



Antecedents of Customer e-Loyalty with the Effect of Trustworthiness in Malaysia Context

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ABSTRACT

The rapid growth of online shopping has led to inspire customer e-loyalty among Malaysians especially living in this digital atmosphere. Commitment-Trust Theory is applied as the theoretical base to explain the factors influencing customer e-loyalty. The primary objective of this study is to investigate the direct impact of customer interface quality, SERVQUAL, website quality, technology acceptance factors, and technology trust on customer e-loyalty. This study also aims to examine the indirect effect of independence variables on customer e-loyalty through the mediating effects of trustworthiness. SmartPLS 2.0 (M3) is applied to study the impact. A survey is conducted with three hundred and ninety five respondents who had online purchase experience. The findings indicated that customer Interface quality, SERVQUAL, website quality, technology acceptance factors, and technology trust have positive impact on customer e-loyalty. Trustworthiness is used as mediator exclusive of SERVQUAL. Several implications of the findings, limitations of the study, and recommendations for future research are discussed.

Keywords: Customer interface quality, SERVQUAL, Website quality, Technology acceptance factors, Technology trust, e-loyalty, Trustworthiness, Malaysia.

1. Introduction

The rapid growth of IT has encouraged Malaysians to do their shopping on the Internet, which now pervades all aspects of daily life (Chopra & Wallace, 2003). It is the best form of interaction between buyers and e-vendors (Khatibi, Thyagarajan, & Seetharaman, 2003) and the most efficient medium of service delivery to e-consumers, e-government, and e-retailers (Mahmud, 2008). The Internet, furthermore, is considered the primary source of communication, informative, and entertainment. Its benefits are obvious, but the percentage of Malaysians using the Internet was relatively low (Zawawi, Yusuf, & Khan, 2004). This could have been due to the issues of e-insecurity and privacy, and also the ambiguity of regulations (Khatibi et al., 2003). In Malaysia, e-shopping started in 2004, but although it has been growing for almost eight years, Malaysian consumers were unfamiliar with and doubtful about this concept (Khatibi, Haque, & Karim, 2006). However, some consumers tend to shop online due to some factors such as convenience, lower price, more product choice (Chua, Khatibi, & Ismail, 2006), and cost saving (Kohli, Devaraj, & Mohmood, 2004). The vast majority were likely to purchase books and flight tickets and to reserve hotel rooms (Lim, Yap, & Lau, 2010). Hence, this study aims to gain a deeper understanding of customer e-loyalty amongst Malaysians. Specifically, it investigates the positive impact of customer interface quality, SERVQUAL, website quality, technology acceptance factors, and technology trust on customer e-loyalty. This study also investigates an indirect effect of the constructs on customer e-loyalty through trustworthiness.

2. Literature Review

2.1. e-Loyalty

In this study, e-loyalty is defined as perceived loyalty of customers towards websites and their intention to visit the same website on the second purchase. There are various complex drivers of e-loyalty according to Choi, Kim, and Kim (2010), Collier and Bienstock (2006), Deb and Chavali (2009), and

Ponirin, Scott, & Von Der Heidt (2009). For the purpose of this study, we adopt three dimensions to examine e-loyalty: word-of-mouth, complaining behavior, and future purchase intention. In the virtual world, eWOM is referred to the content of information to be spread out, share opinions, and their past experience to the consumers quickly via the Internet (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004). In the literature reviewing, word-of-mouth is an efficient platform than advertising, print ads, radio, and personal selling (Lin, Tzeng, Chin, & Chang, 2010). It is four times more efficient than personal selling, twice more efficient than using the radio and seven times more efficient than using newspapers and magazines (Schoefer, 1998). Purchase intention is defined as a consumer's favorable intention to purchase products or services (Sam & Tahir, 2010). According to Pavlou (2003), purchase intention occurs when consumers are willing to shop online and engage in e-transactions (Kwek, Lau, & Tan, 2010). Complaining behavior is a negative response of dissatisfaction (Chirico & Presti, 2008), which leads to unsatisfied customers and negative word-of-mouth and discourages re-patronage (Blodgett, Wakefield, & Barnes, 1995). Unsatisfied customers were likely to share their negative experiences with eleven persons compared to satisfied customers, who shared their experiences with about six persons (Hart, Heskett, & Sasser, 1990). Although these consumers are unsatisfied, they are still likely to purchase the service, maintain the relationship, generate positive word-of-mouth, and create trust (Tax, Brown, & Chandrashekar, 1998).

2.2. Antecedents of Customer e-Loyalty

Customer interface quality. Having a professional and good quality of website's interface is important in the virtual world. This is due to that a blend of information will reach the possible customer quickly though the high quality of website's interface. In this regard, Internet users are willing to purchase from the well-managed website's interface and it leads to successes the business among e-retailers in this highly competitive e-environment. They are a range of dimensions of customer interface quality that significantly contributed to e-loyalty. Swaminathan et al. (2002) indicated that cultivation, choice, care, community, convenience, customization, character, and interactivity are driven to e-loyalty (Mutum & Ghazali, 2010). In this study, we adapt convenience, customization, interactivity, and character. Convenience refers to quick navigation, easy to sort information, and took a short time to involve in the process of e-purchasing (Ye & Jia, 2010). Customization is related to the relevant information that matched the consumer's needs (Dholakia, Zhao, Dholakia, & Fortin, 2000). Interactivity is a two-way communication process or interaction between the e-consumers and website (Srinivasan, Anderson, & Ponnavaolu, 2002a). An efficient interactivity helps the e-consumers to address the information easily (Alba, Lynch, Weitz, Janiszewski, Lutz, Sawyer, & Wood, 1997). Due to the problem of indirect interaction between e-consumers and e-retailers, the attribute of character played a role as a "salesperson" in this manner. Character is defined as the surface looks of website or aesthetic (e.g., text and graphic). Having an aesthetical or emotional appealing on website captures more e-consumer to have one stop to look for it (Beird, 2007).

Service quality. Zeithaml, Parasuraman, and Malhorta (2002) defined SERVQUAL as an imperative of website to assist e-purchasing and delivery products and services (Al-Momani & Noor, 2009). The dimensions introduced by Parasuraman, Zeithaml, and Berry (1988b) namely, responsiveness, reliability, empathy, assurance, and tangible are widely used scale in the study of service. These five dimensions of SERVQUAL would be selected to measure customer e-loyalty in this study. Empathy is defined as an individualized attention (Gefen, Silver, & Devine, 2001) and deals with personalization given to e-customers (Madu & Madu, 2002). McKnight and Chervany (2002) stated that assurance is related to trusting beliefs and trusting intentions on certain websites (McKnight, Choudhury, & Kacmar, 2002b). Tangible refers to the image that displayed on the website. Griffith and Krampf (1998) found that responsiveness is an effective predictor in delivering service via online (Zeithaml, Parasuraman, & Malhotra, 2002). Reliability means the belief of service provider in providing the service accordant with their reliable (Gefen et al., 2001), timely, and accurate product presentation (Zeithaml et al., 2002).

Website quality. Website quality is a platform of Information Technology (IT) (Liu & Arnett, 2000). The visualization website provides better understanding of e-customer behavior, enhances customer loyalty, and giving an effective customer service to customers (Ganapathy, Ranganathan, & Sankaranarayanan, 2004). In this study, we adapt three dimensions of website quality namely, website design, website content, and website structure. Well-established website is attracting, ease-of-use, enhancing the users' skills, strengthen the long term relationship with buyers and sellers (Chen, Huang, Hsu, Tseng, & Lee, 2010), and predicting the success of e-business (Tarafdar & Zhang, 2008). The website content is an important body of the website performance which focused by e-consumers (Nielsen,

1999). Additionally, website structure is defined as overall information of online companies and convenience of displayed information on website (Wang & Emurian, 2005).

Technology acceptance factors. Perceived usefulness is noted as the use of technology that improves a consumer's performance (Davis, 1989). Usefulness itself is one of the benefits of using the Internet. Perceived ease-of-use is defined as the degree of belief amongst individuals that is free of effort (Al-Momani & Noor, 2009). In the literature, "user friendliness" (Purosothuman, 2008) of website is emphasized as well as its usability (Swaminathan et al., 1999). To this extent, ease of use affects e-purchasing intention (Klopping & McKinney, 2004). Perceived enjoyment is defined as the degree of performance (Davis, 1982) and intrinsic motivators in technology acceptance (Davis, 1989). This refers to the pleasurable feelings of technology use (Rauyruen, Miller, & Miller, 2007).

Technology trust. Security is the important task of the Internet (Suh & Han, 2003). E-security is referred to the secure of personal information and reduced the e-purchase risks (Yang, Jun, & Peterson, 2004). In this sense, an individual consumer believes that Internet is secure in transaction and transmitting the personal information data in the database of online company (Flavian & Guinaliu, 2006). Privacy is referred the personal data protection from hackers without other e-consumer's knowledge (Deb & Chavali, 2009) such as the personal detail information (e.g., mobile number), total amount of every trip of online purchasing, and financial information (e.g., credit card's number). These characteristics are expected to influence the confidence level of e-consumers and affect the amount of e-consumers to engage in purchasing behavior (Shim, Van Slyke, Jiang, & Johnson, 2010). Statistically, 69 percent of the e-users were unwilling to inform their personal information to the e-retailers, if they did not explain how their personal data to be use in e-store (Hoffman, Novak, & Paralta, 1999).

2.3. Trustworthiness

Trust and trustworthiness are two different contexts (Toma, 2010). Trust is defined as an act of a trustor (Corritore, Kracher, & Wiedenbeck, 2003), and trustworthiness is acknowledged as the characteristics of trustees that worthy to trust (Rusman, Van Bruggen, & Koper, 2007). In this study, trustworthiness is the trusting beliefs that lead to consumer trust on website. Trustworthiness embodies the worthy attributes perceived by individual that called as trustier (Pittayachawan, 2007). Trustworthiness encompasses four types of beliefs, namely, ability, benevolence, integrity, and predictability (Akter, D'Ambra, & Ray, 2011). In this study, we adopt three specific beliefs on honesty, benevolence, and competence. Benevolence is defined as perceived courtesy of trustee towards trustors (Rusman et al., 2007). Competence is the knowledge, talents, and expertise that wish to complete the purchasing (Hosmer, 1995). Additionally, consumer believe that trustee will be honest, sincere, and comply with its commitments (Chiu, Chang, Cheng, & Fang, 2009) by providing good and reliable flow of service in delivering the promises as promised (Chen & Dhillon, 2003).

2.4. Development of Hypotheses

Previous studies have found that customer interface factors contributed to e-loyalty (Mehta, 2005). As indicated in literatures, the element of interactivity (Ng & Matanda, 2008), customization (Kassim & Ismail, 2008), and convenience (Chang & Chen, 2008) positively impact on e-loyalty. Accordingly, SERVQUAL also influenced e-store loyalty in e-retailing (Ponirir et al., 2009). Despite SERVQUAL, website content, website structure, website performance, and attractiveness are found to perform e-loyalty (Palmer, 2002). A survey study found that usefulness and ease of use positively impact upon consumer's attitude of e-retailing in Hong Kong (Liao & Shi, 2009) and intentions to use e-service (Roca, García, & De La Vega, 2009). Additionally, e-security affects e-loyalty (Tarafdar & Zhang, 2008). Thereby, we hypothesized that:

- H1: Customer interface quality has a significant positive impact on customer e-loyalty.
- H2: Good service quality has a significant positive impact on customer e-loyalty.
- H3: Good website quality has a significant positive impact on customer e-loyalty.
- H4: Technology acceptance factors have a significant positive impact on customer e-loyalty.
- H5: Technology trust has a significant positive impact on customer e-loyalty.

Trust is an efficient marketing tool, which can attract more customers to engage in future buying behavior (Gefen, 2000) and influence their e-purchasing intentions (Jarvenpaa, Tractinsky, & Vitale, 2000). When customers trust e-retailers, they will disclose their personal information (Kim, 2003) and

therefore the e-retailers are easier to deal with in the future and money transactions easier to track. Thereby, we posited that:

H6: Trustworthiness is significantly related to customer e-loyalty.

2.4.1. Mediating Role of Trustworthiness

The finding of Ribbink, van Riel, Liljander, & Streukens (2004) and Kassim and Ismail (2009) identified that customization insignificantly affect trust in e-buying. Deriving on this evidence, we implied that trustworthiness mediates the relationship between customer interface quality and e-loyalty. Besides, most of the consumers are unwilling to participate in e-purchasing due to the higher risks (e.g., financial risk). In this respects, e-service provider should improve their service in terms of empathy to increase consumer trust towards e-service (Sam & Tahir, 2010). Karvonen (2000) found that the beauty of website assists trust building (Ganguly Dash, & Cyr, 2009). In this regards, we expected that there is an indirect effect of developed constructs on customer e-loyalty through trustworthiness. Additionally, studies (Flavián & Guinaliu, 2006; Mukherjee & Nath, 2007) showed that security influenced a person's trust in the Internet. Apart from security, Lohse et al (2000) also found that perceived privacy and trust are important elements in doing e-business (McCole, Ramsey, & Williams, 2009). With a sense of trust on security and privacy provided, it convinces the e-shoppers to use the website. The proposed hypotheses are stated as below:

H6: Trustworthiness mediates the relationship between customer interface quality and customer e-loyalty.

H7: Trustworthiness mediates the relationship between service quality and customer e-loyalty.

H8: Trustworthiness mediates the relationship between technology acceptance factors and customer e-loyalty.

H9: Trustworthiness mediates the relationship between website quality and customer e-loyalty.

H10: Trustworthiness mediates the relationship between technology trust and customer e-loyalty.

3. Methodology

The survey site of this study is located in Kuala Lumpur, PutraJaya, and CyberJaya. According to the Malaysian Ministry of Energy, Communication, and Multimedia has indicated that the concentration of Internet users in Malaysia was very high (56%) in central peninsula Malaysia, compared to Northern Malaysia (14%), Southern Malaysia (11%), Eastern Malaysia (5%), Sabah (5%), and Sarawak (5%) (Nordin, 2003). As such, it was rational to assume that majority of the population is technology savvy, live in a technology-based society, and active Internet users.

A self-administrated survey was used to obtain the primary data through a set of questionnaire. The questionnaire was divided into two parts. Part A described the predictors of customer e-loyalty and Part B focused on the respondent demographics. Each dimension contained multi-items measured by a 7-point Likert-scale. Out of 405 returned questionnaire, 395 were usable. A non-probability purposive sampling method was conducted to select representative respondents, because these selected respondents were able to provide the needed information (Sekaran, 1992). Confidentiality was guaranteed in all cases. The data is analyzed using SmartPLS 2.0 (M3). PLS is appropriate in exploratory and confirmatory analysis (Barroso, Carrión, & Roldán, 2010).

4. Findings

53.9 percent of the respondents were female and males were 46.1 percent. Of the 395 respondents, 230 respondents were still singles and 164 were married. A majority of the respondents had undergraduate degree holders (n=307) followed by Master's degree (n=41) and lastly, diploma holders (n=30). Moreover, the respondents held a minimum secondary school level of qualification (n=10). Apart from that, the category of 26 to 30 years old (n=113, 28.6%) were ranked the highest followed by 21.5 percent (n=85), in the range of 18 to 25 years old. As such, the younger consumers were well educated and having generous income to participate in e-commerce (Dillon & Reif, 2004). Furthermore, it was about 21.3 percent (n=84) were 31 to 35 years old and 66 respondents (16.7%) from the 36 to 40 years old group, and lastly 27 respondents (6.8%) in the age group ranging from 41 to 45 years old. Regarding ethnic compositions, the sample consisted of more Chinese (48.4%) than Malays (30.1%), followed by Indians (8.9%) and others (12.7%). Next, the respondents recorded having a monthly income ranging from RM3,001 to RM5,000. Besides, 29.9 percent were within the range of RM1,001 to RM3,000,

followed by 17.5 percent who earned RM5001 to RM7000. Additionally, forty-three percent of respondents were categorized as others (e.g., university or college students, waitresses, and part-time workers). The second largest group was professionals which recorded 33.7 percent respondents followed by executives (10.6%).

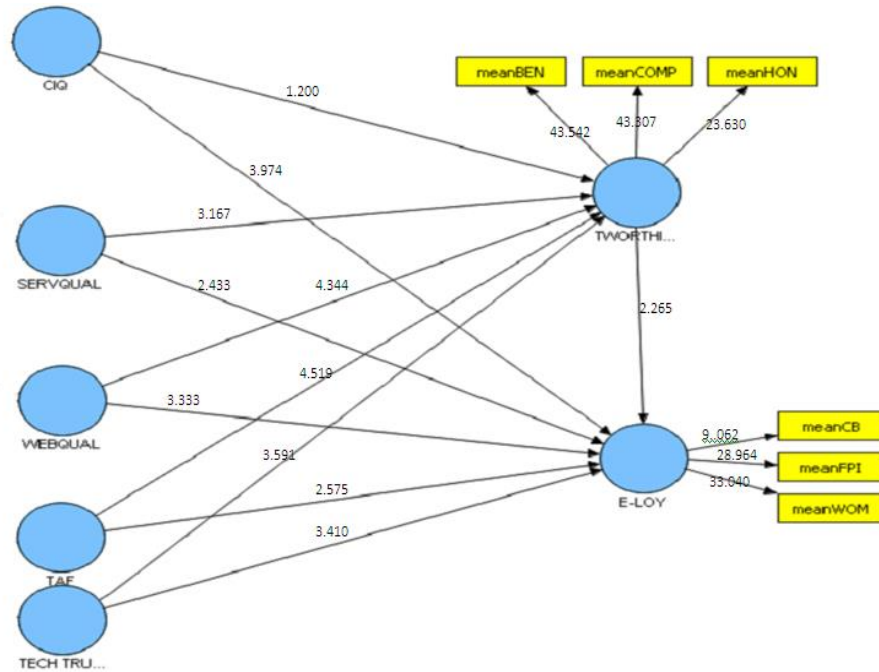


Figure-1. Research Model With PLS Coefficients

Table-1. Path Coefficient and Hypothesis testing

| H | Relationship | Coefficient | t-value | Decision |
|-----|---|-------------|---------|----------|
| H1 | CIQ → e-loyalty | 0.457 | 3.974 | YES |
| H2 | SEVQUAL → e-loyalty | 0.312 | 2.433 | YES |
| H3 | Website quality → e-loyalty | 0.169 | 3.333 | YES |
| H4 | TAF → e-loyalty | 0.329 | 2.575 | YES |
| H5 | Tech_trust → e-loyalty | 0.139 | 3.410 | YES |
| H6 | Trustworthiness → e-loyalty | 0.035 | 2.265 | YES |
| H7 | CIQ → trustworthiness → e-loyalty | 0.141 | 1.200 | YES |
| H8 | SEVQUAL → trustworthiness → e-loyalty | 0.328 | 3.167 | NO |
| H9 | Website quality → trustworthiness → e-loyalty | 0.036 | 4.344 | YES |
| H10 | TAF → trustworthiness → e-loyalty | 0.169 | 4.519 | YES |
| H11 | Tech_trust → trustworthiness → e-loyalty | 0.016 | 3.591 | YES |

Note: t-value > 2.58; (P < 0.01**), t-value > 1.96 (p < 0.05*)

4.1. The Direct Effect

Table 1 and Figure 1 illustrated the summary of the results of developed hypotheses testing in this study. The researcher conducted the bootstrapping approach with 500 samples, with 0 cases per sample to test the path coefficient (β) and proposed hypotheses. The findings, as stated in Table 1, revealed that customer interface quality ($\beta = 0.457$; $t = 3.974$), SERVQUAL ($\beta = 0.312$, t -value = 2.433), website quality ($\beta = 0.169$; $t = 3.333$), technology acceptance factors ($\beta = 0.329$; $t = 2.575$), technology trust ($\beta = 0.139$, $t = 3.410$), and trustworthiness ($\beta = 0.035$; $t = 2.265$) were found to be related to customer e-loyalty, with the evidence of these six formulated hypotheses exceeded the recommended value, 1.96 ($< 0.05^*$), hence, H1, H2, H3, H4, H5, and H6 were supported.

4.2. The Mediating Effect

According to McKinnon, Warsi, and Dwyer (1995), the mediating effects only exist when (a) independent variables have a significant impact on mediator; (b) independence variables have a significant impact on dependent variables in the absence of mediator; (c) mediator has a significant

impact on dependence variables; and lastly (d) the effect of independent variables and dependence variables become smaller with the existence of mediator (Ramayah, Samat, & Lo, 2011). SERVQUAL, website quality, technology acceptance factors, and technology trust are positively related to trustworthiness with ($\beta = 0.328, p < 0.01$), ($\beta = 0.036, p < 0.01$), ($\beta = 0.169, p < 0.01$), and ($\beta = 0.016, p < 0.01$) respectively, as well as trustworthiness on customer e-loyalty (0.035, $p < 0.01$). However, on the basis of testing the mediating effect, the findings revealed that customer interface quality is negatively related to trustworthiness (0.141, $p < 0.01$). Moreover, in term of direct effect of independent variables and customer e-loyalty, all the proposed independent variables are related to customer e-loyalty. As such, it is therefore to conclude that the indirect effect of SERVQUAL, website quality, technology acceptance factors, and technology trust are positively related to customer e-loyalty through trustworthiness. In this sense, H8, H9, H10, and H11 was supported. And, H7 is rejected due to the fact that customer interface quality is not fulfilling the basic of mediating effect.

Generally, a global fit measure (GoF) is conducted for path modeling, it is defined as the geometric mean of average communality and average R^2 (especially endogenous variables) (Chin, 2010) (see the formula). In this study, GoF value was 0.61 ($R^2 = 0.747$, average AVE = 0.661 for e-loyalty) and 0.72 ($R^2 = 0.808$, average AVE = 0.796 for trustworthiness). Both of GoF value exceeded the largest cut-off value (0.36) and it is indicated that the proposed model of this study had better explaining power than based on the recommended value of $GoF_{small} = 0.1$, $GoF_{medium} = 0.25$, and $GoF_{large} = 0.36$ (Akter et al., 2011).

$$GoF = \sqrt{AVE \times \bar{R}^2}$$

5. Discussion

This study utilized Commitment-Trust Theory which is assisted to explain, assure e-consumer behavior, and able to elucidate the effect of trustworthiness in through numerous predictors on customer e-loyalty. A well-built trust and commitment aided to build up the strong relationship and strengthen the relationship between e-retailers and e-consumers in digital world. With this powerful relationship, trustworthiness played an indirect influence on customer e-loyalty.

As expected, the findings of current study were in line with the study of Chang and Chen (2008) that customer interface factors contributed to e-loyalty. Srinivasan et al. (2002) also reported that interactivity influenced e-loyalty (Balabanis, Reynolds, & Simintiras, 2006). Despite customer interface quality, Oliveira (2007) also found that e-service quality directly linked to e-loyalty (Lin & Sun, 2009). Generally, e-users generated favorable or unfavorable feeling towards the website from the first sight of accessing. As such, website quality is important in the e-consumer's point of view. Smith (2001) also found that easy to navigate, dependable distribution systems, efficient website, and the value of products or services influenced e-loyalty (Olson & Boyer, 2005). Apart from that, the results of this study were concurred with the previous study of Chiu, Chang, Cheng, & Fang. (2009). Burke (1997) stated that positive perception of website usefulness and attitude towards usage of Internet led to e-loyalty (Tam, 2010). Lastly, several studies (Belanger, Hiller & Smith, 2002; Kim & Shim, 2002) have found that security is predictor of consumer intention to shop via online.

Interestingly, trustworthiness is established as mediator in this study exclusive of service quality. When e-consumers or e-shoppers have had no direct interaction with the e-retailers, trustworthiness (trust beliefs) play an important role. In other words, trust (trustworthiness) acts as a confidence tool to move potential customers towards website purchases, and thus spread favorable word-of-mouth to the others and their friends (Santos & Von Der Heyde Fernandes, 2008). As stated by Lin (2005), trust encouraged more e-consumers to involve in e-purchasing and influences customer's attitudes towards e-purchasing (Eid, 2011). Therefore, there is an interrelationship between trustworthiness, behavioral intention, and attitude towards e-purchasing from e-store.

6. Limitations and Direction of Future Research

This study suffers from some limitations. First, it lacks diversity of the sample used. The survey concentrates on the urban area only without choosing rural areas. Second, the sample size of this study (395 samples), although, achieves and fulfils Roscoe's rule (1975) (Sekaran, 1992). However, the researcher should maximize samples to generate higher generalization findings in future. Third, the quality of data used in this study may be doubted because of the way the questionnaire was answered by respondents. Fourth, the product or service types should be under consideration. In this regard, a future researcher has to classify what products or services websites to avoid selecting inaccurate variables.

7. Implication

None of the studies have examined this study's constructs and its direct impact on customer e-loyalty. This is expected to add to the body of knowledge on e-consumer behavior. Moreover, the effect of trustworthiness between the constructs and customer e-loyalty will also add more knowledge to the literature of e-commerce and consumer behavior from an academic perspective. Presently, there is limited literature that focuses on the adoption, acceptance and intention to use websites amongst Malaysians. Due to this, it is important for e-marketers to understand attitudes and behaviors' in order to encourage Malaysians to become involved in electronic-based activities. These antecedents might assist the e-marketer and e-designers to develop and reengineer the strategic tools to promote Malaysians to use the Internet for shopping regarding to the re-patronage behavior in online shopping. Additionally, the findings also reveal to e-retailers the importance of designing professional and well-structured websites with good content, in order to attract and retain existing and new e-consumers. As a result of rapid technological growth, the Internet is the most effective marketing tool to deal with customers.

8. Conclusion

The analytical results indicated that customer interface quality, SERVQUAL, website quality, technology acceptance factors, and technology trust positively related to customer e-loyalty. The findings also showed that there is an indirect effect of trustworthiness on customer e-loyalty. The generalized added to the body of literature in developing the antecedents of customer e-loyalty in Malaysia. This work also contributed to a better understanding of the determinants of e-purchasing behavior and intention amongst Malaysian e-consumers that led to prompt Internet marketing in the country. Generally-speaking, it is of help to e-retailers and website designers to understand what Malaysian online buyers want, as well as how to encourage them to become involved in e-shopping.

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