The Mediating Effect of E-Customer Satisfaction between E-Commerce Service Quality and E-Customer Loyalty in Malaysian Hotel Industry

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ABSTRACT

The tourism industry, especially the hotel sector has international dimensions and becoming highest sites visitor day by day. This study focuses on foreign tourist since it contributed to the tourism industry as second largest foreign exchange earner in Malaysia economy. The objective of this study is to examine the correlation between e-commerce service quality, e-customer satisfaction and e-customer loyalty. It further attempted to examine how significant does e-customer satisfaction in mediating the relationship between the factors of e-commerce service quality and loyalty. The researcher adopts the quantitative method (correlational design), so that the questionnaire could be sent to a large number of informants which making the collection of great sample feasibility. Even though there is such an empirical study of this topic before, but there is still no specific study conducted in the East Coast Region of Malaysia. The result shows that the Cronbach alpha of all variables tabulated to be 0.984, 0.961 and 0.965 while the Correlation Pearson shows the significance value which are 0.926, 0.833 and 0.806. Therefore, all alternate hypotheses are acceptable and e-customer satisfaction is acceptable as mediator. This result can also help the hotel industry in identifying to what extent the e-commerce service quality and e-customer satisfaction functional to retain customers.

KEYWORDS: E-Commerce Service Quality, Hotel Industry, Three-Star Hotels, Multiple Regression Analysis, Mediating Model Testing.

INTRODUCTION

The evolution of information communication technology such as the usage of the internet in most areas within Malaysia is continuously expanding year by year. The usage of the Internet first started in the year 1990 with the setup of the first Malaysian internet service provider (ISP) which known to be JARING. Five years following that the traditional telecommunication provider made another major moved with the establishment of TM Net [1]. Today, there are many other internet service providers that keep on competing each other in order to fulfill the users’ need. E-commerce website is one of the well-known online services that maintain its vital strategies in business as it covers the worldwide and consists of countless networks and computers. It was reported that by June 2010, there were approximately 2 billion active internet users globally. Of the total, about 17 million were Malaysian internet users. By 2013, Internet World Stat listed that the most online transactions in Malaysia are tourism industry. About RM435 million are used for the operation as equal to 24%, which more than others industry [2].

Beside of its growing, e-consumers demonstrated of its convenience as they are exposed to more choices in planning their budget for vacations. In fact, about 95% of web users have actively searched the related travel information through internet [3]. Not only that, when come to the final stage of decision making, about 75% of the travel purchasers end up the purchasing transaction through internet. Similarly, with the use of e-commerce it further facilitates the operational management of the hotel as it can boost up the customer satisfaction. Eventually, it further endured customer’s loyalty on using the internet as a way of making purchases transaction.

Until today, there is no doubt that the service sector significantly acknowledged to be one of the engines that support the economic development of Malaysia. It accounts for approximately 50% of the Gross Domestic Product (GDP). At the same time, the tourism industry is one of the roots and key contributor ramble to the socioeconomic expansion in Malaysia. As the third foremost contributor to the economy next to the manufacturing and the oil palm sector, the government see the potential of making the hotel industry keep on with the growth momentum for the future. According to the list released by the World Tourism Organization (UNWTO), Malaysia was ranked 14th as a top global tourism sector [4]. However, by increasing revenue as much as RM1 billion each week in 2014, it reinforced the position of Malaysia to be ranked as the 13th top tourist visit destination in the world [5].

In line with the Economic Transformation Program, Malaysia Government encourages service industry and marketing to apply e-commerce, especially the tourism industry since Malaysia aim to have RM 36 million
tourists and RM168 billion tourism revenue in 2020 [6]. Notwithstanding, the arrival rate of tourists from any countries of the world in two states of the east coast region in Malaysia namely Terengganu and Pahang are totally declining since 2011 to 2013. While in Kelantan, the rate of foreign tourists seems to fluctuate when it shows the declining in 2012. Then, positive progress number of tourists in 2013 and the most troubled occurs when the total revenue of Malaysia’s tourism in 2014 is RM72 billion only [7]. However, the Malaysian government tries to find a way to evade this worried situation because these three regions have the potential to be developed with the uniqueness of nature. On top of relying on tourist arrivals, the declining rate of hotel occupancy needed the attention of the authorities, as it used to be associated due to lacking of service quality rendered, failure of promotional campaign to reach the target market, inadequacy of information and technology management [8].

Besides, the difficulties in the accommodation, hotel businesses require a superior comprehension of customer satisfaction and customer loyalty in accomplishing Malaysia as a respectable and favored place to visit in Asia. That is the reason why Malaysia government focuses on exclusive hotel and yet proposed the period of application for Pioneer and Investment Tax Allowance be extended for another year until 31 December 2016. It could provide adequate international standards and attracting visitors, especially from the category of luxury and high spending [9]. All inclusive, customer loyalty ordinarily has solid ties in expanded benefits and long haul advancement of a company [10, 11]. A smaller increment in the quantity of customer loyalty can expand the benefits radically inside a company [12, 13]. Overall, it was shown that loyalty and satisfaction studies related to services’ quality offered in the hotel industry are quite important. Parallel with the vision 2020 and the need to fill the urgency of the gap, this study is necessary as it will furnish identification of the tourist groups that make decisions of visiting the east coast of Malaysia using e-commerce and decided on the selection of web site hotel for room reservation. With this investigation the relevancy of e-commerce service quality, e-customer satisfaction and loyalty justifiable to be a great assistance to the east coast region of Malaysia.

LITERATURE REVIEW

This segment not only explain the details of e-commerce service quality, the e-customer satisfaction and e-customer loyalty but also show the conceptual framework of 3 variables as well as preceding studies on e-service quality.

E-Commerce Service Quality

In [14] recognized e-commerce as the permutation of the potentiality of economic and ability electronic to foster up the online business. While, the quality of the product or service information can be explained as the perceived value of service or product quality from the customer assessment based on information displayed on the website [15]. As relayed by [10, 16], the features, quality or whatever information to be displayed on the website should be interrogated as the way they are to be presented will provide the image of credibility to e-customers. In 2002, comQ scale has been introduced for ensuring that e-commerce service quality can be effectively measured [17]. E-commerce service quality defined as in which a business creates value for customers, anticipate customer requirement and then that business demonstrate the ability and responsibility to the customer requirements [8]. Whereas, in [10] research model acknowledges and stated 4 factors of e-commerce service quality. It includes interface quality as perceived by the user, the value associated with the quality of information, perceived safety and security and the assurance of privacy. On the other hand, according to [19], service quality is hard to explain and measure because it is highly subjective and evasive in nature. That is the reason why many models had been developed on service quality. The 14 items divided in this scale into 4 factors. Firstly, the scale focused on web site design. Then, the second factor that is located in this scale is reliability. Then, the other item divided into third and the fourth factor which is the privacy or security and the customer service. However, the researcher had chosen model by [10] as the core reference as this research is the latest and its dimensions is suitable for Malaysian hotel industry, especially east coast of Peninsular Malaysia.

H1: E-commerce service quality (ESQ) directly influences e-customer loyalty (EL)
H2: There is a significant relationship between e-commerce service quality (ESQ) and e-customer satisfaction (ES)

E-Customer Satisfaction

Customer satisfaction is about how customers feel happy with the product or service being presented. As briefly, customer satisfaction is a standpoint of how a business delivery inclines to the formation of perceived added value by the customers, dealing and anticipating their requirements and showing ability to fulfil their needs. The result of satisfaction gained will be further reflected based on the thought of the accepted value received during the transaction. At this point of the exchange process, it is very necessary to ensure that a favourable feature can be observed when comparing between perceived service quality and expected value
generated during the transaction [18]. However, in [20] stated that customer satisfaction is only one reason and it is not a major cause of why customers would switch to other service or product. In contrast, in [21] concluded that if the customer is satisfied at a high level with something, it would lead to the loyalty. The statement was supported by the study by [22] show customer satisfaction is a major cause in determining customer loyalty. The study carried out by [23] also found that satisfaction with the e-commerce web site act as a key determinant in promoting loyalty among customers. It has been repeatedly argued that the process of justifying satisfaction within the hotel industry, in most occasion the issues are always closely linking with the aspect of service quality. As such, it is essential for the hotels to continuously enhance the service quality and ensuring that satisfaction is felt so that repeat service can be always occurring in a future transaction [24, 25]. Thus, the researcher would like to test the existence and the impact of this mediator between the relationship of e-commerce service quality and e-customer loyalty in this study.

H3: E-customer satisfaction (ES) has a significant relationship on e-customer loyalty (EL)

**E-Customer Loyalty**

One way of providing a clear definition of customer loyalty is by observing the commitment of customers in executing a repeat purchase of the product and services from an organization consistently [10]. While, the loyalty of customers can also be explained based on the preference to purchase a product or service following the recommendation given to others by word of mouth [26, 27]. Within the context of e-commerce, the need to understand and monitor loyalty of customers are always extremely relevant and highly valuable. The discovery of information from loyal customers not only fruitful, but the act of spreading out the favorable information further reinforced customers’ acceptance. Sustaining a loyal customer is extremely useful as it helps an institution to increase revenue, while at the same time it act as a measurement for analyzing an outcome of successful tourism destination [28]. A customer usually have first expectations or first impression before buying something, then build the perception of the performance of services and products that are used over the period of initial application. Then, the customers will determine their level of satisfaction based on how far their expectations confirmed by comparing the actual performance of services and customer’s expectations in the beginning. With an effort for understanding the behavior of repeat visit customers, it is essential that segmentation of different groups should be seriously strategies. With the segmentation it may allow a business to design proper promotional strategies that can capture different market needs.

Typically, the use of e-commerce web sites among traders, not only attempting to generate sales, sharing information but also geared toward cultivating customer loyalty. So, it is important to know the proposed dimension to make the e-commerce application to be more efficient and of a high quality. With this approach it will affect the expansion of a lifelong relationship which had been established earlier between the customer and the dealer. Ultimately, the online customer connection will be strengthened, satisfaction will improve and loyalty of customers will be retained [29].

**Conceptual Framework of E-commerce Service Quality, E-customer Satisfaction and E-customer Loyalty**

This conceptual framework is adapted and adopted based on the prior research model by [30, 31, 10]. Figure 1 demonstrated the relationship of independent variable, mediator and dependent variable in order to build a conceptual framework.

![Conceptual framework](image)
METHODOLOGY

Target Populations

<table>
<thead>
<tr>
<th>State</th>
<th>Hotel</th>
<th>(n)</th>
<th>(%)</th>
<th>Unit of Analysis (uoa)</th>
<th>Respondent (uoa – n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pahang</td>
<td>43</td>
<td>34</td>
<td>54</td>
<td>135</td>
<td>4</td>
</tr>
<tr>
<td>Kelantan</td>
<td>10</td>
<td>10</td>
<td>40</td>
<td>48</td>
<td>4</td>
</tr>
<tr>
<td>Terengganu</td>
<td>19</td>
<td>19</td>
<td>30</td>
<td>75</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>63</td>
<td>100</td>
<td>250</td>
<td></td>
</tr>
</tbody>
</table>

The questionnaires were distributed to hotel’s customers or hotel’s clients at each hotel’s receptionist counter. Then, the researcher has given each hotel 1 to 3 weeks to collect and return all questionnaires that have been answered. According to [32], there were 72 of three stars and above hotels in east coast of Peninsular Malaysia. The researcher just selects 63 hotels since referred to [32] table, if the range of population is 71 until 75, then the appropriate sample size to be used is 63. From 63 samples, the number of samples from each state ought to be 21 hotels. But for Kelantan and Terengganu, the number of hotels is limited (10 and 19). Therefore, the total number of samples in Terengganu and Kelantan are not enough and it would be added by the hotel in Pahang which has more hotels. To make it clear, refer to Table 1.

Data Collection

In this study, only 3 star, 4 star and 5 star hotels around the east coast Peninsular Malaysia involved. The researcher selected the hotel industry because the industry is one of the key industry listed by the Malaysian Government in Economic Transformation Program. This research also applied a quantitative study method as the way to obtain through the finding and result. The researcher also decided to use self-administered questionnaires as a research mechanism. In order to make this research more competitively and reliable, the researcher uses 2 sampling techniques. Firstly, by selecting three states (cluster sampling), then randomly pick up 250 hotel’s customers (simple random sampling). According to [33], it suggested that the sample must have more observation of variables and the minimum number of sample size for each instrument is 5 and maximum of ten (10) observation. Thus, the researcher decided to collect the maximum number of sample size (10 x 25 instruments = 250 respondents)

FINDINGS AND DISCUSSION

Reliability Test

Tables 2 portrays the result of reliability analysis for the measurement scales.

Table 2: Reliability analysis

<table>
<thead>
<tr>
<th>Measure</th>
<th>No. of Item</th>
<th>Alpha Cronbach</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-commerce Service Quality (ESQ)</td>
<td>13</td>
<td>0.984</td>
</tr>
<tr>
<td>E-customer Satisfaction (ES)</td>
<td>4</td>
<td>0.961</td>
</tr>
<tr>
<td>E-customer Loyalty (EL)</td>
<td>5</td>
<td>0.965</td>
</tr>
</tbody>
</table>

The researcher uses Cronbach’s Alpha in Statistical Package for the Social Science (SPSS) to test for internal consistency. According to [34], the Cronbach’s Alpha value that is higher than 0.7 is considered good and acceptable. The results from Table 2 reveal that the Cronbach’s Alpha coefficients for three variables have very high internal consistency. The closer the Cronbach’s Alpha coefficient is to 1, the higher the internal consistency and reliability.

Pearson Correlation Analysis

Based on the Table 3, it demonstrates that, the positive relationship between ESQ and ES and the range is very strong (0.926). While, e-commerce service quality as independent variable and e-customer loyalty as dependent variable has a positive relationship with the good range (0.806). The e-customer satisfaction also has a good relationship with e-customer loyalty with the range (0.833). Thus, the alternate hypothesis H1, H2 and H3 is accepted.

Multiple Regression Analysis

Table 4, Table 5 and Table 6 show the results of multiple regression analysis that were produced based on mediating model testing procedure. This model testing is suggested by [35]. The researcher uses multiple regressions in SPSS 22.0 to examine the mediating effect in the conceptual model. According to [36], 3 conditions should meet by the model to allow the mediator exists which is in this model is an e-customer
satisfaction. Firstly, the predictor variable is significantly correlated with the mediator. Secondly, the predictor variables must affect the dependent variables in the second equation. Lastly, a previously significant effect of predictor variables is reduced to non-significance or reduced in terms of effect size after the inclusion e-customer satisfaction into the analysis.

Table 3: Pearson correlation analysis and descriptive statistic

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>SD</th>
<th>Pearson Correlation Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESQ</td>
<td>19.51</td>
<td>5.94</td>
<td>1</td>
</tr>
<tr>
<td>ES</td>
<td>6.39</td>
<td>2.07</td>
<td>0.926**</td>
</tr>
<tr>
<td>EL</td>
<td>6.62</td>
<td>2.13</td>
<td>0.806**</td>
</tr>
</tbody>
</table>

Note: ** p < 0.00

Table 4: The relationship between e-commerce service quality and e-customer satisfaction

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Mediating Variable (E-Customer Satisfaction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-commerce Service Quality (ESQ)</td>
<td>0.926**</td>
</tr>
<tr>
<td>R square</td>
<td>0.895</td>
</tr>
<tr>
<td>Adjusted R square</td>
<td>0.894</td>
</tr>
<tr>
<td>F</td>
<td>2106.275</td>
</tr>
</tbody>
</table>

Note: ** p < 0.00

Table 4 shows that e-commerce service quality significantly correlated with e-customer satisfaction (β = 0.926, p < 0.00). While Table 5 shows the e-commerce service quality significantly correlated with e-customer loyalty (β = 0.806**, p < 0.00).

Table 5: The relationship between e-commerce service quality and e-customer loyalty

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable (E-Customer Loyalty)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-commerce Service Quality (ESQ)</td>
<td>0.806**</td>
</tr>
<tr>
<td>R square</td>
<td>0.858</td>
</tr>
<tr>
<td>Adjusted R square</td>
<td>0.857</td>
</tr>
<tr>
<td>F</td>
<td>1496.124</td>
</tr>
</tbody>
</table>

Note: ** p < 0.00

Table 6: The relationship between e-commerce service quality and e-customer loyalty

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable (E-Customer Loyalty)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-commerce Service Quality (ESQ)</td>
<td>0.541**</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>0.414**</td>
</tr>
<tr>
<td>R square</td>
<td>0.889</td>
</tr>
<tr>
<td>Adjusted R square</td>
<td>0.888</td>
</tr>
<tr>
<td>F</td>
<td>986.008</td>
</tr>
</tbody>
</table>

Table 6 displayed the positive relationship between ES and ESQ and significantly correlated with the EL (β = 0.414, p < 0.00).

In Figure 2, it shows that the e-customer satisfaction is accepted as mediator between e-commerce service quality and e-customer loyalty. E-customer satisfaction is significant to e-customer loyalty (refer step 3) and there is a significant reduction from 0.806 (refer step 2) to 0.414 (refer step 4). In step 2, the value is the result of model testing without the mediator. While in step 4, the value is the result after the inclusion of mediator.

Figure 2: Mediating model testing
CONCLUSION

According to the result and finding, it is shown that e-commerce service quality significantly influenced e-customer satisfaction (mediator) and significantly affected the loyalty of e-customer. This is part of the e-commerce activity that acts as a substitute to the traditional purchase transaction. All of the proposed literatures and findings in this study were supported and properly cited, including the conceptual model. This study is mainly referred to empirical study and theoretical model based on the research work at Arab Saudi [10] and few others in the western world. However, there still no specific and profound study on this topic which is about e-commerce service quality, e-customer satisfaction and e-customer loyalty in Malaysia especially in the east coast Peninsular Malaysia. In line with government vision, the hotel and tourism industry is one of the main roots of the development of Malaysia economy. Adequate events should be executed for ensuring more tourist arrivals to enjoy their visit in Malaysia. It is clearly stated that technological advancement and destination image is totally contributed to the customer loyalty and economy development [37]. However, as for the repeat-visit tourist coming back again for another visit to Malaysia may not be too difficult as most of them reported to be satisfactory based on their past travel experiences and superior knowledge about Malaysia. As Malaysia, especially east coast Peninsular Malaysia has many beautiful places that can attract more tourists from different countries. So, it is worth to study about the advanced technology in this industry so that the technology can help the industry become more powerful and stronger.

In another study, it was found that that numerous businesses have set up websites that provide facilities for planning, reservation and on-line payment that facilitate consumer’s convenience [38]. Those businesses that do not use online services will find difficulties to compete with the other competitors that are always attached with the use of the internet. Hence, the hotel sector must do it too and grab the chance before out-competed by those that have. This research also found the hotels that have developed e-commerce instead of the website, should be focusing on 4 quality dimensions that have adequate interface quality, up-to-date accessibility of information, well guided security and assurance of privacy quality. In short, the study is not only created the instrument or dimensions of e-commerce service quality but also is expected to help hotel industries to improve their service quality on how to influence the level of customer loyalty in Malaysia. Therefore, the researchers decided to bring this study in east coast of Peninsular Malaysia.

ACKNOWLEDGEMENT

This research was supported by a research grant from the Ministry of Higher Education (RAGS/2013/UNISZA/SS05/1) for which the author is indebted.

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