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A Study on Consumers' Intention to Use E-Ticketing System for Train Service in Malaysia: The Technology Acceptance Model (TAM)

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Abstract:

The main aim of the study is to investigate consumers' intention to use the e-ticketing system for train services in Malaysia in the application of Technology Acceptance Model (TAM). TAM was chosen as the basis of the framework for this study to explain passenger acceptance through their intention to use e-ticketing and justify their intentions in terms of convenience, security, perceived usefulness, perceived ease of use, and perceived risk. A survey was carried out to 250 train passengers at selected train stations in Malaysia. The findings of this study were useful for train transportation as a reference in identifying consumers' perception and attitude to further improve the e-ticketing system. This paper would also contribute to other transportation companies, system developers, and the public on future trends as well as the development of e-ticketing.

Keywords: *Consumers' Intention, Technology Acceptance Model (TAM), e-business, e-ticketing*

1. Introduction

E-ticketing is the new way of issuing and delivering tickets. It is a paperless electronic document used by ticketing passengers as a pass to enter a place. The major objectives of e-ticketing is to simplify the process of buying tickets and to reduce costs that goes to printing tickets. While e-ticketing creates cost savings for transportation companies, passengers gain their benefits in terms of convenience. The advancement and progression of innovation has changed customers' techniques to buy goods. Several organizations have begun to move towards the Information Technology approach as an option-selling tool to reach the objectives of cost efficiency. Hence, e-ticketing gradually becomes one of the most favourable methods used by the Internet commerce to attract more users.

In recent years, many industries started to adopt the Internet to enhance their business. The trend of a computerized ticketing system is widely used, especially in the airline industry, followed by cinema and public transportation industries. Despite the trend and the advantages of purchasing tickets online, there are still people who do not have the intention to use the e-ticketing system to purchase online tickets. Previous studies show that the two belief factors of the TAM model are easy to understand and can be manipulated in information system design and implementation (Hung & Chang, 2004). TAM has been the most commonly employed model of IT use (Taylor & Todd, 1995). Therefore, the purpose of carrying out this research is to study people's intention to use the e-ticketing system for train services in the application of the TAM model.

1.1. Types of Research

This study adopted the quantitative research method. Quantitative research is suitable as this method explains phenomena by collecting the numerical data then mathematically analysed. The objective of quantitative research is to quantify data and generalise results from a sample to the population of interest as well as to employ mathematical models, theories, and hypotheses pertaining to the phenomena.

1.2. Problem Statement

Nikhashem et al. (2011) studied about people's perception towards e-ticketing service with questioning why some peoples use e-ticketing while some do not use e-ticketing and stick to the traditional ways although e-ticketing services are already implemented in Malaysia. However, there is a limitation in this study, whereby it requires additional samples for generalisation. Importantly, an extended behaviour intention of users about e-ticketing also needed to be examined for further understanding in intention of users towards e-ticketing.

The previous research conducted by Sulaiman et al. (2008) investigated the reasons of customers purchasing online tickets in Malaysia. Nevertheless, the study only recognised the patterns and examples of e-ticketing among groups essentially in the Kuala Lumpur region. This may cause due to the lack of understanding and expectation of consumers towards e-ticketing in Malaysia. Previous studies stated that there is a minimum number of studies that analysed customers' intention of purchasing online tickets especially in the transportation industry. On the other hand, because the research area is limited only in Klang Valley, therefore, the results do not completely represent the overall customers' intention in Malaysia. In a nutshell, an exploration on diverse parts of Malaysia should be carried out to portray a more extensive picture of users' intention and behaviour towards e-ticketing for train services.

Hence, this study explores how the Technology Acceptance Model (TAM) influences users' intention to use e-ticketing. This study adopted TAM because previous studies recommended to further explore in behavioural intention and IT use of users towards e-ticketing.

1.3. Research Objectives

The following are the research objectives for this study:

- (i) To examine the relationship between convenience and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.
- (ii) To investigate the relationship between security and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.
- (iii) To determine the relationship between perceived usefulness and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.
- (iv) To identify the relationship between perceived ease of use and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.
- (v) To analyse the relationship between perceived risk and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.

1.4. Research Questions

The following are the research questions for this study:

- (i) Does convenience has a relationship with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia?
- (ii) Does security has a relationship with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia?
- (iii) Does perceived usefulness has a relationship with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia?
- (iv) Does perceived ease of use has a relationship with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia?
- (v) Does perceived risk has a relationship with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia?

1.5. Research Hypotheses

The research hypotheses are as follows:

- H1: Convenience has a positive relationship with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.
- H2: Security has a positive relationship with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.
- H3: Perceived usefulness has a positive relationship with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.
- H4: Perceived ease of use has a positive relationship with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.
- H5: Perceived risk has a positive relationship with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.

2. Literature Review

This section presents a brief review of the literature that is relevant to the study.

2.1. Convenience

The factors of the essential online buying driver of convenience such as availability to shop at home 24/7 every week, ease of use, momentum and savings on the split second of the time, procurements of conveyance administrations by suppliers, and the capacity of the information are the definition of convenience as declared by Kolsaker, Lee-Kelly, and Choy (2004). Delafrooz, Paim, and Khatibi (2011) conducted an empirical study that concluded that there was a connection between the mindset of consumers and convenience

towards online shopping, which is significant and positive as shopping in-store is not as suitable as compared to online home shopping.

According to Sulaiman et al. (2008), the clear indication of the motivations and limits in e-ticketing demonstrated that convenience serves as the subsequent constructive view of the purchasers towards e-ticketing. Shah Alam and Mohd Yasin (2010) conducted a research that indicated the reason why the purchase of air tickets online is becoming more prominent in Malaysia is due to the convenience element.

It has distinctive recognitions towards the relationship with consumers' intention to purchase tickets online based on the previous studies performed by the researcher. Hence, it is important to examine whether convenience will affect consumers' intention on using the e-ticketing system for train services by KTMB in Malaysia.

2.2. Security

Consumers are concerned with whether their credit card data that has been given out will be hacked into when the innovation and technology of e-commerce is present, in which they barely predicted that the proposed party would not abuse the data that they have been given. Security has been constantly arguable in creating unnecessary anxieties among the consumers and it is important towards consumers' intention on using e-ticketing.

Allred et al. (2006) discovered that shoppers do not feel certain to take part in online exchanges in light of security and innovative ineptitude. Aside from that, a research conducted by Sulaiman, Ng, and Mohezar (2008) showed that security and privacy concerns were found to be the largest barriers of online ticketing in Malaysia.

According to Littler and Melanthiou (2006), consumers have difficulties in doing an analysis on whether a certain website contains risks and viruses once they log into the system since they are not as familiarised as professional people. As there is the existence of uncertainty and due to many complications present in e-commerce, online consumers reflect on whether their financial information such as credit cards are safe to be sent to a dealer through the use of the Internet (Akhter, 2006), and as a result of this, most consumers dread to provide their credit card information to do any transaction on the Internet.

In view of the fact that security has been an extraordinary concern constantly and with a great impression on the shoppers' intention of buying tickets online in view on past studies, the relationship between security and consumers' intention to using the e-ticketing system for train services is implemented to examine the variable of security.

2.3. Perceived Usefulness

Davis (1989) observed that perceived is defined in the TAM model as the operation associated with a programme the item works by pertaining to end users to drive them to adapt with the determination to define the fundamental construct in the users' behavioural intention. Davis (1989) concluded that consumers' perception on the computing technology has a high connection. According to TAM, perceived usefulness is by the same token influenced by perceived ease of use due to the easiness of the course of action.

Perceived usefulness has a stronger effect on repeated purchases towards an e-service website (Cyr et al., 2007). At the same time, it is also found that perceived usefulness is a fundamental indicator of attitude for technology adoption as stated by Curran and Meuter (2005). Other than that, the region in which online traders should be emphasising on to enhance consumers' attitude towards online shopping is perceived usefulness claimed by Delafrooz et al. (2011).

As one of the independent variables in the TAM model, perceived usefulness is widely employed by researchers in carrying out their studies and has proven its importance on behavioural intention of shoppers. Consequently, perceived usefulness is adapted to be a well-known individualistic variable that would be within the realm of possibility to influence consumers' intention.

2.4. Perceived Ease of Use

Perceived ease of use is defined as the degree to which a person believes using a particular online service system would enhance their performance (Davis, 1989). This construct is central to TAM (Davis, 1989) and has been used in many technology-based studies. Davis (1989) claimed that an application is more likely to be accepted by users if it is perceived to be easier to use than others.

According to Barnes and Vidgen (2006), a website will be easier for customers to use when the website's structure is clear and understandable. As for a website with a complex structure, it should have the capability of quick searching for users to reach their required information (Huizingh, 2000). In a previous study, it has been reported that ease of use affects the most on users to purchase online. The convenience of use has an obvious impact on consumers' shopping favourites and contentment (Devaraj, Fan, & Kohli, 2002). A site that has no trouble to discover, utilise, and explore has more noteworthy interest from users (Feel, 2012).

Individuals have a tendency to keep a high level of trust in Internet shopping when they see that it is easy to use and has high calibre (Ding Mao, 2010). Perceived ease of use grants buyers to effortlessly comprehend and digest the information before they decide to make an advisable choice. By using online shopping, the purchase activity can save time and effort. Therefore, perceived ease of use is very important in influencing customers' intention in making online purchases.

2.5. Perceived Risk

It is a known fact that risk can be real and as long as it is real, it will affect consumers' purchasing behaviour (Kovacs, 2011). Perceived risk also refers to uncertainty and undesirable results that consumers encounter during the transaction since consumers are not favourable on how the transaction actually does take place (Suresh & Shashikala, 2011). The term perceived risk means an individual's subjective belief about some potentially negative consequences from his or her decision (Caral-Mafe, 2009).

Chen (2010) stated that security risk affects online purchase intention. Moreover, Samadi and Yaghoob-Nejadi (2009) explained that the more risk the consumer perceives, the lesser the chance of a business transaction being completed. As a result, consumers will become more risk averse and slowly react negatively towards e-ticketing. Lee and Huddleston (2010) recommended that analysing the types and roles of different perceived risks will provide businesses a better understanding of consumer behaviour with regards to online shopping. Most of the researches adopted perceived risk as the important factor to discuss customer behaviour as this variable can be a tool to discuss customers' risk perception as per highlighted (Shin, 2010).

Lee and Yi (2008) examined that perceived risk is an important determinant of consumer behaviour that is related to impulse buying behaviour. Several researches focused on studying risk, trust, and perceived behaviour control that will affect consumers' intention (Bigné, 2010). On the other hand, an examination obtained by Chen (2006) and Kamarulzaman (2007) demonstrated that risk perception becomes an imperative part when adopting Internet tourism service. Therefore, perceived risk should give clarification on consumers' intention when performing online services with TAM as the theoretical foundation.

2.6. Consumers' Intention

Because of the many variables involved and consumers' tendency to interact and influence each other, this has caused their behaviour to be quite complex. Homburg et al. (2005) defined behaviour intention as a person's perceived likelihood or subjective probability that he or she will engage in a given behaviour.

According to Harthorne and Ajjan (2008), behavioural intention is the most critical indicator of real conduct when the user structures a stable proposition to take a particular plan.

Wu and Chen (2005) recommended that the intention to adopt a given system depends on: (1) the attitude towards using the system, and (2) the perceived usefulness of using the system. The development of Internet technology allows Malaysian consumers to make online purchases from online sellers and to look for product information through the Internet (Kwek, Tan, & Lau, 2010).

3. Research Method

This section discusses the research method employed in this study. Section 3.1 explains the conceptual framework. Section 3.2 explains the adopted research model. In a later section, the research design, data collection, and analysis are discussed.

3.1. Conceptual Framework

Figure 1 depicts the study's conceptual framework. This framework shows consumers' intention to use online tickets in terms of convenience, security, perceived usefulness, perceived ease of use, and perceived risk.

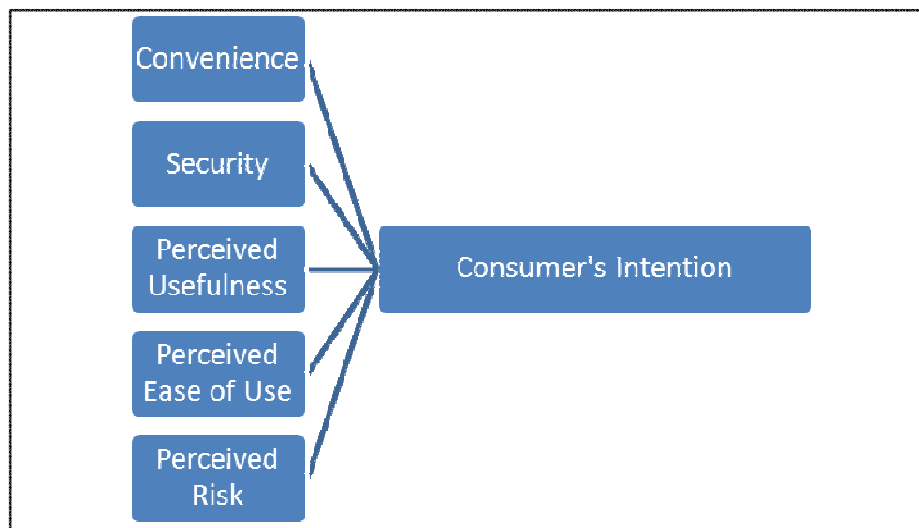


Figure 1: Conceptual Framework of the Study

3.2. Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is one of the frameworks of the theory to explain and predict user acceptance towards information technology developed by Fred D. Davis in 1989. The purpose of the Technology Acceptance Model is to offer a basis to grab hold of the impact of external factors on internal beliefs, attitudes, and intention of use (Davis, 1989). According to TAM, there are two determinants that influence attitude towards using a new technology: 'perceived usefulness' and 'perceived ease of use' (Davis, 1989). Perceived usefulness is defined as a person's belief that using a particular system would enhance his or her job performance, while perceived ease of use is defined as the degree to which a person believes that using a particular online service system would be free of effort (Davis, 1989).

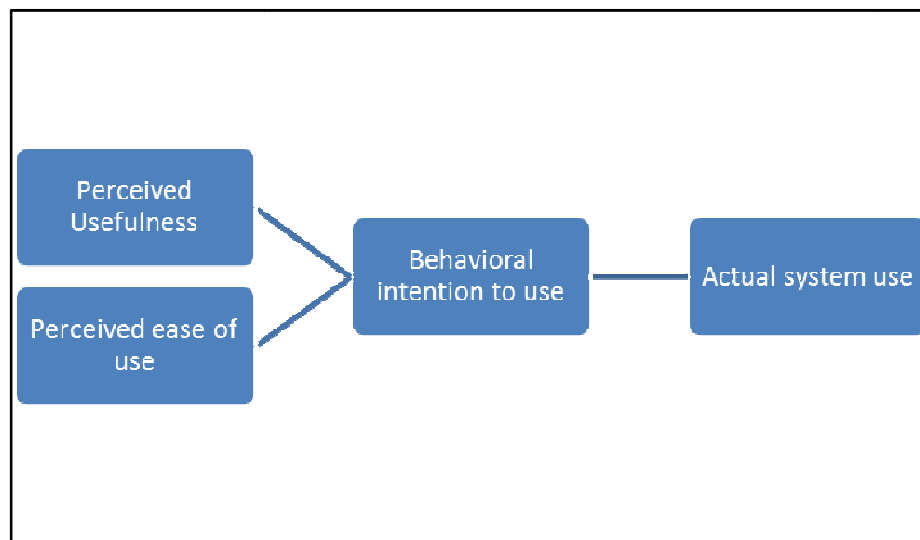


Figure 2: Technology Acceptance Model. Source: Davis et al. (1989)

According to the TAM theory, it can be concluded that the more usefulness the users can perceive, the more positive attitude and the greater intention towards the technology they will have (Taratanaphol & Thavornchak, 2009). TAM explains that a consumers' intention to use a technology can be influenced by the consumer's perception on the perceived usefulness and perceived ease of use of that particular technology (Davis, 1989). Researchers generally use the TAM model to conduct a research on consumers' intention towards e-ticketing and both of the two factors: perceived usefulness and perceived ease of use have a positive influence on consumers' intention (Al-Maghrabi, Basahel, & Kamal, 2011).

Furthermore, if users find out that the technology is simpler to use than others, they are more inclined to acknowledge that application too (Taratanaphol & Thavornchak, 2009). TAM is one the most effective approaches for accepting new information technologies by consumers (Baire & Stuber, 2010). Therefore, the two variables are conducted in this study to identify the most expressive factors that influence customers' intention towards electronic ticketing in Malaysia.

3.3. Research Design

Research design can be defined as the overall strategy used to integrate different components of a study in a representative way to ensure research problems are effectively addressed. Research design helps the researcher to organise the research activities, including data collection, in ways that are most likely to achieve the research objectives. This research is a descriptive research, where the purpose is to identify the independent variable and the dependent variables. This study is being conducted by a quantitative approach.

3.4. Population and Sampling Procedures

The purpose of this study is to identify the factors influencing consumers' intention to use the e-ticketing system for train services by KTMB in Malaysia. The target population for this study were customers who were waiting for the train at the station.

Purposive and Convenience Samplings under Nonprobability Sampling Techniques are the sampling methods used. The reason of use of the purposive method is because the targeted sample must have bought an online ticket before, hence, only they will be able to provide the most reliable result based on the research title, whereas convenience sampling was used because it is quick, convenient, and less expensive, and it was also chosen due to time constraints and lack of human resource.

Sample size can be defined as the number of respondents involved in a study (Bajpai, 2011). Besides, Kotler and Keller (2008) mentioned that a large sample often gives more reliable results than a small sample. However, there are various situations that have different sizes. A self-administered questionnaire was distributed to 250 people randomly in selected areas in Malaysia. This sample size is adopted based on a mathematical table proposed by Sekaran (2003).

3.5. Data Collection Method

A questionnaire technique is used in collecting primary data. The questionnaire was distributed by using the self-administrated method to those who had used e-ticketing services before. The self-administered questionnaire survey method is used because: (1) it is less expensive than interviews; (2) the respondents are assured of anonymity and privacy in which they can feel freer to provide honest responses; (3) no possibility of interviewer bias; and (4) the questionnaire can easily be distributed to large numbers of people at once which involves less administrative time.

3.6. Variable Measurement

This study uses questionnaires to obtain the required data. The questionnaire was divided into three parts: Section A consisted of demographic profile, Section B comprised general information, and Section C consisted of six parts. The six parts of Section C are independent variables of the study, which include the five factors and also the dependent variable that is consumers' intention. The

questionnaire was conducted by using the interval scale from 1 if strongly disagree to 5 for strongly agree in each series of the statement.

3.7. Data Analysis

The study also undertook the Reliability Analysis to determine the level of acceptance of alpha value (alpha value at a range of more than 0.7 is acceptable according to George and Mallery (2003)). Normality Test was also carried out and the level of significance at $p < 0.05$ was used. If the items are normal, an independent t-test will be conducted. The demographic profile of the respondents will be analysed in percentage and also converted into a pie-chart. Besides, Pearson Correlation will be used for the hypothesis testing to indicate the relationship, and Multiple Regression Analysis will be conducted to test the relationship between the variables.

3.8. Descriptive Analysis

Descriptive Analysis is utilised to explain and acknowledge the evidence of samples collected and summarise a supposing dataset, which can either be a random sample of the entire population or an illustration of the sample. Measurement of central tendency and measurement of variability or dispersion are used to describe the dataset. The investigation is fundamentally utilised as part of the demographic profile of Part A and general data question of Part B.

3.9. Test

Several different tests were performed to the data that has been collected.

3.9.1. Reliability Test

Repeated measurement made on the characteristics of the scale is the extent in which the production of the consistent results is known as reliability. The test is carried out to validate whether the items in the questionnaire are related to each other for the research. The test is an approach to assess the reliability where the respondents are administered identical sets of scale items at two different times, under as nearly equivalent conditions as possible. Cronbach's Alpha Reliability Test is used to average the coefficient ranging from 0 to 1. The following table shows the rules of thumb on Cronbach's Alpha Coefficient Size.

3.9.2. Normality Test

Normality Test is used to determine whether a dataset is well modeled by a normal distribution and probability for continuous data (Creswell, 2009). Normality test includes skewness and kurtosis tests, kolmogorov-Smirnoz, and Shapiro-Wilk. The skewness ranged between -1.0 and 1.0 is considered close to normal. Qualitatively, a negative skew indicates that the tail on the left side of the probability density function is longer than the right side. Conversely, a positive skew will show a longer tail at the right side than the left side. A zero value indicates that the values are evenly distributed on both sides.

3.9.3. Pearson's Correlation Coefficient

Pearson Correlation Coefficient is the most famous measurement tool that has been used by most researchers that are designated to study the correlation between independent variables and dependents variables (Statistics How To, 2009-2012). Sekaran (2003) also mentioned that Pearson Correlation is used to study the relationship between the two variables based on significance, magnitude and direction.

4. Findings

This section presents the study's findings.

4.1. Demographic Profile

This demographic profile includes the following characteristics of the respondents: gender, age, occupation, income level, and education level. From a total number of 250 questionnaires that were distributed, 249 valid questionnaire responses were used in the quantitative analysis.

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	134	53.8	53.8	53.8
	Male	115	46.2	46.2	100.0
	Total	249	100.0	100.0	

Table 1: Reliability testing of dependent variables and independent variables

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
0.919	0.920	27

Table 2: Reliability statistics

Variables	N of Items	Cronbach's Alpha	Results
Convenience	4	0.846	Reliable
Security	5	0.788	Reliable
Perceived Usefulness	5	0.805	Reliable
Perceived Ease of Use	5	0.873	Reliable
Perceived Risk	5	0.779	Reliable
Consumers' Intention	3	0.835	Reliable

Table 3: Reliability testing of all the variables

Under the best circumstances, DeVellis (2003) stated that the coefficient of scale for Cronbach's Alpha should precede 0.7. As depicted in Table 3, all the variables are found to be reliable, whereby the lowest score ($\alpha=0.779$) has also exceeded the requirement proposed by DeVellis (2003).

4.2. Normality Test

In this section, the results from the normality test are discussed. Table 4 tabulates the results based on skewness and kurtosis.

Item	Statistics	
	Skewness	Kurtosis
Convenience	-0.838	0.825
Security	-0.584	0.189
Perceived Usefulness	-0.051	0.718
Perceived Ease of Use	-0.345	0.272
Perceived Risk	-0.17	0.492
Customers' Intention	-0.586	0.701

Table 4: Results for normality test

To test the normality of the collected data for each variable, a skewness and kurtosis analysis was conducted. It was carried out to ascertain the well representation of the normal distribution on a set of data or it can be computed to be normally distributed using the underlying random variables. The skewness and kurtosis analysis has shown results of coefficients ranging between -1.0 and +1.0, which are considered as normal. As shown in Table 4.5.1, the skewness and kurtosis scores for each variable range from -0.051 to -0.838 and 0.189 to 0.825 respectively, which means that all the variables are normally distributed.

4.3. Pearson's Correlation Analysis

		SumCI	SumConv	SumSecurity	SumPU	SumPeou	SumPR
SumCI	Pearson Correlation	1	.529**	.407**	.477**	.607**	.403**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	249	249	249	249	249	249
SumConv	Pearson Correlation	.529**	1	.235**	.537**	.512**	.197**
	Sig. (2-tailed)	.000		.000	.000	.000	.002
	N	249	249	249	249	249	249
SumSecurity	Pearson Correlation	.407**	.235**	1	.311**	.482**	.489**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	249	249	249	249	249	249
SumPU	Pearson Correlation	.477**	.537**	.311**	1	.546**	.379**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	249	249	249	249	249	249
SumPeou	Pearson Correlation	.607**	.512**	.482**	.546**	1	.479**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	249	249	249	249	249	249
SumPR	Pearson Correlation	.403**	.197**	.489**	.379**	.479**	1
	Sig. (2-tailed)	.000	.002	.000	.000	.000	
	N	249	249	249	249	249	249

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

Table 5: Correlation analysis

- Correlation between convenience and consumers' intention to use e-the ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia

There is a moderate significant correlation ($r = +0.529$) between convenience and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia. The correlations are significant at the 0.01 level as the p-values are stated at 0.000.

- Correlation between security and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia

There is a moderate significant correlation ($r = +0.407$) between security and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia. The correlations are significant at the 0.01 level as the p-values are stated at 0.000.

- Correlation between perceived usefulness and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia

There is a moderate significant correlation ($r = +0.477$) between perceived usefulness and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia. The correlations are significant at the 0.01 level as the p-values are stated at 0.000.

- Correlation between perceived ease of use and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia

There is strong significant correlation ($r = +0.607$) between perceived ease of use and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia. The correlations are significant at the 0.01 level as the p-values are stated at 0.000.

- Correlation between perceived risk and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia

There is a moderate significant correlation ($r = +0.403$) between perceived risk and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia. The correlations are significant at the 0.01 level as the p-values are stated at 0.000.

5. Conclusion

This chapter basically discusses the conclusions and implications based on the findings. Additionally, this chapter identifies a few limitations and recommendation for future direction of study for researchers. During the entire research process, the relationships of the independent variables with consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia are examined.

Hypotheses	Results			Conclusion
	Significance (P-value)	Strength (r)	Direction	
Hypothesis 1: There is a significant relationship between convenience and customers' intention to use the e-ticketing system for train services by KTMB in Malaysia.	0 Significance	0.529	Positive	Accepted
Hypothesis 2: There is a significant relationship between security and customers' intention to use the e-ticketing system for train services by KTMB in Malaysia.	0 Significance	0.407	Positive	Accepted
Hypothesis 3: There is a significant relationship between perceived usefulness and customers' intention to use the e-ticketing system for train services by KTMB in Malaysia.	0 Significance	0.477	Positive	Accepted
Hypothesis 4: There is a significant relationship between perceived ease of use and customers' intention to use the e-ticketing system for train services by KTMB in Malaysia.	0 Significance	0.607	Positive	Accepted
Hypothesis 5: There is a significant relationship between perceived risk and customers' intention to use the e-ticketing system for train services by KTMB in Malaysia.	0 Significance	0.403	Positive	Accepted

Table 6: Result for hypotheses testing

- Hypothesis 1: There is a significant relationship between convenience and customers' intention.

As depicted in Table 6, it shows a positive and significant relationship between convenience and customers' intention ($r=0.529$, $p<0.05$). The relationship is positive and the strength is moderate. This is reliable with the discoveries by Delafrooz et al. (2011) and Sulaiman et al. (2008), which revealed that convenience has significant effects on consumers' intention to purchase online. Since the findings are consistent, thus, it could be figured that Hypothesis 1 is approved. In conclusion, there is a positive relationship between convenience and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.

- Hypothesis 2: There is a significant relationship between security and customers' intention.

As depicted in Table 6, it shows a positive and significant relationship between security and customers' intention ($r=0.407$, $p<0.05$). The relationship is positive and the strength is moderate. Most of the participants demonstrated that they are likely more confident with the particular safety measures from the train service website, showing that there is a relationship between security and customers' intention. In conclusion, there is a positive relationship between security and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.

➤ Hypothesis 3: There is a significant relationship between perceived usefulness and customers' intention.

As depicted in Table 6, it shows a positive and significant relationship between perceived usefulness and customers' intention ($r=0.477$, $p<0.05$). The relationship is positive and the strength is moderate. The result has proven to be in accordance with the studies connected with past reports including Lee and Wang (2003), in which perceived usefulness is the essential indicator on consumers' behavioural intention. In conclusion, there is a positive relationship between perceived usefulness and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.

➤ Hypothesis 4: There is a significant relationship between perceived ease of use and customers' intention.

As depicted in Table 6, it shows a positive and significant relationship between perceived ease of use and customers' intention ($r=0.607$, $p<0.05$). The relationship is positive and the strength is strong. This is consistent with the findings by Ding Mao (2010), which indicated that individuals are likely to retain an increased higher level of trust in the web-based searching due to the ease of use, in addition to the top quality from the Internet site. Furthermore, according to Barnes and Vidgen (2006), perceived ease of use has a significance influence on consumers' intention as the website will be easier for customers to use when the website's structure is clear and understandable.

➤ Hypothesis 5: There is a significant relationship between perceived risk and customers' intention.

As depicted in Table 6, it shows a positive and significant relationship between perceived risk and customers' intention ($r=0.403$, $p<0.05$). The relationship is positive and the strength is moderate. Several researches focused on studying risk, trust and perceived behaviour control that will affect consumers' intention (Bigné, 2010). The outcome turned out to be reliable with the discoveries of Lee and Yi (2008), which examined perceived risk as an important determinant of consumer behaviour that is related to impulse buying behaviour. In conclusion, there is a positive relationship between perceived risk and consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.

Based on the results found, an implication has been drawn out. It offers a number of significances that could be helpful for the train service organisation and the rail industry by using e-ticketing pertaining to the railway sector, which is still in the developing stage when compared with other transportation industries.

This study aimed to identify customers' intention of using e-ticketing for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia. There are a few recommendations for further future continuation of this research paper. The future researcher may want to consider other factors that may influence customers' intention towards e-ticketing that are not mentioned in this research. In order to gain a better understanding of consumers' intention to use e-ticketing or purchase online tickets, there are numerous variables that ought to be investigated and considered. Some of them are specified in this study, while some of them are most certainly not. The further study ought to discover other potential components or qualities that have more grounded impacts and are well unsurprising towards purchasers' choice-making. A face-to-face interview procedure could be performed in order to obtain the target respondents' data instead of using the questionnaire method. For instance, the researcher can have a meeting with the participants one by one.

A direct correspondence with respondents enables researchers to understand much more regarding the expectation of customers; accordingly, the outcomes will be more precise and accurate. Moreover, because e-ticketing for railway services is still in the developing phase, it is assumed that e-ticketing in train industry will probably be popularised in the foreseeable future. Hence, future researchers are encouraged to focus and explore more on it. Time limitation will constrain the outcome of the study, in which a longitudinal research should be conducted to carry out the right timeframe in order to distinguish the participants on the preferred concentration on human population.

6. Conclusion

This study was conducted to investigate customers' intention to use the e-ticketing system for train services in Malaysia. The Technology Acceptance Model was applied in the study. Hypotheses were formulated in such a way to find whether there is a relationship between the independent and dependent variables. The research findings show that convenience, security, perceived usefulness, perceived ease of use, and perceived risk are the determinants influencing consumers' intention to use the e-ticketing system for train services by Keretapi Tanah Melayu Berhad (KTMB) in Malaysia.

Based on the respondents' demographic profile, the research findings suggest that most respondents who purchase online tickets are mainly the younger generation (18 to 25 years old) and they at least attained tertiary level of education. They are familiar with web services and online applications and are worry-free to use the online service for the sake of their own convenience. Therefore, the use of e-ticketing will increase in the near future as the younger generation are mostly technology-savvy. In a nutshell, from all of the conclusions made, the study proved that the e-ticketing system for the railway industry could be performed effectively in the future through this research.

Almost all of the participants recognise that there is a positive relationship between perceived ease of use and customers' intention towards online ticket purchase. Based on the results, perceived ease of use has a strong positive influence on customers' intention to use e-ticketing. The ease of use and simplicity of a website will lead to more people using the e-ticketing system. Besides, websites ought to be customised more adequately to address the issues of consumers in view of ability levels.

Last but not least, railway market sectors should preferably keep pace with airline market sectors in the e-ticketing perspective. The greater part of the outcomes from this study may become a helpful device to guide the transportation industry in enhancing their criterion on service performance in order to improve the certainty of customers and assemble a long haul association with purchasers.

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