

# THE MODERATING EFFECT OF TECHNOLOGY ACCEPTANCE PERSPECTIVES ON THE FORMATION OF E-SQ AND SERVICES SATISFACTION IN LOW COST CARRIER AIRLINE

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## Abstract

As an increasingly demand in public transportation and electronic transaction, the service quality of website determine the successful of the service provider organization. Therefore, electronic service quality (e-SQ) plays an important role for any business that involved with online transaction to attract customers. Customer's assessment of e-SQ usually based on their actual experiences of interacting with the website. According to the past research conducted the relationship exist between e-SQ and service satisfaction, furthermore the moderating effect of technology acceptance model (TAM) show positive moderate the relationship. With improving e-SQ and TAM it will improve service satisfaction. However, the relationship between "e-SQ-TAM-service satisfaction" is not consistent discuss in low cost carrier airline in Malaysia. With concern to further understanding of this area, the present study explore dimensions of e-SQ in low cost carrier airline context and their relationship with service satisfaction. Furthermore the moderating effect of perceived ease of use and perceived usefulness (TAM) was explored. This study employed convenience sampling procedure and questionnaire method to gain data, 392 completed questionnaires were gathers from Malaysia Airline Industries (low cost carrier) website user. The result indicated that e-SQ dimensions: customization, site privacy and aesthetic, efficiency, system availability and fulfillment constitute e-SQ for low cost carrier airline. Moreover the result also illustrate that perceived ease of use and perceived usefulness (TAM) positively moderate the relationship between e-SQ and service satisfaction.

Keywords: Technology acceptance model; e-SQ; Service satisfaction; Ease of use; Perceived usefulness;

## 1.0 INTRODUCTION

Service industries has rapid shift in the last decade under the pressure of technology, which is creating new service, new product, new opportunities in market as well as developing more information and system oriented business. Nowadays, competitive business environment with globalization of the market and booming of internet application, makes most of the organization trying harder to attract and wining new customers and try to maintain relationship with existing customers by giving them more satisfaction in the highly competitive electronic market [1]. These challenge also faced by airline industries players [2].

Electronic service quality (e-SQ) plays an important role for any business that have involved with online transaction to attract customers, by improving e-SQ it will improve and create service satisfaction and fulfil customer's expectation. Customer's assessment of website quality usually base on their actual experience of interacting with the site as well as core service quality and recovery service quality [1]. Improving e-SQ can be the key advantage in nowadays electronic service market, therefore understanding, measuring and managing e-SQ have become significant issue to ensure customers satisfaction, loyalty and turn into profitability to service provider firm.

Previous researcher [1], [2], [3] indicated that e-SQ will affect the service satisfaction positively. Oh and Heamoon [4] provided evidence that influence role of service quality and it direct antecedent of perceived service satisfaction, thus as electronic service quality improve the probability of customers service satisfaction expected to be increase. Previous research on marketing point out the key of corporate success and competitive advantage are the enhancement of service quality and service satisfaction [5]. The formations of electronic service quality and service satisfaction have long being discussed and it is the most important research topic in service marketing literature.

Research conducted by Kuo, Wu and Deng [6] indicated that service quality influence service satisfaction. Thus, as service quality improve, the probability of service satisfaction is expected to increase. Davis [7] has come out with questions "what cause people accept or reject information technology?" he found that many variable may influence system usage some researcher suggest that people tend to use an applications to the extent that

they believe it will help them perform their job better, on others words it can be defined as perceived usefulness. Furthermore, even potential user believes that a given application is useful, but the system is too hard for use and the performance benefit of usage are outweighed by using of application they may refuse information technology, on others words it can be defines as perceived ease of use.

To study individual intention to accept or reject technology, Technology Acceptance Model (TAM) is one of the most used model. A study conducted by past researcher demonstrated that the effect of perceived ease of use and perceived usefulness plays an important role in online adaption intention.

## 2.0 THE FORMATION OF e-SQ AND SERVICE SATISFACTION

There is an on-going discussion in the literature about the relation and underlying different between customer's quality perceptions and satisfaction in both traditional and internet based services. Customer's assessment of electronic service quality include their experience of interacting with the site as post interaction service aspects, which encompass core service quality and electronic recovery service quality. Ongoing attempts to understand the dynamics of service in online shopping context have found electronic service quality related with perceived service satisfaction as describe in figure 1.

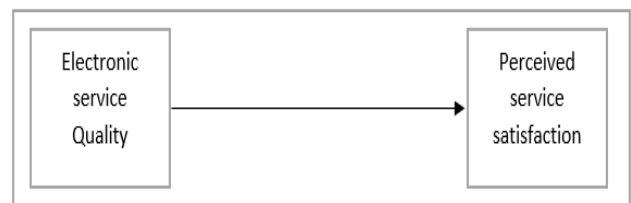


Fig. 1. Relationship of e-SQ and perceived service satisfaction.

Across the literature there has inconsistence relationship between electronic service quality and perceived service satisfaction being address. Research conducted by Chang, Wang and Yang [18] address that electronic service quality and customers' satisfaction has positive relationship. On other pool research conducted by Johnston [17] address that service quality may not be critical for customers'

satisfaction but can significantly lead to dissatisfaction. Therefore the moderating dimensions need to be considered to consistence the relationship between electronic service quality and perceived service satisfaction.

Service satisfaction can be described as evaluation of an emotion. Service satisfaction refers to the degree to which customers are satisfied and pleased with their online shopping experience. Service satisfaction is driven from perceived quality. Customers will compare their own service experience and expectations when their perceived fair treatment [8]. In order to satisfy customers, service firm needs to offer three aspects namely, product quality, service quality and price value base upon customers' expectations.

### 3.0 TAM AND ITS EFFECT ON THE FORMATION e-SQ AND SERVICE SATISFACTION

Technology Acceptance Model (TAM) was widely used by previous researcher in studying individual intention to adopt technology. TAM was introduced by Davis [7] to explain computer usage behavior. It assumed that perceived usefulness and perceived ease of use was major influence on individual attitude towards technology acceptance. Others researcher Shin [9] indicated the same thing while conducting a study, user attitudes and intentions are influenced by perceived usefulness and perceived ease of use.

Conventional TAM has suggested two beliefs that are perceived usefulness and perceived ease of use as instrument in explaining the variance in the intention of the users. Davis [7] encouraged examining the variance in the intention information system acceptance by extending the TAM model. While the TAM has mainly focused on explaining utilitarian information system adoption, customers' acceptance towards internet or website system might require modification and validation of the model.

Perceived ease of use and perceived usefulness are assumed to have an effect on the attitude in using website. Research conducted by Shin [9] indicated that technology acceptance factor such as perceived ease of use and perceived usefulness influence relationship between e-SQ and service satisfaction and all relationship show very positive relationship. Result also demonstrated that the effect of perceived ease of use and perceived usefulness will be stronger on the relationship between e-SQ and service satisfaction.

From the logic perspective, perceived ease of use and perceived usefulness plays an important role in

relationship e-SQ and service satisfaction. Similarly, it is expected that relationship between e-SQ and service satisfaction Malaysia low cost carrier airline are positively influence by perceived ease of use and perceived usefulness. In order to find out this issue, it needs to be validated whether this relationship really exist in Malaysia low cost carrier airline industries.

Figure 2 shows the general framework could be driven based on literature review and past researcher on Technology Acceptance Model (TAM) influences on the formation.

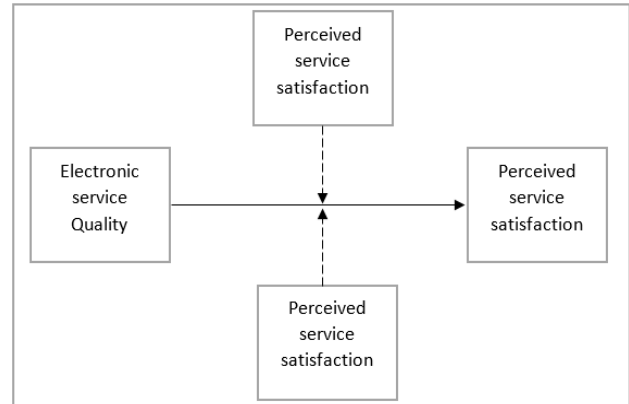


Fig. 2. General research framework.

### 4.0 RESEARCH METHODOLOGY

Base on the review of e-SQ dimensions on previous research conducted in airline industries, the six dimensions of e-SQ was identify to determine electronic service quality of Malaysia airline industries low cost carrier. The e-SQ dimension for this study was adopted and modified base on e-S-Qual [10], the dimensions selected were efficiency, fulfilment, system availability and privacy. Base on literature review others two dimensions was added and modified by authors were site aesthetic and customization [2].

Five item used on measure Malaysia airline industries low cost carrier service satisfaction website users, all item was adopted base on the construct on service satisfaction purpose by Janda, Trocchia and Gwinner [11]. In orders to measures perceived ease of use and perceived usefulness, researcher was employ the TAM constructs were adapted from Davis [7], each instrument consisted of six items.

The population size for this research was the total numbers of Malaysia airline industries low cost carrier website user (international tickets holders). According to Sekaran [12] a range of minimum number of sample size was 30 and maximum numbers of sample size was 500 is acceptable for electronic marketing surveys. Sample size required should be 5 to 10 time of

variable with 10% and 5% margin error. The numbers of total variable in the developed questionnaire was 49, thus a minimum of 245 questionnaire are needed with 10% margin error and 490 questionnaire are needed with 5% margin error. In this research the researcher select 5% margin error. However, only 392 set questionnaires were fully answered and completed by respondent.

## 5.0 RESULT

To examine the moderating effects of perceived ease of use and perceived usefulness of Technology Acceptance Model (TAM) on the relationship between e-SQ and service satisfaction, hierarchical model were used in this analysis. Four regression steps (the moderating effects of TAM on the relationship between e-SQ and service satisfaction, have been develop to test the moderating variable to the independent and dependent variable.

First step to perform analysis on the moderating variable (perceived ease of use and perceived usefulness) is test the relationship between independent variable (e- SQ) and the dependent variable (service satisfaction) by using a simple regression analysis. Regression analysis result show R values load was 0.813. The value represents positive and significant relationship between variables. After the first step analysis represented significant result, analysis for TAM (perceived ease of use and perceived usefulness) and perceived service satisfaction was continued.

The second step continued with analysis of relationship between independent variable (e-SQ) and moderating variable (perceived usefulness and perceived ease of use) by using simple regression analysis. Result regression analysis present R value loaded between 0.822 and 0.829 and  $P < 0.01$ . These values show there is a relationship between this variable. The relationship between variables can be concluded as positive and significant.

Third step followed by testing the relationship between the moderating variable (perceived usefulness and perceived ease of use) with independent variable (service satisfaction) by using simple regression analysis. The result show R value 0.762 and 0.866, furthermore all the service satisfaction dimension as independent variable are significantly correlated with the moderating variable ( $p < 0.01$  and  $t > 1.96$ ). Therefore, the third condition is met where these values represent positive and significant relationship between variable. With significant value represents step 1 until 3 represent all variable have a significant relationship between independent variable, dependent variable and moderating variable. Thus, the last step which is step 4

shall be continued to analyses moderating variable between relationship independent variable and dependent variable. Step 1 until 3 represent all variable have a significant relationship between independent variable, dependent variable and moderating variable. Thus, the last step which is step 4 shall be continued to analyses moderating variable between relationship independent variable and dependent variable.

The last step in hierarchical regression model analysis would be decided whether TAM variable (perceived ease of use and perceived usefulness) is moderating variable between relationship e-SQ and service satisfaction. This last step would use multiple regression analysis in analyzing the moderating effect. In the regression analysis to test the moderator, there have three steps to follow [13], [14] which are:

1. Enter independent variable on first block of regression analysis.
2. Enter moderating variable on second block of regression analysis.
3. Enter result of independent variable multiple with moderating variable on third block of regression analysis.

### **Relationship between e-SQ, perceived ease of use and service satisfaction**

Multiple regression analysis result (relationship between e-SQ, perceived ease of use and service satisfaction), show when independent variable (e-SQ) enter in first block of regression analysis  $R^2$  value loaded 0.662 it represent that 66.2% of service satisfaction dimension being explain by e-SQ and it significant. In second block when moderating dependent (perceived ease of use) being added  $R^2$  value increase to 0.782 it show increasing trend to 12% and it significant. Increasing  $R^2$  value 12% on service satisfaction contributed by moderating variable (perceived ease of use).

Furthermore in third block, when result of independent variable multiple with moderating variable (e-SQ X perceived ease of use), it show increasing value on  $R^2$  from 0.782 to 0.785 (increasing value 0.003) and it was significant  $P < 0.05$ . Thus, result of multiple between independent variables and moderating variable contribute 0.3% variance explained to service satisfaction. Regression analysis result represent all finding in steps 4 was significant. This result indicate that perceived ease of use suitable being a moderating variable between e-SQ and service satisfaction.

### Relationship between e-SQ, perceived usefulness and service satisfaction

Referring to multiple regression analysis result of relationship between e-SQ, perceived usefulness and service satisfaction, indicated that when independent variable (e-SQ) enter in first block of regression analysis  $R^2$  value loaded 0.662 it represent that 66.2% of service satisfaction dimension being explain by e-SQ and it significant. In second block when moderating dependent (perceived usefulness) being added  $R^2$  value increase to 0.686 it show increasing trend to 2.4% and it significant. Increasing  $R^2$  value 2.4% on service satisfaction contributed by moderating variable (perceived usefulness). Furthermore, on third block when result of independent variable multiple with moderating variable (e-SQ X perceived usefulness), it show increasing value on  $R^2$  from 0.686 to 0.687 (increasing value 0.001) and it was not significant  $P>0.05$ . Then, the multiple results of these variables (independent and moderating) only contribute 0.1% value of the service satisfaction variance.

Regression analysis result represent only first and second block was significant and the third block was not significant. This result indicates that perceived usefulness not suitable being a moderating variable between e-SQ and service satisfaction, although there is a significant relationship between e-SQ, perceived usefulness and service satisfaction.

## 6.0 DISCUSSION

Many studies conducted to investigate factors that influence individuals to the acceptance of information technology. Using the technology approaches, many researchers have used different theories to test the determinant factors in specific theory that affect the information technology acceptance. There are two popular theories that have been used by the researcher in the research. The two theories are Theory of Reason Action (TRA) and Technology Acceptance Model (TAM).

Technology of Reason Action (TRA) was introduced by Fishbein [15], which described an individuals' relationship between attitudes, intentions and behaviors on human action. The operationalization of TRA construction was develop from attitude measurement toward an object or action. It assumes individual decision to perform some action is based on the outcomes that the individual expect that they will received [16].

Technology Acceptance Model (TAM) was introduced by Davis [7], which described an individuals' acceptance of information technology.

The objective of TAM stressed on adoption degree of a person in using a technology and aspect that affects the acceptance. TAM was the early model attempted to apply psychological factors to information system and computer adoption. It assumes perceived of use and perceived ease of use was the major influence of an individual's attitude toward technology [7].

The current study focused on investigating customers perception of e-service quality experiences and perceived service satisfaction by applying the concept of Technology Acceptance Model (TAM) perspective (perceived usefulness and perceived ease of use) to predict consumers behaviours when purchasing online tickets from a low cost carrier service provider. Having integrated the result of previous research with this study, it is evidence that perceived ease of use and perceived usefulness not only play a key role in predicting customers attitude towards online shopping and purchasing intention, but also in exploring the moderating role of the consumers who have experienced purchasing e-traveling service

A study conducted by Shih [9] demonstrated that the effect of perceived ease of use and perceived usefulness will be stronger on the relationship between e-service quality and e-service satisfaction. Examples of previous researcher finding was the same with this current research finding when the researcher performed analysis for the moderating effect (perceived ease of use and perceived usefulness) between variable (e-service quality and perceived service satisfaction), researcher also found the same finding like previous researcher dedicated on their research finding where perceived ease of use and perceived usefulness (TAM variable) play a positive moderating effect between dependent variable and independent variable. As the result showed R value for moderating effect in this study represented value between 0.762 and 0.866, it showed there was positive and high moderating correlation between independent variable and dependent variable in this study.

As conclusion perceived ease of use and perceived usefulness play an important role in determining service quality and perceived service satisfaction with online adaption intention in Malaysia airline industry low cost carrier. When Technology Acceptance Model (TAM) moderated the formation of relationship between e-service quality and service satisfaction, it was found the relationship between variable in Malaysia airline industry (low cost carrier) become more positive. This finding was similar with research conducted by Lee and Wu [19] were perceived usefulness which factor of the technology acceptance model positively moderate the



relationship between electronic service quality and perceived service satisfaction.

Finally study focused only on conventional Technology Acceptance Model (TAM) that contained only two dimensions which were perceived usefulness and perceived ease of use. Therefore future studies should focus and expend on investigating the extended Technology Acceptance Model (TAM) in order to get the holistic result of moderating effect on e-service quality. The extended TAM included additional dimension of perceived credibility and computer self-efficacy that may influences how electronic consumers perceived e-SQ, perceived value and service satisfaction in low cost carrier airline.

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