%	17.2%	42.1%	32.4%	3.95	1.0006

Source: Developed for the research.

Table 4.11 (a) that mentioned above is relating with the independent variable of convenience, the table consists of 4 statements. The overall mean score for the statements are 3.57, 3.61, 3.80, 3.99 respectively and the standard deviation is 1.1898, 1.2262, 1.0681, 1.0032 respectively.

Looking into detail for the first statement, the highest mean score of 3.70 in airline industry ranked the top among three industries. There are more than 70% of respondents agree that the transportation website is a convenient way of purchasing e-ticket. Meanwhile, bus industry get the lowest score with mean of 3.49 compare with 3.52 from railway industry.

However, 65.6% of respondents think that saving time while purchasing e-ticket is important in bus industry with mean score 3.80, leads to the highest mean score than railway industry with mean score 3.52 and airline industry with mean score of 3.51.

The statement of "I want to be able to purchase e-ticket at any time of the day" is the most important towards railway industry with highest mean score of 3.95, following by 3.92 in bus industry and 3.52 in air industry. There are 71.8% of the respondents agree towards the statement in railway industry, followed by 71% in bus industry and only 52.1% of the respondents in airline industry agree towards the statement.

Meanwhile, airline industry got the highest mean score of 4.12 for the statement "E-ticketing can save the effort of visiting counters", there are 77.2% of the respondents agree towards the statement. Following by 3.95 in bus industry and 3.89 in railway industry, there are 74.5% and 69.3% of the respondents agree towards the statement respectively.

4.1.3.2 Security

Table 4.12 (b): Central Tendency of Security for Airline Industry

	Airline						
	SD	D	N	A	SA	Mean	Std. Dev.
S1	2.8%	11.7%	23.1%	44.5%	17.9%	3.63	0.9974
S2	5.5%	15.2%	35.5%	33.4%	10.3%	3.28	1.0229
S3	5.5%	15.5%	36.9%	29.3%	12.8%	3.28	1.0503
S4	5.2%	10.7%	28.6%	34.8%	20.7%	3.55	1.0906
S5	9.3%	17.2%	34.5%	28.6%	10.3%	3.13	1.1095

Table 4.12 (c): Central Tendency of Security for Railway Industry

	Railway						
	SD	D	N	A	SA	Mean	Std. Dev.
S1	6.2%	21.0%	38.6%	27.9%	6.2%	3.07	0.9924
S2	6.9%	17.2%	33.4%	31.0%	11.4%	3.23	1.0798
S3	7.6%	18.3%	40.3%	25.2%	8.6%	3.09	1.0385
S4	7.9%	17. %6	42.1%	21.7%	10.7%	3.10	1.0642
S5	10.3%	17.2%	29.3%	29.0%	14.1%	3.19	1.1870

Table 4.12 (d): Central Tendency of Security for Bus Industry

	Bus						
	SD	D	N	A	SA	Mean	Std. Dev.
S1	6.2%	19.7%	39.3%	25.5%	9.3%	3.12	1.0303
S2	7.9%	22.4%	35.9%	24.8%	9.0%	3.05	1.0725
S3	16.2%	24.5%	24.5%	21.4%	13.4%	2.91	1.2818
S4	15.2%	24.8%	30.7%	15.5%	13.8%	2.88	1.2461
S5	19.3%	27.2%	28.3%	15.2%	10.0%	2.69	1.2278

Source: Developed for the research.

In Appendix 4.1, table 4.12 (a) is relating with the independent variable of security, the table consists of 5 statements. The overall mean score for the statements are 3.27, 3.19, 3.09, 3.18, 3.00 respectively and the standard deviation is 1.0067, 1.0584, 1.1235, 1.1336, 1.1748 respectively.

In depth, which could be seen in table 4.12(b), airline industry got the highest mean score for first four statements, which are 3.63, 3.28, 3.28 and 3.55 respectively. Most of the respondents agree that airline website provides detailed information about security, security level would be increased if they feel secured and trust airline websites will respect their credit card information, also their privacy is protected when purchasing ticket online.

For bus industry, it got the lowest mean score for second, third, and fourth statement with 3.05, 2.91 and 2.88 respectively, which means that most of the respondents do not agree towards the statements compare with railway and airline industry.

On the other hand, railway industry got the highest mean score of 3.19 for the statement "I am not afraid that my private information will be used in an unwanted manner", following by 3.13 in airline industry and 2.69 in bus industry. This means that there are 46.5% of the respondents afraid

that their private information will be used in an unwanted manner in bus industry.

4.1.3.3 Perceived Usefulness

Table 4.13 (b): Central Tendency of Perceived Usefulness for Airline Industry

	Airline						
	SD	D	N	A	SA	Mean	Std. Dev.
PU1	1.4%	15.2%	20.3%	36.2%	26.9%	3.72	1.0627
PU2	3.1%	17.9%	26.6%	36.9%	15.5%	3.44	1.0513
PU3	3.1%	11.0%	43.3%	30.3%	12.1%	3.37	0.9408
PU4	1.7%	6.9%	19.3%	49.7%	22.4%	3.84	0.9088
PU5	3.4%	6.6%	24.1%	45.5%	20.3%	3.73	0.9728

Table 4.13 (c): Central Tendency of Perceived Usefulness for Railway Industry

	Railway						
	SD	D	N	A	SA	Mean	Std. Dev.
PU1	3.8%	15.5%	36.9%	32.8%	11.0%	3.32	0.9892
PU2	4.1%	15.9%	29.7%	38.3%	12.1%	3.38	1.0231
PU3	3.8%	13.1%	41.7%	31.0%	10.3%	3.31	0.9559
PU4	2.8%	12.1%	37.9%	31.4%	15.9%	3.46	0.9877
PU5	3.8%	6.9%	27.2%	39.7%	22.4%	3.70	1.0136

Table 4.13 (d): Central Tendency of Perceived Usefulness for Bus Industry

	Bus						
	SD	D	N	A	SA	Mean	Std. Dev.
PU1	3.4%	16.2%	36.6%	31.4%	12.4%	3.33	1.0021
PU2	2.8%	20.3%	34.5%	32.8%	9.7%	3.26	0.9809
PU3	4.1%	9.0%	24.5%	37.9%	24.5%	3.70	1.0642
PU4	2.8%	10.0%	23.4%	39.0%	24.8%	3.73	1.0307
PU5	4.1%	10.0%	22.8%	41.0%	22.1%	3.67	1.0559

Source: Developed for the research.

Table 4.13 (a) in Appendix 4.1 relates with the independent variable of perceived usefulness, the table consists of 5 statements. The mean score for the statements are 3.46, 3.36, 3.46, 3.68, 3.70 respectively and the standard deviation is 1.0180, 1.0184, 0.9870, 0.9757, 1.0141 respectively.

Explore into three industries, there are four statements which airline industry shows the notable results among three industries. It got the highest mean score of 3.72 for "I would find the transportation website useful", 3.44 for "using transportation website can improve my purchasing ticket performance", 3.84 for "purchasing transportation tickets online gives me greater control", and 3.73 for "purchasing transportation tickets online is a more effective way to make purchase" which means that there are 63.1%, 52.4%, 72.1% and 65.8% of the respondents are agree towards the statement.

While for the statement of "purchasing transportation tickets online gives me greater control", bus industry got the highest mean score of 3.70, which means that there are 62.4% of the respondents agree towards the statement if compare with 42.4% in airline industry and 41.3% in bus industry.

4.1.3.4 Perceived Ease of Use

Table 4.14 (b): Central Tendency of Perceived Ease of Use for Airline Industry

	Airline						
	SD	D	N	A	SA	Mean	Std. Dev.
PEOU1	2.4%	10.7%	12.8%	44.8%	29.3%	3.88	1.0269
PEOU2	2.1%	6.2%	19.0%	49.7%	23.1%	3.86	0.9149
PEOU3	2.1%	4.8%	25.5%	51.0%	16.6%	3.75	0.8608
PEOU4	1.4%	6.9%	25.9%	47.6%	18.3%	3.75	0.8826
PEOU5	2.8%	12.1%	28.3%	41.0%	15.9%	3.55	0.9873

Table 4.14 (c): Central Tendency of Perceived Ease of Use for Railway Industry

	Railway						
	SD	D	N	A	SA	Mean	Std. Dev.
PEOU1	2.8%	13.8%	33.8%	33.4%	16.2%	3.47	1.0089
PEOU2	2.8%	9.3%	20.7%	42.4%	24.8%	3.77	1.0137
PEOU3	2.1%	7.6%	29.7%	46.2%	14.5%	3.63	0.8945
PEOU4	5.5%	8.3%	30.7%	44.8%	10.7%	3.47	0.9818
PEOU5	3.4%	10.7%	22.8%	42.8%	20.3%	3.66	1.0277

Table 4.14 (d): Central Tendency of Perceived Ease of Use for Bus Industry

	Bus						
	SD	D	N	A	SA	Mean	Std. Dev.
PEOU1	4.5%	12.1%	28.3%	36.6%	18.6%	3.53	1.0658
PEOU2	3.8%	16.2%	28.3%	31.0%	20.7%	3.49	1.1043
PEOU3	3.4%	8.3%	23.8%	45.2%	19.3%	3.69	0.9886
PEOU4	4.5%	12.8%	30.3%	40.3%	12.1%	3.43	1.0069
PEOU5	5.2%	14.5%	31.7%	35.5%	13.1%	3.37	1.0482

Source: Developed for the research.

In Appendix 4.1, table 4.14 (a) is relating with the independent variable of perceived ease of use, the table consists of 5 statements. The mean score

for the statements are 3.62, 3.71, 3.69, 3.55, 3.53 respectively and the standard deviation is 1.0339, 1.0110, 0.9146, 0.9571, 1.0211 respectively.

In depth, most of the respondents in airline industry agree towards the first four statements with the mean score of 3.88 for "learning to purchase transportation ticket online would be easy for me", 3.86 for "my interaction with transportation website is clear and understandable", 3.75 for "It would be easy for me to become skilful at purchasing ticket online" and "I feel that most transportation websites allow easy ordering on-line".

For the fifth statement, the highest mean score of 3.66 come into railway industry which indicates that there are 63.1% of the respondents agree that railway websites provide easy payment.

4.1.3.5 Perceived Risk

Table 4.15 (b): Central Tendency of Perceived Risk for Airline Industry

	Airline						
	SD	D	N	A	SA	Mean	Std. Dev.
PR1	9.7%	28.3%	37.6%	21.4%	3.1%	2.80	0.9850
PR2	8.3%	30.0%	40.0%	19.3%	2.4%	2.78	0.9346
PR3	10.3%	23.4%	36.6%	21.4%	8.3%	2.94	1.0924
PR4	13.4%	43.8%	29.7%	11.4%	1.7%	2.44	0.9217
PR5	10.3%	43.8%	33.1%	9.0%	3.8%	2.52	0.9308

Table 4.15 (c): Central Tendency of Perceived Risk for Railway Industry

	Railway						
	SD	D	N	A	SA	Mean	Std. Dev.
PR1	6.2%	33.1%	40.0%	17.6%	3.1%	2.78	0.9138
PR2	9.0%	26.6%	32.1%	25.2%	7.2%	2.96	1.0804
PR3	11.4%	17.2%	33.1%	25.9%	12.4%	3.11	1.1731
PR4	8.3%	26.2%	33.1%	26.2%	6.2%	2.96	1.0515
PR5	12.1%	35.9%	27.9%	19.7%	4.5%	2.69	1.0596

Table 4.15 (d): Central Tendency of Perceived Risk for Bus Industry

	Bus						
	SD	D	N	A	SA	Mean	Std. Dev.
PR1	7.6%	26.2%	34.1%	26.6%	5.5%	2.96	1.0266
PR2	9.7%	27.2%	34.5%	23.1%	5.5%	2.88	1.0482
PR3	13.4%	25.9%	33.4%	17.9%	9.3%	2.84	1.1618
PR4	9.7%	34.1%	33.8%	18.6%	3.8%	2.73	0.9974
PR5	10.0%	33.8%	37.2%	14.8%	4.1%	2.69	0.9802

Source: Developed for the research.

Table 4.15 (a) attached in Appendix 4.1 is concerning with the independent variable of perceived risk, the table consists of 5 statements. The mean score for the statements are 2.85, 2.87, 2.96, 2.71, 2.63 respectively and the standard deviation is 0.9751, 1.0211, 1.1424, 0.9902, 0.9902 respectively.

For the first statement "using e-ticketing will cause me to lose control over the privacy of my payment information", bus industry got the highest mean score of 2.96, means that there are 33.8% of the respondents disagree towards the statement.

Railway industry got the highest mean score of 2.96, 3.11, 2.96 for statement of "using e-ticket will add great uncertainty to my travel plan"

and "Internet hackers (criminals) may take control of my account if I use e-ticketing" respectively. There are 35.6%, 28.6% and 34.5% are disagree towards the statement.

For the fifth statement, railway and bus industry got the same mean score of 2.69, means that there are 48% and 43.8% agree towards the statement.

4.1.3.6 Consumers' Intention

Table 4.16 (a): Central Tendency of Consumers' Intention for Transportation

		SD	D	N	A	SA	Mean	Std. Dev.
CI1	I would use the transportation website for purchasing a ticket.	2.5%	6.8%	21.0%	44.7%	24.9%	3.83	0.9632
CI2	Using the transportation website for purchasing a ticket is something I would do.	4.6%	10.6%	22.7%	43.3%	18.9%	3.61	1.0444
CI3	I could see myself using the transportation website to buy a ticket.	4.3%	10.7%	26.7%	38.7%	19.7%	3.59	1.0483

Table 4.16 (b): Central Tendency of Consumers' Intention for Airline Industry

	Airline						
	SD	D	N	A	SA	Mean	Std. Dev.
CI1	2.4%	4.1%	23.4%	43.1%	26.9%	3.88	0.9352
CI2	2.4%	7.6%	22.8%	48.3%	19.0%	3.74	0.9340
CI3	2.1%	9.0%	27.2%	41.7%	20.0%	3.69	0.9602

Table 4.16 (c): Central Tendency of Consumers' Intention for Railway Industry

	Railway						
	SD	D	N	A	SA	Mean	Std. Dev.
CI1	2.1%	6.9%	20.3%	50.0%	20.7%	3.80	0.9147
CI2	5.2%	12.1%	21.4%	44.5%	16.9%	3.56	1.0678
CI3	4.5%	12.4%	25.2%	39.7%	18.3%	3.55	1.0651

Table 4.16 (d): Central Tendency of Consumers' Intention for Bus Industry

	Bus						
	SD	D	N	A	SA	Mean	Std. Dev.
CI1	3.1%	9.3%	19.3%	41%	27.2%	3.8	1.0397
CI2	6.2%	12.1%	23.8%	37.2%	20.7%	3.54	1.1315
CI3	6.2%	10.7%	27.6%	34.8%	20.7%	3.53	1.1195

Source: Developed for the research.

Table 4.16 (a) that mentioned above is relating with the dependent variable of consumers' intention, the table consists of 3 statements. The mean score for the statements are 3.83, 3.61, 3.59 respectively and the standard deviation is 0.9632, 1.0444, 1.0483 respectively.

For the first statement of "I would use the transportation website for purchasing a ticket", there are nearly the same mean score of 3.80 among three industries, bring the meaning of their intentions are almost the same.

However, 67.3% of the respondents in airline industry agree that using the transportation website for purchasing a ticket is something they would do with the highest mean score of 3.74, following by 3.56 in railway industry and 3.54 in bus industry. The situation is the same for the third statement of "I could see myself using the transportation website to buy a ticket", the highest mean score is 3.69 in airline industry rather than 3.55 in railway industry and 3.50 in bus industry.

4.2 Scale Measurement

4.2.1 Normality Test

Table 4.17 (a): Tests of Normality for Transportation

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Normal Score of Avg_EP using Rankit's Formula	.003	289	.200*	1.000	289	1.000

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Table 4.17 (b): Tests of Normality for Airline Industry

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Normal Score of Avg_EP using Rankit's Formula	.003	289	.200*	1.000	289	1.000

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Table 4.17 (c): Tests of Normality for Railway Industry

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Normal Score of Avg_EP using Rankit's Formula	.004	289	.200*	1.000	289	1.000

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Table 4.17 (d): Tests of Normality for Bus Industry

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Normal Score of Avg_EP using Rankit's Formula	.007	289	.200*	1.000	289	1.000

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Source: Developed for the research.

Kolmogorov-Smirnov test is used to evaluate data normality as the sample size is large enough (n = 290). As shown in Table above, the p-value for Kolmogorov-Smirnov test in transportation or in respectively transportation are 0.2, which exceeds 0.05. As a result, it can reach a verdict that the dependent variable, consumers' intention towards adoption of e-ticketing on transportation in Malaysia is normally distributed.

4.2.2 Reliability Test

The Cronbach's alpha reliability coefficient of the five key determinants (independent variables) and the consumers' intention towards adoption of e-ticketing on transportation in Malaysia (dependent variable) were obtained. The closer of the reliability coefficient gets 1.0, the better the results.

Table 4.18: Alpha Coefficient for Survey (Each Industry)

Reliability Statistics

Constructs	Airline		Railway		Bus	
	Cronbach's Alpha	N of items	Cronbach's Alpha	N of items	Cronbach's Alpha	N of items
Convenience	0.834	4	0.836	4	0.846	4
Security	0.848	5	0.884	5	0.904	5
Perceived Usefulness	0.805	5	0.790	5	0.796	5
Perceived Ease of Use	0.807	5	0.836	5	0.845	5
Perceived Risk	0.797	5	0.826	5	0.867	5
Customer Intention	0.805	3	0.833	3	0.848	3

Source: Developed for the research.

The above Cronbach's Alpha for each variable is based on 290 survey questionnaires as input. The table 4.18 had shown that all the items in measuring the convenience, security, perceived usefulness, perceived ease of use, perceived risk and consumer's intention for each industry are found to have reliability.

According to the table above, it showed that Cronbach's Alpha for the perceived risk of airline industry is 0.797 which is considered as acceptable. Whereas, the Cronbach's Alpha for convenience, security, perceived usefulness, perceived ease of use and customer intention of

airline industry are considered as good and reliable with the alpha value which is above 0.8.

The table 4.18 also revealed that Cronbach's Alpha for the perceived usefulness of railway and bus industries are considered as acceptable, which are 0.790 and 0.796. Meanwhile, the Cronbach's Alpha for convenience, security, perceived ease of use, perceived risk and customer intention of railway and bus industries are considered as good and reliable as the alpha value is above 0.8.

In conclusion, Cronbach's Alphas for all the variables used in the study are significant because all of 290 items satisfied the requirement of having Cronbach's Alpha value of 0.6 and above as shown in table 4.19 below. Thus, the relationship among the measurement of items in the scale can be determined as reliable.

Table 4.19: Alpha Coefficient for Survey (Transportation)

Constructs	Cronbach's Alpha	N of items
Convenience	0.914	12
Security	0.935	15
Perceived Usefulness	0.891	15
Perceived Ease of Use	0.906	15
Perceived Risk	0.913	15
Customer Intention	0.896	9

Source: Developed for the research.

4.3 Inferential Analysis

4.3.1 Pearson's Correlation Analysis

The tables shown in Appendix 4.2 identify the correlation between each independent variable including convenience, security, perceived usefulness, perceived ease of use, perceived risk and consumers' intention towards adoption of e-ticketing on transportation or in each industry in Malaysia. It also shows the correlation between two independent variables. The further analysis will be explained as follows by referring to Table 4.20 (a), (b), (c) and (d).

4.3.1.1 Correlation between convenience and consumers' intention towards adoption of e-ticketing on transportation in Malaysia

There is a weak degree of correlation (r = +0.283) between convenience and the consumers' intention towards adoption of e-ticketing in bus industry as well as a moderate degree of correlation (r = +0.483 and r = +0.343) between convenience and the consumers' intention towards adoption of e-ticketing in airlines and railway industries. The correlations are significant at the 0.01 level as all the p-values state at 0.000. As conclude, there is a moderate significant correlation (r = +0.350) between convenience and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

4.3.1.2 Correlation between security and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

There is a moderate degree of correlation (r = +0.396 and r = +0.472) between security and consumers' intention towards adoption of e-ticketing in airline and railway, whereas, there is a strong degree of correlation (r =

+0.528) between security and customers' intention towards adoption of e-ticketing on bus. The correlations are significant at the 0.01 level as all the p-values state at 0.000. As a result, there is a moderate significant correlation (r = +0.468) between security and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

4.3.1.3 Correlation between perceived usefulness and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

There is a strong degree correlation (*r* = +0.638, r = +0.635 and r = +0.644) between perceived usefulness and consumers' intention towards adoption of e-ticketing among airlines, railway and bus. The correlations are significant at the 0.01 level as all the p-values state at 0.000. Thus, this shows that there is a strong significant correlation (r = +0.678) between perceived usefulness and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

4.3.1.4 Correlation between perceived ease of use and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

There is a strong degree correlation (r = +0.665, r = +0.625 and r = +0.650) between perceived ease of use and consumers' intention towards adoption of e-ticketing respectively among airlines, railway and bus. All the P-values are stated at 0.000 which indicate the correlations are significant at 0.01 levels. Consequently, there is a strong degree of significant correlation (r = +0.690) between perceived usefulness and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

4.3.1.5 Correlation between perceived risk and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

There is a negatively moderate correlation between perceived risk and consumers' intention towards adoption of e-ticketing in airline (r =-0.474), railway (r = -0.455), and bus (r=-0.497) industry. All the P-values are stated at 0.000 which indicate the correlations are significant at 0.01 levels. As a result, there is negatively strong degree of significant correlation (r = -0.500, p = 0.000) between perceived risk and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

4.3.1.6 Correlation between convenience and security

Pearson's correlation r in airline is stated at 0.176 and P value is 0.003 which indicated there is a weak degree of correlation between convenience and security. However, the Pearson's correlation r in railway and bus are stated at positively 0.104 and negatively 0.31. Both of the P-values are more than 0.05 which indicate that there is no significant between convenience and security in railway and bus industries. In short, there is no significant (r = -0.23, p = 0.692) between convenience and security.

4.3.1.7 Correlation between convenience and perceived usefulness

There is a moderate degree of correlation (r = +0.467 and r = +0.409) between convenience and perceived usefulness in railway and bus industries. Meanwhile, in airlines, there is a strong degree of correlation (r = +0.586) between convenience and perceived usefulness. The correlations are significant at the 0.01 level as all the p-values are stated at 0.000. As conclude, there is a strong significant correlation (r = +0.508) between convenience and perceived usefulness.

4.3.1.8 Correlation between convenience and perceived ease of use

There is a moderate degree of correlation (r = +0.396 and r = +0.344) between convenience and perceived ease of use in airline and railway respectively. However, there is a weak degree of correlation (r = +0.195) in bus industry. The P- values are stated at 0.000, 0.000 and 0.001 which represent significant at 0.01 levels. In short, a weak significant correlation (r = +0.283, p = 0.000) is exist between convenience and perceived ease of use.

4.3.1.9 Correlation between convenience and perceived risk

There is a negatively weak degree of correlation (r = -0.144, r= -.0.033 and r = -0.200) between convenience and perceived risk in airline, railway and bus industries respectively. In additions, the p- value of airlines, railway and bus industries are more than 0.05, which indicated that the correlations no significant between convenience and perceived risks. In short, it can be concluded there is no significant correlation (r = 0.027, p = 0.641) between convenience and perceived risk.

4.3.1.10 Correlation between security and perceived usefulness

There is a moderate degree of correlation (r = +0.442, r = +0.425 and r = +0.395) between security and perceived usefulness in airlines, railway and bus respectively. All the p – values are significant at 0.01 levels. In short, there is a positively moderate significant (r = +0.394, p = 0.000) correlation between security and perceived usefulness.

4.3.1.11 Correlation between security and perceived ease of use

There is a weak correlation between security and perceived ease of use in airlines industry. Moreover, there is a strongly correlation between security and perceived ease of use in railway and bus industries. In fact, all the correlations are significant at 0.01 levels. Thus, it can be concluded that there is a positively strongly significant correlation ($r = +0.504$, $p = 0.000$) between security and perceived ease of use.

4.3.1.12 Correlation between security and perceived risk

There is a negatively high correlation ($r = -0.530$, $r = -0.577$ and $r = -0.627$) between security and perceived risk in airline, railway and bus. All the p-values are stated at 0.000 which indicated significant at 0.01 levels. As conclude, there is a negatively high significant correlation ($r = -0.627$, $p = 0.000$) between security and perceived risk.

4.3.1.13 Correlation between perceived usefulness and perceived ease of use

Positively strong degree of correlation ($r = +0.571$, $r = +0.540$ and $r = +0.500$) is found between perceived usefulness and perceived ease of use in all industries. They have same p value of 0.000, showing that correlations are significant at 0.01 levels. Naturally, there is a positively strong significant correlation ($r = +0.562$) between the two determinants towards consumers' intention of adopting e-ticketing on transportation in Malaysia.

4.3.1.14 Correlation between perceived usefulness and perceived risk

Negatively moderate degree of correlation (r = -0.456, r= -0.367 and r = -0.450) is existed between perceived usefulness and perceived risk towards adoption of e-ticketing in airline, railway and bus industries. P value of 0.000 among industries shows that correlations are significant at 0.01 levels. In summary, there is a negatively moderate significant correlation (r = -0.419) between perceived usefulness and perceived risk towards consumers' intention.

4.3.1.15 Correlation between perceived ease of use and perceived risk

There is a negatively strong degree of correlation (r = -0.506 and r = -0.603) between perceived ease of use and perceived risk towards adoption of e-ticketing in airline industry and bus industry while negatively moderate degree of correlation (r = -0.491) between perceived ease of use and perceived risk. The correlations are significant at the 0.01 level as all p- values state at 0.000. In conclusion, there is a negatively strong significant correlation (r = -0.588, p = 0.000) between the two independent and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

4.3.2 Multiple Linear Regressions

Table 4.21(a): Model Summary[b] for Transportation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.781[a]	.610	.603	.47614

a. Predictors: (Constant), C, S, PU, PEOU, PR

b. Dependent Variable: ITAE

Table 4.21 (b): Model Summary[b] for Airline Industry

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.751[a]	.565	.557	.53253

a. Predictors: (Constant), C_air, S_air, PU_air, PEOU_air, PR_air

b. Dependent Variable: ITAE_air

Table 4.21 (c): Model Summary[b] for Railway Industry

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.732[a]	.535	.527	.60639

a. Predictors: (Constant), C_rail, S_rail, PU_rail, PEOU_rail, PR_rail

b. Dependent Variable: ITAE_rail

Table 4.21 (d): Model Summary[b] for Bus Industry

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.762[a]	.581	.574	.62773

a. Predictors: (Constant), C_bus, S_bus, PU_bus, PEOU_bus, PR_bus

b. Dependent Variable: ITAE_bus

Source: Developed for the research.

According to the output of Table 4.21 (a), the value of R Square is shown as 0.610. This implies that 61% of the factors which included convenience, security, perceived usefulness, perceived ease of use and perceived risk explained the changes of consumers' intention towards adoption of e-ticketing on transportation in Malaysia. The result shows that these five independent variables had significantly explained 61% of the variances in consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

On the other hand, the independent variables for each industry had also significantly described the variances in consumers' intention towards adoption of e-ticketing in each industry in Malaysia. The results of R Square are relatively resemble in each industry where 0.565 for airline industry, 0.535 for railway industry and 0.581 for bus industry.

Table 4.22 (a): ANOVA[b] for Transportation

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	100.564	5	20.113	88.717	.000[a]
	Residual	64.385	284	.227		
	Total	164.949	289			

a. Predictors: (Constant), C, S, PU, PEOU, PR

b. Dependent Variable: ITAE

Table 4.22 (b): ANOVA[b] for Airline Industry

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	104.494	5	20.899	73.695	.000[a]
	Residual	80.539	284	.284		
	Total	185.033	289			

a. Predictors: (Constant), C_air, S_air, PU_air, PEOU_air, PR_air

b. Dependent Variable: ITAE_air

Table 4.22 (c): ANOVA[b] for Railway Industry

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	120.200	5	24.040	65.377	.000[a]
	Residual	104.430	284	.368		
	Total	224.630	289			

a. Predictors: (Constant), C_rail, S_rail, PU_rail, PEOU_rail, PR_rail

b. Dependent Variable: ITAE_rail

Table 4.22 (d): ANOVA[b] for Bus Industry

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	155.233	5	31.047	78.789	.000[a]
	Residual	111.910	284	.394		
	Total	267.142	289			

a. Predictors: (Constant), C_bus, S_bus, PU_bus, PEOU_bus, PR_bus

b. Dependent Variable: ITAE_bus

Source: Developed for the research.

According to table 4.22 (a), the regression model with predictors including convenience, security, perceived usefulness, perceived ease of use and perceived risk is proven to be significant with p-value at 0.000 ($p<0.05$). The model performs well in explaining the variances in consumers' intention towards e-ticketing on transportation in Malaysia.

Moreover, the regression model with these five predictors has also significantly reflected the variation in consumers' intention towards e-ticketing in airline, railway and bus industries in Malaysia with the significant value of 0.000 ($p<0.05$).

Table 4.23 (a): Coefficients[a] for Transportation

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.248	.362		.684	.495
	C	.054	.044	.058	1.236	.217
	S	.085	.047	.090	1.801	.073
	PU	.444	.063	.371	7.030	.000
	PEOU	.442	.061	.381	7.268	.000
	PR	-.073	.059	-.067	-1.241	.216

a. Dependent Variable: ITAE

Source: Developed for the research.

Based on Table 4.23 (a), the following equation is formed:

ITAE = 0.248 + 0.054C + 0.085S + 0.444PU + 0.442PEOU - 0.073PR

Whereby,

ITAE = Intention towards adopting e-ticketing

C = Convenience

S = Security

PU = Perceived usefulness

PEOU = Perceived ease of use

PR = Perceived risk

The linear equation above has shown that, there is significant relationship between convenience, security, perceived usefulness, perceived ease of use, perceived risk and consumers' intention toward e-ticketing on transportation in Malaysia. As stated by the linear equation, perceived usefulness is the most significant independent variable that influence consumers' intention on e-ticketing, which is β=0.444. In other words, this indicates that 1 unit change in perceived usefulness will increase

consumers' intention on e-ticketing by 0.444, while other variables remain constant.

Perceived ease of use is the second significant construct in influencing consumers' intention towards e-ticketing with β=0.442. The next important variable is followed by security with the value of β=0.085 while independent variable of convenience ranked as the fourth significant antecedent with value of β=0.054.

Based on the linear equation above, however, perceived risk with a negative sign of unstandardized coefficient value β= -0.073 indicates that 1 unit increase in perceived risk will lead to 0.073 unit decrease in consumers' intention towards e-ticketing on transportation in Malaysia.

Table 4.23 (b): Coefficients[a] for Airline Industry

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.856	.353		2.424	.016
	C_air	.135	.043	.158	3.169	.002
	S_air	.042	.046	.043	.903	.367
	PU_air	.276	.063	.256	4.384	.000
	PEOU_air	.430	.059	.378	7.350	.000
	PR_air	-.132	.057	-.120	-2.333	.020

a. Dependent Variable: ITAE_air

Source: Developed for the research.

Based on Table 4.23 (b), the following equation is formed.

ITAE_air = 0.856 + 0.135C_air + 0.042S_air + 0.276PU_air + 0.430PEOU_air - 0.132PR_air

Whereby,

ITAE_air = Intention towards adopting e-ticketing for airline

C_air = Convenience for airline

S_air = Security for airline

PU_air = Perceived usefulness for airline

PEOU_air = Perceived ease of use for airline

PR_air = Perceived risk for airline

As stated by the linear equation, perceived ease of use works as the most important antecedent influencing consumers' intention towards e-ticketing in airline industry in Malaysia (β=0.430). The second significant antecedent is followed by perceived usefulness at the value of β=0.276 while convenience ranked as the third significant construct with the value of β=0.135. The next antecedent is security with the unstandardized coefficient value of β=0.135 whereas perceived risk with value of β= -0.132 brings negative impact on consumers' intention towards e-ticketing in airline industry in Malaysia.

Table 4.23 (c): Coefficients[a] for Railway Industry

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.816	.352		2.317	.021
	C_rail	.052	.046	.054	1.142	.255
	S_rail	.073	.053	.074	1.369	.172
	PU_rail	.440	.064	.366	6.837	.000
	PEOU_rail	.355	.063	.309	5.594	.000
	PR_rail	-.135	.057	-.125	-2.383	.018

a. Dependent Variable: ITAE_rail

Source: Developed for the research.

Based on Table 4.23 (c), the following equation is formed.

ITAE_rail = 0.816 + 0.052C_rail + 0.073S_rail + 0.440PU_rail + 0.355PEOU_rail - 0.135PR_rail

Whereby,

ITAE_rail = Intention towards adopting e-ticketing for railway

C_rail = Convenience for railway

S_rail = Security for railway

PU_rail = Perceived usefulness for railway

PEOU_rail = Perceived ease of use for railway

PR_rail = Perceived risk for railway

According to the linear equation shown above, perceived usefulness with unstandardized coefficient value of β=0.440 is the most important antecedent influencing consumers' intention towards e-ticketing in railway industry in Malaysia. The following significant constructs are followed by perceived ease of use, security and convenience with the value of β=0.355, β=0.073 and β=0.052 respectively while perceived risk with negative value of β= -0.135 has negatively affected consumers' intention towards e-ticketing in railway industry in Malaysia.

Table 4.23 (d): Coefficients[a] for Bus Industry

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.212	.392		-.540	.590
	C_bus	.075	.046	.072	1.635	.103
	S_bus	.181	.051	.189	3.580	.000
	PU_bus	.461	.063	.366	7.287	.000
	PEOU_bus	.402	.062	.343	6.433	.000
	PR_bus	-.006	.062	-.006	-.103	.918

a. Dependent Variable: ITAE_bus

Source: Developed for the research.

Based on Table 4.23 (d), the following equation is formed.

ITAE_bus = -0.212 + 0.075C_bus + 0.181S_bus + 0.461PU_bus + 0.402PEOU_bus - 0.006PR_bus

Whereby,

ITAE_bus = Intention towards adopting e-ticketing for bus

C_bus = Convenience for bus

S_bus = Security for bus

PU_bus = Perceived usefulness for bus

PEOU_bus = Perceived ease of use for bus

PR_bus = Perceived risk for bus

Based on the linear equation above, it showed that there is positive significant relationship between convenience, security, perceived usefulness, perceived ease of use and consumers' intention towards e-ticketing in bus industry in Malaysia. The value of β=0.461 revealed that perceived usefulness is the most significant predictor among other

variables. The second important construct is followed by perceived ease of use with the value of β=0.402.

Moreover, security with the value of β=0.181 is ranked as the third significant variable affecting consumers' intention on e-ticketing. The next is followed by convenience (β=0.075) whereas perceived risk performs as the negative effect antecedent at the coefficient value of β= -0.006.

4.4 Conclusion

This chapter is basically about all analysis of data that had been collected through the questionnaires by using SSPS. Descriptive analysis had been used to illustrate the demographic profile of the respondents and general information. Meanwhile, the normality test and reliability test had been carried out to ensure that the data is normally distributed, highly reliable and acceptable. The Pearson's Correlation Analysis is used to observe the correlation among the variables whereas the MLR Analysis is used to analyse whether the independent variable(s) has significant influence to dependent variable. Subsequently, the research discussion, conclusion, limitation and recommendation for the overall research study will be discussed in the next chapter which is chapter 5.

CHAPTER 5: DISCUSSION, CONCLUSION AND IMPLICATIONS

Introduction

This chapter focuses on various scenarios in different transportation industries with various justifications. Recommendations and suggestions concerning areas to be marked in future research as well as the various limitations existed in this research. Essentially, the Malaysian intention towards transportation and the deficiencies of prior studies contribute to this research. Throughout the investigation process, the relationships of the key determinants with consumers' intention towards transportation in Malaysia are examined.

Summary of Statistical Analysis

As a summary of previous chapter, the following table illustrated the demographic profile of the 290 respondents with the exact number of respondents and percentages of the respondent in each category while general information has also been summarized in the following section 5.1.2 general information.

Demographic Profile

Appendix 5.1, table 5.1 showed the summary of demographic profile of the targeted respondents. Among the 100 male respondents, there are 63 of them fall into age group of 18 to 25 years old, 44 of them are employed, and 45 of them are come from Selangor. Among the 190 female respondents, 123 respondents are 18-25 years old, 65 of them are employed, and 61 of the female respondents are come from Selangor.

General Information

Based on the general information analysis on previous chapter, there are 69 male and 93 female respondents having experience in purchasing tickets through Internet. Totalling 155 purchasing experiences among 69 male respondents who have been purchased online tickets, which comprising 61 purchasing experience in movie ticket, following by 48 for airline ticket, 18 for concert ticket, 12 for bus ticket, 10 for railway ticket, 5 for sports ticket and 1 for others. Meanwhile, among 93 female respondents, they have 186 purchasing experiences on e-ticketing, comprised 71 purchasing airline ticket, followed by 69 for movie ticket, 19 for railway ticket, 15 for concert ticket, 11 for bus ticket, and 1 for sport ticket.

31 male respondents do not have any experience in online ticket purchase, the possible reasons comprised 11 respondents prefer to purchase at the counter, 9 for security reasons, 8 not familiar with internet usage, and 3 for other reasons. In the meantime, 97 female respondents do not have any experience in online ticket purchase, which comprised 36 prefer purchase at counter, 30 for security reasons, 21 do not use computer, 8 not familiar with Internet usage and 2 for other reasons.

Inferential Analysis

The Pearson's Correlation analysis indicated that there is a moderate significant correlation between consumers' intention towards adoption of e-ticketing on transportation in Malaysia (dependent variable) and convenience and security (independent variables). Moreover, there is a strong degree of significant correlation between consumers' intention towards adoption of e-ticketing on transportation in Malaysia (dependent variable) and perceived ease of use and perceived usefulness (independent variables). The findings also show that there is negatively strong degree of significant correlation between perceived risk and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Multiple linear regressions (MLR) is used in statistical test. MLR helps to measure the strength of the linear relationship between independent and dependent variable. The table 5.2 attached in Appendix 5.2 shows the summary results of hypotheses.

Discussion of Major Findings

Convenience

Table 5.3: Summary of Results between Convenience and Consumers' Intention

	Transportation	**Airlines**	**Railway**	**Bus**
Pearson's Correlation	.350**	.483**	.343**	.283**
MLR (Beta)	.054*	.135*	.052*	.075*
p-value	0.217 > 0.05	0.002<0.05	0.255>0.05	0.103>0.05

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Developed for the research.

$H_{0:}$ There is a no relationship between convenience and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

H_1: There is a positive relationship between convenience and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Reject H_0 if $p<0.05$

From the table 4.23, the significant value for convenience is 0.217 ($p>0.05$). Therefore, do not reject H_0, which indicates there is no relationship between convenience and consumers' intention towards adoption of e-ticketing on transportation in Malaysia. Convenience of time and spatial is not the factor that drives consumers to purchase online (Paynter & Lim, 2001).

Indeed, in railway and bus industries, the significant value for convenience is 0.255 and 0.103. Both of the p-value is greater than 0.05, which indicates there is no relationship between convenience and consumers' intention towards adoption of e-ticketing in railway and bus industries. Figure 4.12 has shown that prefer to purchase at the counter is the main reason the respondents do not purchase ticket online. Thus, 24/7 availability, speed and time savings provided by transportation websites are not the concern of respondents whether to adopt e-ticketing in railway and bus industries.

However, in airline industry, the significant value of 0.002 ($p<0.05$) indicates there is a positive relationship between convenience and consumers' intention towards adoption of e-ticketing in airline industry. This result is consistent with the findings in studies by Delafrooz et al. (2011), Sulaiman et al. (2008) and Wolfinbarger and Gilly (2001) which revealed that convenience having significant effects on the consumer's intention to purchase online. Refer to table 4.11 (b), more than 40% of the respondents strongly agree that airline website is a convenient way to purchase airline ticket as it can save the effort to purchase at the counter.

The result in airline industry is different from railway and bus industries may be due to the purchasing process of airline ticket at the counter is not as easy as purchase railway and bus tickets. Moreover, most of the airlines do not have many airlines ticketing counters. Thus, if the airline website is convenient to use, it may drive the respondents to purchase ticket online instead of purchase at the counter.

In overall, there is no relationship between convenience and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Security

Table 5.4: Summary of Results between Security and Consumers' Intention

	Transportation	**Airlines**	**Railway**	**Bus**
Pearson's Correlation	.468**	.396**	.472**	.528**
MLR (Beta)	.085*	.042*	.073*	.181*
p-value	0.073 > 0.05	0.367>0.05	0.172>0.05	0.000<0.05

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Developed for the research.

$H_{0:}$ There is a no relationship between security and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

H_2: There is a positive relationship between security and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Reject H_0 if $p<0.05$

From the table 4.23, the significant value for security is 0.073($p>0.05$). Therefore, H_0 is not rejected, which indicates there is no relationship

between security and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

In depth, significant value of 0.367 and 0.172 ($p>0.05$) brings no relationship between security and consumers' intention towards adoption of e-ticketing in airline industry and railway industry in Malaysia. Yet, significant value of 0.000 ($p<0.05$) in bus industry shows that there is a positive relationship between security and consumers' intention towards adoption of e-ticketing in bus industry in Malaysia.

It is suggested that security is no longer a great concern for online shoppers or non-shoppers if they are confident with the security of payment systems (Paynter and Lim, 2001). The security system in airline websites and railway websites are already on its track and has gained confidence from customers over the years rather than bus websites which are only at initial stage. Most of the respondents agree towards the statements in questionnaire, showing that they are confident with the security systems in the airline websites and railway websites rather than bus websites, indicating that there is no relationship between security and consumers' intention towards adoption of e-ticketing in airline industry and railway industry.

The results of bus industry distanced itself from airline and railway industries, lead to no relationship in overall. In conclusion, security has no relationship between security and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Perceived Usefulness

Table 5.5: Summary of Results between Perceived Usefulness and Consumers' Intention

	Transportation	**Airlines**	**Railway**	**Bus**
Pearson's Correlation	.678**	.638**	.635**	.644**
MLR (Beta)	.444*	.276*	.440*	.461*
p-value	0.000 < 0.05	0.000<0.05	0.000<0.05	0.000<0.05

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Developed for the research.

$H_{0:}$ There is a no relationship between perceived usefulness and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

H_3: There is a positive relationship between perceived usefulness and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Reject H_0 if $p<0.05$

According to table 4.23, it revealed that significant value for perceived usefulness is 0.000 ($p<0.05$). H_0 is rejected which identifies that there is a positive relationship between perceived usefulness and consumers' intention towards adoption of e-ticketing on transportation in Malaysia. The results are identical in each industry individually with the significant value of 0.000.

The result is proven to be consistent with the findings of previous studies including Lee et al. (2003) and Wang et al. (2003) that perceived usefulness is the vital predictor on consumers' behavioural intention.

Wan and Che (2004) found that perceived usefulness has no relationship towards intention since respondents do not use e-ticketing before, resulting this variable is not a concern for them. On the contrary, it brings the meaning that perceived usefulness has a relationship towards consumers' intention for Internet users. Furthermore, this research has targeted Internet users as target respondents and they generally agree that perceived usefulness is significant towards consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Perceived Ease of Use

Table 5.6: Summary of Results between Perceived Ease of Use and Consumers' Intention

	Transportation	**Airlines**	**Railway**	**Bus**
Pearson's Correlation	.690**	.665**	.625**	.650**
MLR (Beta)	.442*	.430*	.355*	.402*
p-value	0.000 < 0.05	0.000<0.05	0.000<0.05	0.000<0.05

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Developed for the research.

H_0: There is no significant relationship between perceived ease of use and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

H_4: There is a positive relationship between perceived ease of use and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Reject H_0 if $p<0.05$

Table 4.23 has shown the significant value for perceived ease of use is 0.000 ($p<0.05$) either on transportation as a whole or in each industry respectively. Therefore, rejected H_0 and H_4 is accepted, which indicates there is a positive relationship between perceived ease of use and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

In the research, the finding reached a consensus result with the researcher Yi and Hwang (2003) that perceived ease of use had a significant effect on behavioural intention. In addition, perceived ease of use is identified having a significance influence on consumer intention as the easier the Internet user perceives on how to use a website, the greater the reliance in the website's honesty, thus causing in higher consumer intention (Bigné et al.,2010; Kim et al., 2009; Li & Huang, 2009; Moon & Kim, 2001).

In conclusion, the easier the use of website, the more people will buy the transportation ticket through online as perceived ease of use has positive impact on customers' intention towards adoption of e-ticketing on transportation in Malaysia.

Perceived Risk

Table 5.7: Summary of Results between Perceived Risk and Consumers' Intention

	Transportation	**Airlines**	**Railway**	**Bus**
Pearson's Correlation	-.500**	-.201**	-.455**	-.497**
MLR (Beta)	-.073*	-.132*	-.135*	-.006*
p-value	0.216 > 0.05	0.020>0.05	0.018>0.05	0.918>0.05

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Developed for the research.

H_0: There is no significant relationship between perceived risk and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

H_5: There is a negative relationship between perceived risk and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Reject H_0, if $p < 0.05$

Table 4.23(a) has revealed the significant value for perceived risk is 0.216 ($p>0.05$). Therefore, do not reject H_0, which indicates there is a no relationship between perceived risk and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Perceived risk is defined as consumers experience pre-purchase uncertainty as to the type and degree of expected loss resulting from purchasing and use of a product (Cunningham et al., 2005).

However, the significant values on airline and railway industries are 0.02 and 0.018 respectively. Both p-values are less than 0.05, which means that for airline and railway industries, there have negative relationships between perceived risk and consumers' intention towards adoption of e-ticketing on transportation. It is supported by the findings of Bigné et al. (2010), who has claimed that perceived risk has a negative impact on the consumers attitude towards airlines tickets online shopping because of non-shoppers' concerns about the embezzlement and fraud problems. Moreover, Samadi and Yaghoob-Nejadi (2009) indicated that there have a few of the researchers have successfully proved that purchase intention is negatively associated with perceived risk when online purchase.

The significant values in bus industry is 0.918 (p-value= 0.05). It shows that there is no relationship on perceived risk and consumers' intention towards adoption of e-ticketing on transportation. This can be interpreted as the bus operators are conducting e-ticketing at initial stage and they may not have

enough experienced and feasibility system as compared to airline and railway industries. It is supported by the study of Sinha (2010), which the result showed that the financial and product risk is not a significant influence on Indian consumers' attitude towards online shopping. In Malaysia, the perception about risk may also various due to the culture difference.

In overall, due to the significant value in bus industry is too high and cause the average significant value more than 0.05, perceived risk is not a significant factor that will affect their intention on purchase e-ticketing on transportation.

Implications of Study

Managerial Implication

Based on the information gathered and analysed, it provided several implications that might be useful for the transportation industry's decision makers in adoption of e-ticketing especially bus and railway industry which are new developer for the online e-ticketing as compared with airline industry.

The result showed that perceived usefulness has positive influence on the intention towards online purchase action. Decision makers can provide useful and quality information through the company website; provide various types of languages to be elected by consumers in order to ease the eldest consumers. It can enhance the favourability of consumers towards online purchase action. The railway and bus industry should improve on those areas.

Majority of the respondents agree that there is a positive relationship between perceived ease of use and intention towards online purchase ticket.

User friendliness and ease of navigating in order to make consumers feel the website easy to use and enjoyable in the process of internet purchase. In designing the web page, decision maker should promote the simplicity of the e-ticketing to encourage adoption which will increase consumers' intention to make use of the services. Furthermore, web sites should be tailored more effectively to meet the needs of users based on skill levels.

Based on this research, the result showed that convenience, security, and perceived risk are no longer factors to be considered into the intention toward purchase ticket online.

In conclusion, bus and railway industries are encouraged to keep pace with airline industry in the online ticket aspect. All of the results from these studies may become useful tool to guide the transportation industry in improving their standards on services performance, which will enhance the confidence of the consumers and build a long term relationship with consumers.

Limitations of Study

In this research, there are some limitations identified during the research process. The limitation will be listed as below and in order to further enable future researches to better address in this case, it is important for limitations to be recognized and learnt.

The questionnaire survey is designed using Simple English. Although Simple English is the International Language and widely known by most of the Malaysians, there are still some respondents who find it difficult to comprehend in English. Therefore, the results gained from such respondents may deviate from the accurate result.

In addition, most of the respondents reflected their misunderstanding in questionnaires especially for those who filled in via online and it is difficult to get response from researchers immediately. Hence, respondents' misunderstanding is aroused and leads to bias in data collected which do not reflect respondents' true opinions.

Nonetheless, this research is only conducted in half year time where is not enough for existing researchers to collect more information about intention of consumers. The time constraint has limited the research from understanding and investigating consumers' intention thoroughly.

Furthermore, limitation is also regarding to the distribution of data collected. 94.1% of the respondents fall into the age group between 18 and 35 years old, which may not truly reflect the factors of those who are between the age group of 36 and 55 years old.

In conclusion, although there were several limitations are being acknowledged and addressed regarding the present study, but these limitations do not detract the significance of the findings. Nevertheless, the present study would serve as a platform for more in-depth analysis and discussion in future research.

Recommendation of Study

This research is to investigate the purchase intention of consumers on purchasing ticket online in Malaysia. Future researchers may expand their research to focus on each specific industry in depth or identify the causal relationship between variables. Furthermore, they may explore their framework to other determinants to identify the significant antecedents influencing consumers' intention towards e-ticketing. Mediating variables may also be considered to give a more precise and accurate results in the future study.

Instead of questionnaire survey method, interview method can be in consideration for collecting target respondents information. Direct communication with respondents enables researchers to know more about intention of consumers thus the results are more accurate and reliability.

Furthermore, since e-ticketing on railway and bus is in developing stage, it is believed that e-ticketing for both industries will be popularized in future. Hence the future researchers may focus on this aspect and explore more on it. Longitudinal research should be conducted as time constraints will limit the results of study. It is encouraged to conduct an appropriate time frame to identify respondents of the desired population.

Future researchers are also suggested to set up questionnaires with more than one language such as Mandarin and Bahasa Melayu in order to approach different race of respondents which enable research to target more widely of respondents. This can also reduce the misleading of communication and the respondent can give more precise and accurate feedback.

Conclusion

After the continual process of testing, samplings, analysis and justifications, here comes to conclusion that all research questions have been given feedback and all research objectives has been fulfilled. The findings obtained from the research clearly express that perceived usefulness and perceived ease of use are determinants influencing the consumers' intention towards adoption of e-ticketing on transportation in Malaysia. However, convenience, security, and perceived risk are not significant effects on consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

From the 290 questionnaire collected, in depth investigation from different transportation industries results in different possible outcomes. Apart from perceived usefulness and perceived ease of use are significant to all industry,

convenience is significant in airline industry, and security is a factor in bus industry while perceived risk as a key determinants in airline and railway industry.

In conclusion, airlines industry has the most comprehensive e-ticketing system rather than railway and bus industries. Transportation industry can through this research and perform effective e-ticketing system in future.

REFERENCES

AC Nielsen (2008, April 14). *Over 875 Million Consumers Have Shopped Online - The Number of Internet Shoppers Up 40% in Two Years.* Retrieved July 8, 2011, from http://my.acnielsen.com/site/20080414.shtml

Al-Maghrabi, T., Basahel, A., & Kamal, M. (2011). What drives comsumers' e-loyalty to airlines website? Conceptual framework and managerial implications. *European, Mediterranean & Middle Eastern Conference on Information Systems,* 416-432.

Alam, S. S., & Yasin, N. M. (2010). What factors influence online brand trust: evidence from online tickets buyers in Malaysia. *Journal of Theoretical and Applied Electronic Commerce Research, 5*(3), 78-89.

Alfawaer, Z. M., Awni, M., & Al-Zoubi, S. (2011). Mobile e-ticketing reservation system for Amman International Stadium in Jordan. *International Journal of Academic Research, 3*(1), 848-852.

Allred, C. R., Smith, S. M., & Swinyard, W. R. (2006). E-shopping lovers and fearful conservatives: a market segmentation analysis. *International Journal of Retail & Distribution Management, 34*(4/5), 308-333.

Arshad, N. H., Ahmad, F., & Janom, N. (2008). Empirical Study on Electronic Service Quality. *Public Sector ICT Management Review, 2*(1). Retrieved July 3, 2011, from http://apps.intan.my/psimr/vol1no2/articles/4.%20Empirical%20Study%20on%20Electronic%20Service%20Quality.pdf

Ayo, C. K., Adewoye, J. O., & Oni, A. A. (2011). Business-to-consumer e-commerce in Nigeria: Prospects and challenges. *African Journal of Business Management, 5*(13), 5109-5117.

Barnes, S. J., & Vidgen, R. T. (2006). Data triangulation and web quality metrics: A case study in e-government. *Information and Management, 43*, 767-777.

Bigné, E., Sanz, S., Ruiz, C., & Aldás, J. (2010). Why Some Internet Users Don't Buy Air Tickets Online. *Information and Communication Technologies in Tourism, 6*, 209-221.

Boksberger, P. E., Bieger, T., & Laesser, C. (2007). Multidimensional Analysis of Perceived Risk in Commercial Air Travel. *Journal of Air Transport Management, 13*, 90-96.

Chau, P.Y.K., & Lai, V. S. K. (2003). An Empirical Investigation of the Determinants of User Acceptance of Internet Banking. *Journal of Organizational Computing and Electronic Commerce, 13*(2), 123-145.

Chen, C. F. (2006). Identifying significant factors influencing consumer trust in an online travel site. *Information Technology and Tourism, 8*, 197-214.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd Ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.

Cunningham, L. F., Gerlach, J. H., Harper, M. D., & Young, C. E. (2005). Perceived risk and the consumer buying process: Internet airline reservations. *International Journal of Service Industry Management, 16*(4), 357-372.

Curran, J. M., & Meuter, M. L. (2005). Self-service technology adoption: comparing three technologies. *Journal of Services Marketing, 19*(2), 103-113.

Dabholkar, P. A. (1996). Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality. *International Journal of Research in Marketing, 13*, 29-51.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly, 13*(3), 319-340.

Davis, F. D. (1991). User Acceptance of Information Technology: System Characteristics, User Perceptions and Behavioral Impacts. *International Journal of Man-machine Studies, 38*, 475-487.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science, 35*(8), 982-1003.

Dehbashi, S. (2007). *Factors affecting on Iranian passengers' acceptance towards electronic ticketing provided by airlines.* Master's Thesis, Lulea University of Technology.

Delafrooz, N., Paim, L. H., & Khatibi, A. (2011). Understanding Consumer's Internet Purchase Intention in Malaysia. *African Journal of Business Management, 5*(3), 2837-2846.

Department of Statistics (2010). *Population and Housing Census Malaysia 2010*. Retrieved July 29, 2011, from http://www.statistics.gov.my/portal/index.php?option=com_content&view=article&id=1215&lang=en

Devaraj, S., Fan, M., & Kohli, R. (2002). Antecedents of b2C channel satisfaction and preference: Validation e-Commerce Metrics. *Information Systems Research, 13*(3), 316-333.

Eastin, M. S. (2002). Diffusion of e-commerce: an analysis of the adoption of four e-commerce activities. *Telematics and Informatics, 19*, 251-267.

Ernst & Young (2001). *Global Online Retailing: An Ernst & Young Special Report.* Retrieved July 20, 2011, from http://www2.eycom.ch/publications/items/globalonlineretailing/de.pdf

Forsythe, S. M., & Shi, B. (2003). Consumer Patronage and Risk Perceptions in Internet Shopping. *Journal of Business Research, 56*, 867-875.

Hair, J. F., Money, A. H., Samouel, P. & Page, M. (2007). *Research Methods for Business* (2nd Ed.). Chichester, West Sussex, UK: John Wiley & Sons Ltd.

Huizingh, E. K. R. E. (2000). The content and design of web sites: an empirical study. *Information and Management, 37*, 123-134.

Hwang, L. J. J., Powell-Perry, J., & Lai, C. Y. C. (2003). *E-ticketing service development in the Taiwanese airline market.* Retrieved July 8, 2011, from www.ifitt.org/admin/public/uploads/ENTER2003eticket.pdf

IATA-Fact Sheet: Electronic Ticketing (2005, May). Retrieved July 3, 2011, from http://www.iata.org/events/agm/2005/newsroom/Pages/fact06.aspx

Internet World Stats (2011). Retrieved July 3, 2011, from http://www.internetworldstats.com/stats3.htm

Kamarulzaman, Y. (2007). Adoption of travel e-shopping in the UK. *International Journal of Retail and Distribution Management, 35*(9), 703-719.

Kanungo, S., & Jain, V. (2004). Relationship between risk and intention to purchase in an online context: Role of gender and product category. *ECIS Proceedings*. Retrieved July 24, 2011, from http://ifiptc8.org/asp/aspecis/20040080.pdf

Khan, M. F. F., Takeshi, Y., So, I., Bessho, M., & Sakamura, K. (2009). A Secure and Flexible Electronic-Ticket System. *33rd Annual IEEE International Computer Software and Application Conference*, 421-426.

Kim, H., Kim, T., & Shin, S. W. (2009). Modeling roles of subjective norms and eTrust in customers' acceptance of airline B2C eCommerce websites. *Tourism Management, 30*(2), 266-277.

Kolsaker, A., Lee-Kelly, L., & Choy, P. C. (2004). The reluctant Hong Kong consumer: purchasing travel online. *International Journal of Consumer Studies, 31*(3), 295-304.

Koufaris, M., & Hampton-Sosa, W. (2002). Customer Trust Online: Examining the Role of the Experience with the Web Site. *CIS Working Paper Series*. Retrieved July 29, 2011, from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.86.5517&rep=rep1&type=pdf

Law, R., & Leung, R. (2000). A study of airlines' online reservation services on the Internet. *Journal of Travel Research, 39*, 202-211.

Lee, G. Y., & Yi, Y. (2008). The Effect of Shopping Emotions and Perceived Risk on Impulsive Buying: The Moderating Role of Buying Impulsiveness Trait. *Seoul Journal of Business, 14*(2), 67-92.

Lee, Y. H., Kozar, A. K., & Larsen, K. R. T. (2003). The Technology Acceptance Model: Past, Present, and Future. *Communications of the Association for Information Systems, 12*(1), 752-780.

Legris, P., Ingham, J., & Collerette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information & Management, 40*, 191-204.

Li, Y. H., & Huang, J. W. (2009). Applying Theory of Perceived Risk and Technology Acceptance Model in the Online Shopping Channel. *World Academy of Science, Engineering and Technology, 53*, 919-925.

Malhotra, N. K., & Peterson, M. (2006). *Basic Marketing Research: A Decision-making Approach* (2nd Ed.). Upper Saddle River, NJ: Prentice Hall.

Martin, S. S., & Camarero, C. (2008). Consumer Trust to a Web Site: Moderating Effect of Attitudes toward Online Shopping. *Cyber Psychology & Behaviour, 11*(5), 549-554.

Moon, J. W., & Kim, Y. G. (2001). Extending the TAM for a World-Wide-Web context. *Information & Management, 38*(4), 217-230.

Ng-Kruelle, G., Swatman, P. A., & Kruelle, O. (2006). *E-Ticketing Strategy and Implementation in an Open Access System: The case of Deutsche Bahn.* Retrieved July 3, 2011, from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.73.3505&rep=rep1&type=pdf

Park, C. H., & Kim, Y. G. (2003). Identifying key factors affecting consumer purchase behaviour in an online shopping context. *International Journal of Retail and Distribution Management, 31*(1), 16-29.

Paynter, J., & Lim, J. (2001). Drivers and impediments to e-commerce in Malaysia. *Malaysia Journal of Library & Information Science, 6*(2), 1-19.

Pratyush (2007, April 17). *Indian Railways to provide E-ticketing from cyber cafes, agents on payment.* Retrieved July 8, 2011, from http://pratyush.instablogs.com/entry/indian-railways-to-provide-e-ticketing-from-cyber-cafes-agents-on-payment/

Roscoe, J. T. (1975). *Fundamental research statistics for the behavioural sciences* (2nd Ed.). New York: Holt, Rinehart and Winston.

Salisbury, W. D., Pearson, R. A., Pearson, A. W., & Miller, D. W. (2001). Perceived security and World Wide Web purchase intention. *Industrial Management and Data Systems, 101*(4), 165-176.

Samadi, M., & Yaghoob-Nejadi, A. (2009). A Survey of the Effect of Consumers' Perceived Risk on Purchase Intention in E-shopping. *Business Intelligence Journal, 2*(2), 261-275.

Shon, Z. Y., Chen, F. Y., & Chang, Y. H. (2003). Airline e-commerce: the revolution in ticketing channels. *Journal of Air Transport Management, 9*, 325–331.

Sinha, J. (2010). *Factors Affecting Online Shopping Behaviour of Indian Consumers.* Unpublished master's thesis, University of South Carolina.

Sulaiman, A., Ng, J., & Mohezar, S. (2008). E-Ticketing as a New Way of Buying Tickets: Malaysian Perceptions. *Journal of Social Science, 17*(2), 149-157.

Sun, J. D., & Zhang, Y. B. (2010). Railway passenger dynamic E-business based on Web services and RFID. *IEEE Internet Conference on Wireless Communications, Networking and Information Security*, 577-581.

Szajna, B. (1996). Empirical Evaluation of the Revised Technology Acceptance Model. *Management Science, 42*(1), 85-92.

Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science, 46*(2), 186-204.

Wan, G. H., & Che, P. (2004). Chinese air travelers' acceptance towards electronic ticketing. *Proceedings of Engineering Management Conference, 1*, 269-275.

Wang, Y., Wang, Y., Lin, H., & Tang, T. (2003). Determinants of User Acceptance of Internet Banking: An Empirical Study. *International Journal of Service Industry Management, 14*(5), 501-519.

Wei, J., & Loho-Noya, M. (2008). *Development of a Safeguard Model for e-ticketing*. Retrieved July 8, 2011, from http://www.swdsi.org/swdsi08/paper/SWDSI%20Proceedings%20Paper%20S459.pdf

Wolfinbarger, M., & Gilly, M. C. (2001). Shopping online for freedom, control, and fun. *California Management Review, 43*(2), 34-55.

Yi, M. Y., & Hwang, Y. (2003). Predicting the use of web-based information systems: self-efficacy, enjoyment, learning goal orientation, and the technology acceptance model. *International Journal Human-Computer Studies, 59*, 431-449.

APPENDIX 2.1

Summary of Past Empirical Studies on Consumers' Intention

Study	*Country*	*Data*	*Major Findings*
Arshad, Ahmad & Janom, 2008	Malaysia	100 respondents who comprised of consumers who used bus and train transportation services	Perceived ease of use is high demand for determinant of e-service quality rated by consumers. For security, it is not important for consumers to rank the e-service quality.
Ayo, Adewoye & Oni, 2011	Nigeria	549 respondents from Oyo State and Lagos State of Nigeria	There was a positive relationship between perceived usefulness and intention to transact. Perceived ease of use and perceived risk has negative significant effect on behavioural intention.
Bigné, Sanz, Ruiz & Aldás, 2010	Spain	309 non-purchasing Internet users	Perceived usefulness has indirect relationship with the intention to purchase air tickets online. Perceived ease of use is significant to improve consumers' attitude of intention while perceived risk has a negative impact on the consumers' attitude towards airlines tickets online shopping.
Curran & Meuter, 2005	USA	628 customers in banking industry	Perceived usefulness was a significant predictor for attitudes toward both ATMs and bank by phone but not for on-line banking.
Delafrooz, Paim & Khatibi, 2011	Malaysia	370 students studying at Public University in Malaysia	Convenience is one of the most common factors that motivate consumers for purchase while security is positively associated with the consumers' intention to purchase.
Devaraj, Fan & Kohli, 2002	Indiana	134 community online shoppers and undergraduates as well as graduates in business administration at a private university	Perceived usefulness and perceived ease of use significantly affect consumers' attitude, assessed by their satisfaction with the EC channel.

Eastin, 2002	USA	50 e-commerce-oriented news groups was obtained	Perceived convenience is strongly predicted towards adoption of online shopping among those influential variables.
Hwang, Powell-Perry & Lai, 2003	Taiwan	206 primary research data were collected inside the waiting lounge of Taiwan's CKS Taipei airport	Over half of the population will not consider convenience as factor to purchase ticket online at their first place.
Kanungo & Jain,2004	USA	183 graduate student in the part-time MBA at university, Washington DC	Perceived risk is insignificant for purchase intention. Difference in relationship between perceived ease of use and behavioural intention based on the nature of task for which web is used.
Kim, Kim & Shin, 2009	South Korea	Customers with experience in using B2C e-Commerce	Perceived ease of use has a more profound effect on attitude toward use of B2C e-Commerce websites than that of customers' perceived usefulness.
Lee & Yi, 2008	USA	163 shoppers	Perceived risk was negatively significantly associated with impulsive buying behaviour.
Lee, Kozar & Larsen, 2003	USA	A total of 32 researchers (16 of them TAM researchers and 16 Non-TAM researchers)	There have 74 studies showed that perceived usefulness is a stronger determinant of behavioural intention (BI). Only 58 studies showed a significant relationship between perceived ease of use and BI.
Li & Huang, 2009	Taiwan	637 consumers who ever shopped in the online shopping channel	Perceived usefulness and perceived ease of use have positively affect behavioural intention.
Moon & Kim, 2001	South Korea	152 graduate student who were majoring in the School of Management	There had positive influence of perceived usefulness and ease of use on the behavioural intention to use the World Wide Web.
Park & Kim, 2003	South Korea	602 individual consumers who have experience with purchasing products at online stores	Security perception has a significant effect on consumers' site commitment that affects their purchase intention.

Salisbury, Pearson, Pearson & Miller, 2001	USA	169 undergraduate students at a rural South-eastern US university	Increased levels of perceived Web security will lead to greater intent to purchase products on the Web.
Samadi & Yaghoob-Nejadi, 2009	USA	360 Tehrani online shoppers who have made purchase of computer-related products within the last 12 months	There is a negative relationship between perceived risk in the Internet shopping and consumers' purchasing intention.
Shon, Chen & Chang, 2003	Taiwan	Passengers in different airports in Taiwan	Worry about data security is the significant reason for consumers not buying tickets on websites.
Sulaiman, Ng, & Mohezar, 2008	Malaysia	291 respondents from Kuala Lumpur, Malaysia	Convenience and ease of use are the two top positive perceptions of the consumers towards e-ticketing. Security was found to be the biggest barrier of e-ticketing.
Wan & Che, 2004	China	Chinese passengers in Pearl River Delta region	Perceived usefulness is insignificant for intention to use e-ticketing.
Yi & Hwang, 2003	USA	109 students who use Blackboard system	Perceived ease of use and perceived usefulness had a significant effect on behavioural intention.

APPENDIX 3.1

Variables and Measurement

Measurement Variable		**Measurement**	**Scale of Measurement**	**Sources of questionnaire**
Independent Variables	Convenience	Interval scale	5-point Likert Scale	Adapted from Forsythe, Liu, Shannon & Gardner (2006); Li, Kuo & Russell (1999); Rohm & Swaminathan (2004).
	Security	Interval scale	5-point Likert Scale	Adapted from Alam & Yasin (2010); Park & Kim (2003).
	Perceived usefulness	Interval scale	5-point Likert Scale	Adapted from Devaraj et al. (2002); Koufaris & Hampton-Sosa (2002).
	Perceived ease of use	Interval scale	5-point Likert Scale	Adapted from Devaraj et al. (2002); Koufaris & Hampton-Sosa (2002); Shih (2004).
	Perceived risk	Interval scale	5-point Likert Scale	Adapted from Dehbashi (2007).
Dependent Variable	Consumers' intention on e-ticketing	Interval scale	5-point Likert Scale	Adapted from Salisbury et al. (2001).

APPENDIX 3.2

Questionnaires

UNIVERSITI TUNKU ABDUL RAHMAN
Faculty of Business and Finance

BACHELOR OF COMMERCE (HONS) ACCOUNTING
FINAL YEAR PROJECT

TITLE OF TOPIC:
An Analysis of the Determinants Influencing the Consumers' Intention towards Adoption of e-ticketing on Transportation in Malaysia

Survey Questionnaire

Dear respondent,

I am final year undergraduate student of Bachelor of Commerce (Hons) Accounting, from Universiti Tunku Abdul Rahman (UTAR). The **purpose** of this survey is to illustrate the key factors influencing consumers' intention towards adoption of e-ticketing on transportation in Malaysia.

Thank you for your participation.

Instructions:

1) There are **THREE** (3) sections in this questionnaire. Please answer ALL questions in ALL sections.

2) Completion of this form will take you approximately 10 to 15 minutes.

3) Please feel free to share your comment in the space provided. The contents of this questionnaire will be kept **strictly confidential**.

Section A: Demographic Profile

Please provide the appropriate information by placing a tick (√) in the box [ ] to represent your answer.

1. Gender:

[ ] Male [ ] Female

2. Age:

[ ] below 18 [ ] 18-25

[ ] 26-35 [ ] 36-45

[ ] 46-55

3. Occupation:

[ ] Student [ ] Employed

[ ] Self-employed [ ] Retirement

[ ] Others (Please specify: _____)

4. Current monthly income/ incentives:

[ ] Below RM 1,000 [ ] RM 1,001- RM 2,000

[ ] RM 2,001- RM 3,000 [ ] RM 3,001- RM 4,000

[ ] RM 4,001- RM 5,000 [ ] More than RM 5,001

5. Education:

[ ] Certificate/ SPM/ STPM [ ] Diploma

[ ] Bachelor Degree [ ] Master Degree

[ ] Doctorate Degree [ ] Others (Please specify :_____)

6. Current living states:

[ ] Selangor [ ] Johor

[ ] Sabah [ ] Sarawak

[ ] Perak

Section B: General Information

1. Are you aware that you can purchase tickets online via Internet?

[ ] Yes [ ] No

2. Have you ever made any ticket purchase online?

[ ] Yes [ ] No (Please proceed to Q6)

3. Which type of tickets have you purchased online before?

[ ] Airline ticket [ ] Railway ticket

[ ] Bus coach ticket [ ] Movie ticket

[ ] Concert ticket [ ] Sport ticket

[ ] Others (Please specify: _____)

4. How often do you purchase tickets online?

[ ] Weekly [ ] Monthly [ ] Annually

5. How many times had you purchase tickets online?

[ ] 1-5 [ ] 6-10 [ ] 11-15 [ ] more than 15

6. If you have NOT made purchase of tickets online before, please tick the possible reasons below:

[ ] Do not use computer [ ] Prefer to purchase at the counter

[ ] Not familiar with Internet usage [ ] Security reasons

[ ] Others (Please specify:
_____)

Section C

Please circle your answer to rate your agreement towards each statement using 5-Likert scale. [(1) =strongly disagree; (2) =disagree; (3) =neutral; (4) =agree; (5) =strongly agree]

Convenience

		Airline					**Railway**					**Bus**				
1	The transportation website is a convenient way of purchasing e-ticket.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2	Saving time while purchasing e-ticket is very important to me.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3	I want to be able to purchase e-ticket at any time of the day.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4	E-ticketing can save the effort of visiting counters.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Security

		Airline					**Railway**					**Bus**				
1	Transportation websites provide detailed information about security.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2	I feel secured in providing personal information for purchasing transportation tickets online.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3	I feel that my privacy is protected when I'm purchasing ticket online.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4	I trust transportation websites with respect to my credit card information.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5	I am not afraid that my private information will be used in an unwanted manner.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Perceived Usefulness

		Airline					Railway					Bus				
1	I would find the transportation website useful.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2	Using transportation website can improve my purchasing ticket performance.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3	Purchasing transportation tickets online gives me greater control.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4	Purchasing transportation tickets online improves the quality of decision making.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5	Purchasing transportation tickets online is a more effective way to make purchase.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Perceived Ease of Use

		Airline					Railway					Bus				
1	Learning to purchase transportation ticket online would be easy for me.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2	My interaction with transportation website is clear and understandable.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3	It would be easy for me to become skilful at purchasing ticket online.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4	I feel that most transportation websites allow easy ordering on-line.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5	I feel that most transportation websites allow easy payment.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Perceived Risk

		Airline					Railway					Bus				
1	Using e-ticketing will not cause me to lose control over the privacy of my payment information.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2	Using e-ticket will not add great uncertainty to my travel plan.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3	Internet hackers (criminals) may not take control of my account if I use e-ticketing.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4	Servers perform well and it's not possible that I will lose my ticket.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5	The possible time loss from having to set-up and learn how to use e-ticketing is not risky.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Consumers' Intention

		Airline					Railway					Bus				
1	I would use the transportation website for purchasing a ticket.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2	Using the transportation website for purchasing a ticket is something I would do.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3	I could see myself using the transportation website to buy a ticket.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Thank you for your time, opinion and comments.
~The End~

APPENDIX 4.1

Central Tendency

Table 4.12 (a): Central Tendency of Security for Transportation

		SD	D	N	A	SA	Mean	Std. Dev.
S1	Transportation websites provide detailed information about security.	5.1%	17.5%	33.7%	32.6%	11.1%	3.27	1.0067
S2	I feel secured in providing personal information for purchasing transportation tickets online.	6.8%	18.3%	34.9%	29.7%	10.2%	3.19	1.0584
S3	I feel that my privacy is protected when I'm purchasing ticket online.	9.8%	19.4%	33.9%	25.3%	11.6%	3.09	1.1235
S4	I trust transportation websites with respect to my credit card information.	9.4%	17.7%	33.8%	24.0%	15.1%	3.18	1.1336
S5	I am not afraid that my private information will be used in an unwanted manner.	13.0%	20.5%	30.7%	24.3%	11.5%	3.00	1.1748

Table 4.13 (a): Central Tendency of Perceived Usefulness for Transportation

		SD	D	N	A	SA	Mean	Std. Dev.
PU1	I would find the transportation website useful.	2.9%	15.6%	31.3%	33.5%	16.8%	3.46	1.0180
PU2	Using transportation website can improve my purchasing ticket performance.	3.3%	18.0%	30.3%	36.0%	12.4%	3.36	1.0184
PU3	Purchasing transportation tickets online gives me greater control.	3.7%	11.0%	36.5%	33.1%	15.6%	3.46	0.9870
PU4	Purchasing transportation tickets online improves the quality of decision making.	2.4%	9.7%	26.9%	40.0%	21.0%	3.68	0.9757
PU5	Purchasing transportation tickets online is a more effective way to make purchase.	3.8%	7.8%	24.7%	42.1%	21.6%	3.70	1.0141

Table 4.14 (a): Central Tendency of Perceived Ease of Use for Transportation

		SD	D	N	A	SA	Mean	Std. Dev.
PEOU1	Learning to purchase transportation ticket online would be easy for me.	3.2%	12.2%	25.0%	38.3%	21.4%	3.63	1.0339
PEOU2	My interaction with transportation website is clear and understandable.	2.9%	10.6%	22.7%	41.0%	22.9%	3.71	1.0110
PEOU3	It would be easy for me to become skilful at purchasing ticket online.	2.5%	6.9%	26.3%	47.5%	16.8%	3.69	0.9146
PEOU4	I feel that most transportation websites allow easy ordering on-line.	3. %8	9.3%	29.0%	44.2%	13.7%	3.55	0.9571
PEOU5	I feel that most transportation websites allow easy payment.	3.8%	12.4%	27.6%	39.8%	16.4%	3.53	1.0211

Table 4.15 (a): Central Tendency of Perceived Risk for Transportation

		SD	D	N	A	SA	Mean	Std. Dev.
PR1	Using e-ticketing will cause me to lose control over the privacy of my payment information.	7.8%	29.2%	37.2%	21.9%	3.9%	2.85	0.9751
PR2	Using e-ticket will add great uncertainty to my travel plan.	9.0%	27.9%	35.5%	22.5%	5.0%	2.87	1.0211
PR3	Internet hackers (criminals) may take control of my account if I use e-ticketing.	11.7%	22.2%	34.4%	21.7%	10.0%	2.96	1.1424
PR4	Servers perform well and it's possible that I will not lose my ticket.	10.5%	34.7%	32.2%	18.7%	3.9%	2.71	0.9902
PR5	The possible time loss from having to set-up and learn how to use e-ticketing is risky.	10.8%	37.8%	32.7%	14.5%	4.1%	2.63	0.9902

Source: Developed for the research.

APPENDIX 4.2

Pearson's Correlation Analysis

Table 4.20 (a): Correlations for Transportation

		DV	IV_C	IV_S	IV_PU	IV_PEOU	IV_PR
DV	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	290					
IV_C	Pearson Correlation	.350**	1				
	Sig. (2-tailed)	.000					
	N	290	290				
IV_S	Pearson Correlation	.468**	-.023	1			
	Sig. (2-tailed)	.000	.692				
	N	290	290	290			
IV_PU	Pearson Correlation	.678**	.508**	.394**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	290	290	290	290		
IV_PEOU	Pearson Correlation	.690**	.283**	.504**	.562**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	290	290	290	290	290	
IV_PR	Pearson Correlation	-.500**	.027	-.627**	-.419**	-.588**	1
	Sig. (2-tailed)	.000	.647	.000	.000	.000	
	N	290	290	290	290	290	290

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.20 (b): Correlations for Airline Industry

		DV_A	IV_A_C	IV_A_S	IV_A_PU	IV_A_PEOU	IV_A_PR
DV_A	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	290					
IV_A_C	Pearson Correlation	.483**	1				
	Sig. (2-tailed)	.000					
	N	290	290				
IV_A_S	Pearson Correlation	.396**	.176**	1			
	Sig. (2-tailed)	.000	.003				
	N	290	290	290			
IV_A_PU	Pearson Correlation	.638**	.586**	.442**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	290	290	290	290		
IV_A_PEOU	Pearson Correlation	.665**	.396**	.393**	.571**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	290	290	290	290	290	
IV_A_PR	Pearson Correlation	-.201**	.116*	-.365**	-.178**	-.257**	1
	Sig. (2-tailed)	.001	.048	.000	.002	.000	
	N	290	290	290	290	290	290

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.20 (c): Correlations for Railway Industry

		DV_R	IV_R_C	IV_R_S	IV_R_PU	IV_R_PEOU	IV_R_PR
DV_R	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	290					
IV_R_C	Pearson Correlation	.343**	1				
	Sig. (2-tailed)	.000					
	N	290	290				
IV_R_S	Pearson Correlation	.472**	.104	1			
	Sig. (2-tailed)	.000	.076				
	N	290	290	290			
IV_R_PU	Pearson Correlation	.635**	.467**	.425**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	290	290	290	290		
IV_R_PEOU	Pearson Correlation	.625**	.344**	.535**	.540**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	290	290	290	290	290	
IV_R_PR	Pearson Correlation	-.455**	-.033	-.577**	-.367**	-.491**	1
	Sig. (2-tailed)	.000	.580	.000	.000	.000	
	N	290	290	290	290	290	290

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.20 (d): Correlations for Bus Industry

		DV_B	IV_B_C	IV_B_S	IV_B_PU	IV_B_PEOU	IV_B_PR
DV_B	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	290					
IV_B_C	Pearson Correlation	.283**	1				
	Sig. (2-tailed)	.000					
	N	290	290				
IV_B_S	Pearson Correlation	.528**	-.031	1			
	Sig. (2-tailed)	.000	.599				
	N	290	290	290			
IV_B_PU	Pearson Correlation	.644**	.409**	.395**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	290	290	290	290		
IV_B_PEOU	Pearson Correlation	.650**	.195**	.565**	.500**	1	
	Sig. (2-tailed)	.000	.001	.000	.000		
	N	290	290	290	290	290	
IV_B_PR	Pearson Correlation	-.497**	-.020	-.627**	-.450**	-.603**	1
	Sig. (2-tailed)	.000	.737	.000	.000	.000	
	N	290	290	290	290	290	290

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Developed for the research.

APPENDIX 5.1

Table 5.1: Summary of Demographic Profile

Profile	Category	Count	Percentage
Gender	Male	100	34.5%
	Female	190	65.5%
Age	18-25	186	64.1%
	26-35	67	23.1%
	36-45	20	6.9%
	46-55	17	5.9%
Occupation	Student	128	44.1%
	Employed	145	50.0%
	Self-employed	9	3.1%
	Retirement	2	0.7%
	Other	6	2.1%
Current Monthly income/ incentives	Below RM1000	125	43.1%
	RM1001-RM2000	79	27.2%
	RM2001- RM3000	47	16.2%
	RM3000-RM4000	19	6.6%
	RM4001- RM5000	11	3.8%
	More than RM5000	9	3.1%
Education	Certificate/SPM/STPM	100	34.5%
	Diploma	27	9.3%
	Bachelor Degree	139	47.9%
	Master Degree	7	2.4%
	Doctorate Degree	2	0.7%
	Others	15	5.2%
Current living states	Selangor	106	36.6%
	Johor	53	18.3%
	Perak	46	15.9%
	Sabah	41	14.1%
	Sarawak	44	15.2%

Source: Developed for the research.

APPENDIX 5.2

Table 5.2: Results of Hypotheses

Hypothesis	**Test the difference of means of different groups with dependent variable**	**Significant p-value**	**Result**
Hypothesis 1	H_1o: There is a no relationship between convenience and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.	0.217 > 0.05	Do not reject H_{1o}
Hypothesis 2	H_2o: There is a no relationship between security and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.	0.073 > 0.05	Do not reject H_{2o}
Hypothesis 3	H_3o: There is a no relationship between perceived usefulness and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.	0.000 < 0.05	Reject H_{3o}
Hypothesis 4	H_4o: There is no significant relationship between perceived ease of use and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.	0.000 < 0.05	Reject H_4o
Hypothesis 5	H_5o: There is no significant relationship between perceived risk and consumers' intention towards adoption of e-ticketing on transportation in Malaysia.	0.216 > 0.05	Do not reject H_5o

Source: Developed for the research.