

The Effects of Website Quality on Customer e-Loyalty: The Mediating Effect of Trustworthiness

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ABSTRACT

Website has been used as an efficient platform to tailor their products or services and as a unique profit mode of e-commerce. Due to this advance of the Internet, this study is mainly to examine the relationship between website quality and customer e-loyalty. The present study aims to explore the effect on website quality on customer e-loyalty through trustworthiness. SmartPLS (M3) was used as the main analytical tool to test the proposed research model. This study provides a theoretical framework combining website quality, trustworthiness, and customer e-loyalty and tests the proposed model empirically by targeting on online consumers. Trustworthiness enacts as the mediator. Based on the statistical analysis, there is a positive relationship is detected between website design and customer e-loyalty. However, the findings revealed that website content and website structure have negative influence on customer e-loyalty. The finding also disclosed that trustworthiness is positively related to customer e-loyalty. Theoretical and practical implications, limitations of the study, and recommendations for future research are discussed.

Keywords: Website Design, Website Contents, Website Structure, Trustworthiness, Customer E-Loyalty

1. INTRODUCTION

As the explosive growth of the Internet continues, many people are drawn to living in an electronic-based society. The Internet is much more than a worldwide interconnection with various computer networks (Purosothuman 2008). It is a major source of information and communication and major online shopping medium (Citrin, Sprott, Silverman and Stem Jr 2000). Increasingly, online consumers around the world simultaneously access information from multiple online companies or vendors, which helps them to make smarter purchasing decisions (Jeong and Lambert 2001). These characteristics, in part, have shown that the user-impact of the Internet has grown extensively, in line with its improvements in accessibility, connectivity, geographical distribution (Weiser 2000), and lower costs (Al-Maghrabi, Dennis and Halliday 2010).

Due to the perceived benefits of Internet use, quality is found to be the main determinant of customer loyalty, especially from online context. Customers nowadays are smarter and more demanding, in fact, they evaluate the quality of Internet technology based on how they perceive the quality criteria of the particular website. An effective website is generally evaluated by overall perception towards website and customer intention to revisit the same website (Rosen and Purinton 2002). In fact, if the online consumers satisfied with their past purchasing experience, they are likely to return back at same website (Reibstein 2002).

A substantial body of research has explained the problems encountered by e-consumers when using the Internet, the issue of privacy, online trust (Suki, Ahmad and Thyagarajan 2010), regulation ambiguity, and low levels of computer skills (Khatibi, Thyagarajan and Seetharaman 2003). All too frequently, many Malaysians are unwilling to make e-transactions (Lim, Yap, and Lau 2010). They concern over security issues or distrust of the benefits of online systems lowers the usage of online systems and increases their unwillingness to adopt technology (Lai and Choong 2010). In 2005, Malaysian Communications and Multimedia Commission (MCMC) reported only 9.3 percent of Malaysian consumers were regularly involved in online purchasing, such as airline tickets, books, and music (Delafrooz, Paim and Khatibi 2010). Therefore, the present study focuses on the positive relationship of website quality and trustworthiness on customer e-loyalty and the mediating effect of trustworthiness. In addition, this study also examine the indirect impact of website quality on customer e-loyalty and e-satisfaction through the effect of trustworthiness. This study attempts to answer the following questions:

- a) Does website design affect customer e-loyalty?
- b) Does website content affect customer e-loyalty?
- c) Does website structure affect customer e-loyalty?
- d) Does trustworthiness affect customer e-loyalty?
- e) Does trustworthiness mediates the relationship between website design and customer e-loyalty?
- f) Does trustworthiness mediates the relationship between website content and customer e-loyalty?
- g) Does trustworthiness mediates the relationship between website structure and customer e-loyalty?

2. THEORETICAL FOUNDATION AND DEVELOPMENT OF HYPOTHESES

2.1 Customer e-Loyalty

Online loyalty has been built on the definition of traditional customer loyalty, with e-loyalty defined around consumers who are likely to rebuy from the same website and e-retailers, rather than switch to other websites (Flavián, Guinaliu and Gurrea, 2006). E-loyalty is also defined as “consumer’s favourable attitude towards an electronic business, resulting in repeat purchasing behavior” (Anderson and Srinivasan 2003). It acknowledges as a customer’s commitment to the particular website (Shankar, Smith and Rangaswamy 2002). For the purpose of this study, word-of-mouth, future purchase intention, and complaining behaviours are the

drivers of customer e-loyalty. Online word-of-mouth refers to the content of the shared information (Hennig-Thurau, Gwinner, Walsh and Gremler 2004). Future purchase intention has been found to be linked to previous purchase intention (LaBarbera and Mazursky, 1983) because the intention to repurchase is the driver of future behavior (Jones and Sassar, 1995). Complaining behavior is defined as a negative response occurring when customers are dissatisfied with a product or service (Chirico and Presti 2008). As dissatisfied customers typically share their negative experience with approximately eleven persons, the impact to an online business can be significant (Hart, Heskett and Sasser 1990).

2.2 Website Quality

Website quality is a platform of Information Technology (Liu & Arnett, 2000) which attains the effectiveness of website (Lin, 2008). It provides an effective and efficiency e-purchasing and delivery process of products or services to the customers (Zeithaml, Parasuraman and Malhotra, 2002). Consequently, with good quality of website, it gains the customer's belief, trusts in certain e-store, and boosts the sales. For the purpose of this study, website quality consisted of website design, website contents, and website structure.

2.1.1 Website Design

A well-established website is attracting, ease-of-use, enhancing the users' skills and building up long term relationship with buyers and sellers (Chen, Zhang, Huang 2010) and predicting the success of online business (Tarafdar and Zhang 2008). Roberts, Ranki, Silver, Moore, Plunkett, Washburn, and Wilch-Rigen (2003) mentioned that an attractive website is encouraged more online consumers to search the website (Syahrul and Sidi 2005). A great website design has good accessibility (e.g., timing, loading speed and the quality of internet line) and good quality of website support system (Liang and Lai 2002). According to Law and Wong (2003), they indicated that a good design website has higher secure payment methods against Hong Kong's online buyers (Stringam and Gerdes Jr 2010). All these attributes of design are used to improve website performance.

Colour is very powerful tool to draw the customer attention because colour is an atmospheric element on displayed website (Manganari, Siomkos and Vrechopoulos 2009) and significantly effects on virtual store presentation (Clark, Buckingham and Fortin 2010). Colour also influences an individual's mood (e.g., likely or dislike) (Lightner and Eastman 2002). To this, online consumers feel good and relax of the great colour on website and speed up the process of download and possibility to recommend the website to others (Gorn, Sengupta and Tripathi 2004). Despite color, keeping a simple and meaningful graphic is important to success the website design, especially for the first time consumers (Rosen and Purinton 2004). As one of the famous Chinese proverb noted that "a picture is worth 10,000 words", it means that a quality photo is speedy to convey the product's message to the consumers rather than taking long time to read the text (Lightner et al. 2002). In fact, the text on website always must be short (Nielsen, 2000) and informative to ensure that a clear message is been reached to online consumers.

The speed of navigation is also important to success a website design (Osman, Chan, Chao 2010). A good navigation system is easier and faster for the consumers to access appropriate and unlimited information (Limayem, Hillier and Vogel 2003). It is positively impacts on online consumers purchasing intentions (Verhagen and van Dolen 2009). This is due to the fact that e-consumers may confuse, lost, and unwilling to return to the website again if without having sufficient navigation (Kim, Shaw, and Schneider 2003).

An easy and simple website layout is able to facilitate the accessibility of information (Griffith 2005) and attracts more online consumers to search the website. Keeping a user-friendly website layout encourages and maintains the consumers to continue making a purchase (Cox and Dale 2001). A study of Vrechopoulos, O'Keefe, Doukidis, and Siomlos (2004) found that freeform layout is useful to the consumers to search the products on virtual store. Similarly, the tree structure layout is easy-to-use and generalizes the favourable response from consumers in purchase intention and generates the positive attitude towards e-retailers (Griffith 2005).

2.2.2 Website Content

Content, generally, refers to the information and attributes that is presented in the website. A well-content is informative, engaging, relevant, accurate, and useful (Sinha, Hearst, Ivary, Draism 2001). The detailed and richness information is a successful driver to attract consumers to online (Cai, Card and Cole 2004) because it reflects online consumer wants and needs (Kim, Ma and Kim 2006). The useful and up-to-date information also influence online consumers to make smarter purchasing decision and ensure the customers to be informed (Surjadjaja, Ghosh, and Antony 2003). Statistically, Manning, McCarthy, and Souza (1998) forecasted that online sales decreased 50 percent if the online customers cannot find the product information from the website and 40 percent of the online customer unwilling to revisit (Al-Momani and Noor 2009).

The content of the website comprises of intrinsic information quality, contextual information quality, representational information quality, and accessibility information quality (Tan and Wei 2006). If a company displayed the irrelevant and inappropriate information on website, it decreases the image of the company (Lin 2010). This might resulting the consumers unquestionably to stop searching current website and shift to other websites if the online consumers cannot find what they want (Beaird 2007). Therefore, the better product information would influence the online consumers to do purchasing decisions (Elliot and Speck 2005).

2.2.3 Website Structure

Website structure includes the way of website organized and structured on the present website (Liang and Lai 2002). A good displayed website structure online user is clear, easy, effective, and quick to access the needed information (Kim et al., 2003). The grid structure improves the consumer's access the needs information from the presence website (Marsico and Levaldi 2004). Molich, Snyder, and Farrell (2000) found that 20 percent of the online consumers tended to shift to other websites if they encountered search querying, and the percentage of disappear from the particular website will increased (Proctor, Najjar, Vaughan, Salvendy 2003). It is

therefore to conclude that a well-structure attributes help e-consumers to read the present information rather than close the current website without a second thinking.

2.3 Trustworthiness

Perceived trustworthiness is defined as the belief by an individual in something that is credible and worthy to trust (Rusman, Van Bruggen, Koper 2007) or as an attribute of trust by trustees (Kate, 2009). According to Gabarro (1978), trustworthiness is a complex construct that creates competence and character of trustees and Liberman (1981) acknowledged trustworthiness as the beliefs of trustees towards trust in lifelong relationships (Akter et al. 2011b). In this study, researcher applies three specific dimensions, honest, benevolence, and competence. Benevolence means the trustors, e-consumers, feel confident that trustees are willing to provide the best services (Akter et al. 2011b). An alternative definition is perceived courtesy of trustors (human) towards trustees (information systems) (Rusman et al. 2007). Honesty, the basis of trustee-trustor relationship (Akter et al. 2011b), is they expectation that trustees will act in a proper manner, based on satisfactory standards of honesty, towards trustors (Ridings, Gefen, and Arinze 2002). Additionally, competence is defined as the ability of e-service providers to keep and fulfil the promises to e-customers.

2.4 Development of Hypotheses

Previous researches (Caruana and Ewing 2009; Hamid 2008) have mainly dealt with website design relatively affected customer e-loyalty. Wolfinbarger and Gilly (2003) indicated that good website design positively acts on customer loyalty (Koo 2006). Correspondingly, Smith (2001) also found that easy-to-navigate, dependable distribution system, efficient website, and the value of products or services influenced customer e-loyalty (Olson and Boyer 2005). Despite website design, information content has a positive impact on e-purchase intentions (Sam and Tahir 2010). Kim and Lim (2001) specifically mentioned information quality as the most critical factor influencing purchase intention (Kao 2010). These findings were confirmed by Kim and Shim (2002) that information quality significantly affects purchase intention. Palmer (2002) also stated that website organization, information content, and navigation lead to revisit the same website in future (Cyr 2008). Floh and Treiblmaier (2006) found that superior website quality had a direct and positive impact on customer e-loyalty in the financial industry (Lii 2009). From the existing study results, we concluded that good website quality is positively related to customer e-loyalty, and formulated the hypotheses as follows:

- H1: Good website design is positively related to customer e-loyalty.
- H2: Good website content is positively related to customer e-loyalty.
- H3: Good website structure is positively related to customer e-loyalty.

A volume of research has been conducted on the influence of trust on customer e-loyalty (Deb and Chavali 2009; Kim, Chung, Lee 2010; So and Sculli 2002). Hart and Johnson (1999) argued that trust generates true loyalty (Hamid 2008). When customers trust e-retailers, they disclose their personal information (Kim 2003), e-retailers are easier to deal with in the future and money transactions easier to track. Moreover, trust is an efficient marketing tool, which can attract more customers to engage in future buying behaviour (Gefen 2000) and influence their

e-purchasing intentions (Pennington, Wilcox and Grover 2003). This is supported by Jarvenpaa and Tractinsky (1999) who noted that trust evokes more customers to purchase from the same company (Ganguly, Dash, and Cyr 2009). Consequently, existing research has shown a strong link between trust and customer e-loyalty (Ribbink, VanRiel, Liljander, Streukens 2004).

Having an in depth understanding of the nature of trust and its impact is crucially important in the areas of customer e-loyalty and e-satisfaction (Kim et al. 2003). However, this study has chosen to use trustworthiness, based on the findings of Lee, Kim, and Moon (2000) who showed that trustworthiness is related to customer loyalty (Nah and Davis, 2002). In empirical studies, trustworthiness partially mediates the influence of perceived risks and online purchase intention (Büttner and Göritz 2008). Elements of trustworthiness e.g., benevolence and credibility, also mediate customer satisfaction and loyalty (Kantsperger and Kunz 2010). As a consequence, trustworthiness is expected to have a significant effect on customers' belief and willingness to purchase from websites. Thereby, the following hypothesis is posited:

H4: Trustworthiness is positively related to customer e-loyalty.

Numerous examples from the literature confirm that the overall quality of website, its design, content, structure, and performance, contribute to its attractiveness can influence customers willingness to perform transactions. A study of Karvonen (2000) found that the aesthetics of a website assist trust building (Ganguly et al. 2009), as did Fung and Lee (1999) who stated that good website interface design enhances consumer trust (Yousafzai, Pallister and Foxall 2005). As trust has already been shown to motivate customers' e-purchasing intentions (Al-Maghrabi and Dennis 2010), therefore, it is reasonable to conclude that trust or distrust of website usability affects e-purchasing (Fisher, Burstein, Lynch, and Lazarenko 2008). Despite website design, website structure is the company information presented in a convenient manner for customers to access (Wang and Emurian 2005). With well-structured information, customers can access the needed information easily and quickly and, therefore, trust is increased

Customers tend to have a positive preference towards quality websites, and website quality is the predictor of e-trust that leads to customer e-loyalty (Deb and Chavali, 2009). In this sense, we anticipate that trustworthiness mediates the relationship between website quality and customer e-loyalty. Subsequently, the following hypotheses have been outlined:

H5: Trustworthiness mediates the relationship between website design and customer e-loyalty.

H6: Trustworthiness mediates the relationship between website content and customer e-loyalty.

H7: Trustworthiness mediates the relationship between website structure and customer e-loyalty.

3. METHODOLOGY

3.1 Sample

The data collection was conducted in Kuala Lumpur, Cyberjaya, and Putrajaya, in Malaysia. The reason for the shortlisted sites is due to the fact that these three urban areas have high

concentrations of Internet users and account for a large percentage of the total population, as 85.3 percent of the total population in Malaysia lives in urban areas (Digital Media Across Asia 2011). Kuala Lumpur is considered the most developed region in Malaysia with up-to-date infrastructure and facilities to support Internet connectivity (Suganthi, Balachandher, and Balachandran 2010) and the highest personal computer ownership. Putrajaya is a planned city and serves as the administrative centre of government with advanced technologies employed throughout (The free encyclopedia). Cyberjaya is an IT hub with leading edge multimedia centers, well-developed infrastructure, amenities, and IT systems. These cities are equipped with various modern facilities and new multimedia technologies to connect people, transmit information, and improve the management. As such, it is rational to assume that the majority of them are technology savvy and active Internet users.

The population of the current study consists of Internet users who have been carried out an e-transaction via the Internet, at least once, and had also experienced e-purchasing once in the previous three months. Of the 405 sets of returned questionnaires, only 395 sets are useable. A non-probability purposive sampling method was conducted to select representative respondents.

3.2 Measures

The quantitative method was conducted to collect the data in the present study. The data was gathered through a set of questionnaire with two parts. Part A discussed the multiple measurement items of website quality and trustworthiness and customer e-loyalty. Part B was focused on the respondent’s demographic information. A careful review of the literature was undertaken in order to develop multi-items of contrasts and a seven-point rating scale from ‘1’ strongly disagree to ‘7’ strongly agree. Smart PLS (M3) was used as the main analytical tool.

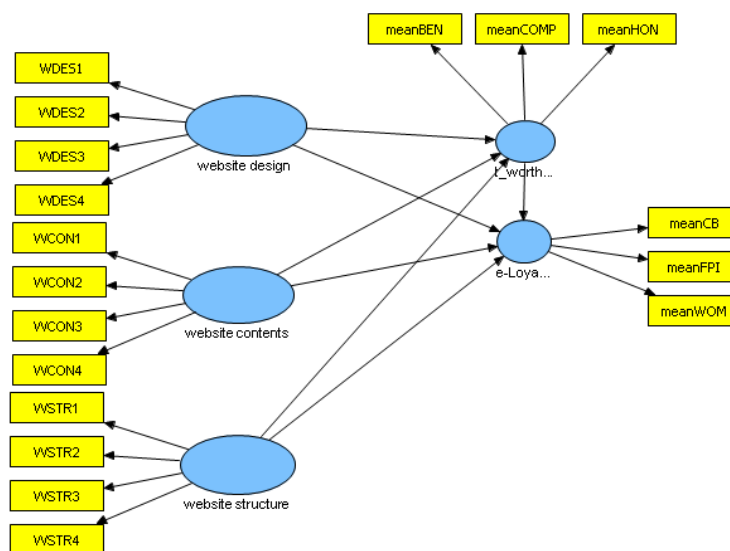


Figure 1 Research Model

4. FINDINGS

SmartPLS 2.0 M3 was used to assess the model developed, it is based on the path modelling. In order to test path analysis and the hypotheses, the bootstrapping technique with 200 re-samples is conducted to determine the significant t-statistic and the standard error of the estimate.

Demographic profile

Descriptive statistics is conducted to obtain the general information of the respondents. Of the 395 respondents, females recorded 213 (53.9%) and males stood at 182 (46.1%), 230 respondents were still single and 164 were married. Academically, the respondents who had a minimum secondary school level of qualification were only 2.5 percent (n=10). The highest percentage were undergraduate degree holders (n=307, 77.7%) followed by Master's degree (n=41, 10.4%) and diploma holders (n=30, 7.6%). This level of educational attainment indicated that they were more educated, technology-oriented, and had higher purchasing power than conventional consumers. In term of age group, the majority were 26 to 30 years old (n=113, 28.6%), 21.5 percent (n=85) of respondents were 18 to 25 years old and 21.3 percent (n=84) were 31-35 years old. The sample also consisted of 66 respondents (16.7%) from 36-40 years old group and 27 respondents (6.8%) in the age group ranging from 41-45 years old. These respondents were considered as the primary segment of e-consumer population. According to Mohd Suki (2006), Malaysian Internet users were young, technologically savvy, prosperous, and highly educated (Osman et al. 2010). Additionally, Ratchford, Talukdar, and Lee (2001) implied that the older generation was less likely to shop online because they are unfamiliar with the Internet (Sulaiman, Ng and Mohezar 2008).

As for ethnic compositions, Chinese were the largest group of respondents, represented by 191 samples (48.4%), Malays were 30.1 percent (n=119) followed by 8.9 percent of Indians (n=35). Next, the majority of respondents recorded a monthly income from RM3001 to RM5000, while 29.9 percent (n=118) were within the range of RM1001 to RM3000, followed by 17.5 percent (n=69) who earned RM5001 to RM7000. According to the Malaysia Salary Guide (MSG) 2005, the average monthly salary for Malaysians was from less than RM1, 000 to RM5, 000 (Lallmahamood 2011). Based on these findings, Malaysian consumers were considered to have a higher level income and it was therefore to reasonable to perceive that they have higher purchasing power. Monsuwe, Dellaert, and Ruyter (2004) stated that individuals with high income were often likely to shop online (Sulaiman et al. 2008). In terms of occupation, 43 percent respondents were categorized as others (n=170) and they were predominantly made up of university or college students, waitresses, part-time workers, blue-collar workers, and many others. The second largest group was professionals, which recorded 133 respondents (33.7%) followed by 42 executives (10.6%).

Computer usage, frequency of using the Internet and the number of e-purchasing report were also analysed in the study. Approximately, 41.5 percent (n=164) of the respondents were recorded using the Internet for one to five hours a week, 16.2 percent (n=64) for over 20 hours, 15.9 percent (n=63) recorded six to ten hours, and 13.7 percent accessed the Internet 11 to 20

hours. In total, 386 respondents (97.7%) had significant e-purchasing experience in the past three months. However, 390 respondents (98.7%) frequently sought product information. This was concurred with the findings of Lim et al. (2010) that Malaysians were likely to search and obtain information from website. Additionally, a significant number, 156 respondents, had experienced two to three e-transactions. Notably, 48.9 percent of Internet users were involved in e-purchasing in 2001 and also intended to make from one to 10 transactions in a year (Forsythe and Shi 2003). In term of types of buyer, 60.5 percent (n=239) were regular e-buyers, 31.4 percent (n=124) were recorded as irregular e-buyers, and 8.1 percent (n=32) were first time e-buyers.

Assessment of the Measurement Model

A confirmatory factor analysis (CFA) is conducted to access composite reliability, convergent validity, and discriminant validity. As shown in Table 1 and 2, all the items are loading higher than 0.5 (significant at $p < 0.5$), as suggested by Hair, Black, Babin, Anderson, and Tatham (2010). It can be inferred that the model’s construct was good and sufficient for the study. All indicators achieved the minimum levels of AVE, 0.5 (Henseler, Ringle and Sinkovics 2009). The composite reliability value for each of the dimensions fulfilled the recommended value, 0.7 as suggested by Gefen, Straub, and Boudreau (2000). The cronbach alpha is also exceeded the recommended alpha value of 0.7 as suggested by Sekaran (1992). It is therefore to conclude that this study achieves the convergent validity because all the items are loaded highly on its own construct rather than any other constructs. In term of correlation matrix, the square root of AVE was tested on the inter-correlations of the constructs with the other constructs to ensure discriminant validity, it should exceed the cut-off value of inter-construct correlation (Fornell and Larcker 1981). The results of the resent study show that all the square root of AVE exceeded the correlation with other dimensions. In summary, the measurement model of this study was completely satisfactory with the evident results of reliability, convergent validity and discriminant validity.

Table 1 Loading and Cross Loading

	e- Loyalt y	t_ worthin ess	website design	website content	Websit e structur e
meanFPI	0.869	0.628	0.659	0.702	0.634
meanCB	0.695	0.506	0.415	0.438	0.434
meanW OM	0.863	0.688	0.558	0.619	0.569
meanBE N	0.681	0.901	0.607	0.665	0.589

meanHO N	0.648	0.865	0.671	0.694	0.652
meanCO MP	0.684	0.909	0.640	0.685	0.637
WDES1	0.617	0.660	0.861	0.728	0.725
WDES2	0.483	0.516	0.758	0.646	0.722
WDES3	0.577	0.614	0.839	0.681	0.640
WDES4	0.559	0.566	0.846	0.679	0.640
WCON1	0.570	0.618	0.637	0.802	0.701
WCON2	0.596	0.619	0.691	0.769	0.658
WCON3	0.602	0.608	0.670	0.840	0.645
WCON4	0.603	0.626	0.677	0.825	0.663
WSTR1	0.469	0.470	0.525	0.519	0.748
WSTR2	0.531	0.556	0.656	0.640	0.842
WSTR3	0.617	0.634	0.709	0.727	0.778
WSTR4	0.526	0.554	0.706	0.713	0.818

Table 2 The Results of Measurement Model

Model constructs	Measurement item	Factor loading	CR ^a	AVE ^b
e-loyalty	FPI	0.869	0.853	0.661
	CB	0.695		
	WOM	0.863		
trustworthiness	BEN	0.901	0.921	0.796
	HON	0.865		
	COMP	0.909		
Website design	WDES1	0.861	0.896	0.684

	WDES2	0.758		
	WDES3	0.839		
	WDES4	0.846		
Website content	WCON1	0.802	0.883	0.655
	WCON2	0.769		
	WCON3	0.840		
	WCON4	0.825		
Website structure	WSTR1	0.748	0.874	0.636
	WSTR2	0.842		
	WSTR3	0.778		
	WSTR4	0.818		

Note:^a Composite Reliability (**CR**) = (square of the summation of the factor loadings)/{(square of the summation of the factor loadings) + (square of the summation of the error variances)}

^b Average Variance Extracted (**AVE**) = (summation of the square of the factor loadings)/{(summation of the square of the factor loadings) + (summation of the error variances)}

Table 3 Results of Reliability Test

Model constructs	Measurement item	Cronbach Alpha	Loading range	Number of items
e-loyalty	FPI	0.741	0.695-0.869	12
	CB			
	WOM			
trustworthiness	BEN	0.871	0.865-0.909	12
	HON			
	COMP			

Website design	WDES1	0.846	0.758-0.861	4
	WDES2			
	WDES3			
	WDES4			
Website content	WCON1	0.824	0.769-0.840	4
	WCON2			
	WCON3			
	WCON4			
Website structure	WSTR1	0.809	0.748-0.842	4
	WSTR2			
	WSTR3			
	WSTR4			

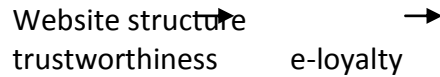
Table 4 Summary Results of the Model Constructs

Model constructs	Measurement item	Standard Estimate	t-value
e-loyalty	FPI	0.869	67.400
	CB	0.695	15.729
	WOM	0.863	61.631
trustworthiness	BEN	0.901	77.754
	HON	0.865	52.490
	COMP	0.909	78.426
Website design	WDES1	0.861	39.530

	WDES2	0.758	24.702
	WDES3	0.839	48.995
	WDES4	0.846	42.904
Website content	WCON1	0.802	37.847
	WCON2	0.769	30.004
	WCON3	0.840	50.000
	WCON4	0.825	43.967
Website structure	WSTR1	0.748	25.113
	WSTR2	0.842	47.189
	WSTR3	0.778	39.543
	WSTR4	0.818	38.109

Table 5: Path Coefficient and Hypothesis Testing

Hypothesis	Relationship	Coefficient	t-value	Supported
H1	website design → e-loyalty	0.068	1.068	NO
H2	website content → e-loyalty	0.262	3.681	YES
H3	website structure → e-loyalty	0.105	1.670	NO
H4	Trustworthiness → e-loyalty	0.429	7.447	YES
H5	Website design → trustworthiness → e-loyalty	-	3.468	NO
H6	Website contents → trustworthiness → e-loyalty	-	3.681	YES
H7		-	2.305	NO



Note: * $P < 0.01$, $p < 0.05$

Assessment of the Structural Model

To test path coefficient significance, bootstrapping algorithm with 500 samples, with 0 cases per sample to determine the significant t-statistic. Table 6 and Figure 2 present the findings of the developed hypotheses. As shown in Figure 2, website content shows a positive effect on customer e-loyalty ($\beta = 0.262$, $P < 0.05$), supporting H2. However, contrary to expectations, the results show that website design ($\beta = 0.068$, $P < 0.05$) and website structure ($\beta = 0.105$, $P < 0.05$) are negatively related to customer e-loyalty, H1 and H3 is rejected. The path between trustworthiness and customer e-loyalty is significant ($\beta = 0.429$), at the .05 level, indicating that trustworthiness is positively related to customer e-loyalty (supporting H4).

Goodness of fit (GoF) is conducted to measure PLS path modelling, it is defined as the geometric mean of average communality and average R^2 (Chin, 2010). The baseline value of GoF is shown as follows: $GoF_{small} = 0.1$, $GoF_{medium} = 0.25$, and $GoF_{large} = 0.36$ (Akter, D'Ambra, & Ray 2010a). In this study, the calculated GoF value is .515 (R^2 is 0.633, average AVE is 0.661), which exceeds the cut-off value of .36 for the large effect size of R^2 . This result concludes that the model is well-performed and high prediction capability. The formula for calculating GoF is shown below:

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

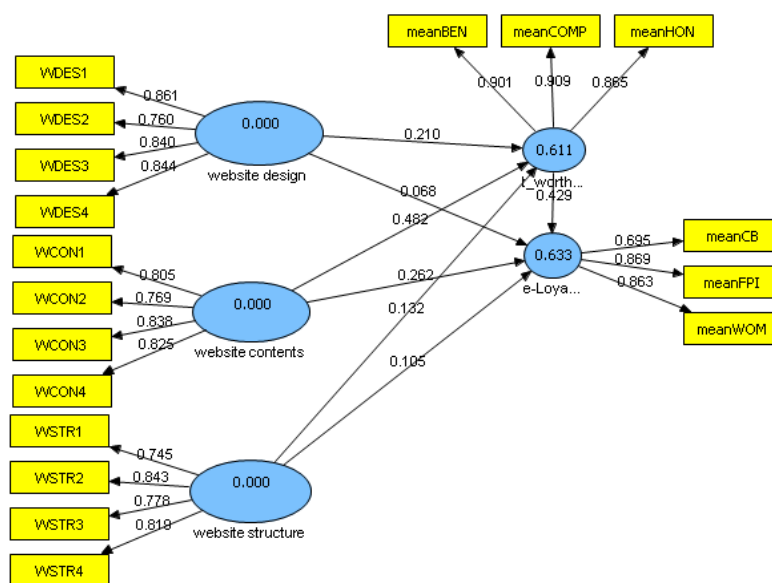


Figure 2 Research Model with PLS Coefficient

Table 5 Discriminant Validity of Constructs

	e-Loyalty	t_worthiness	website content	website design	Website structure
e-Loyalty	0.813				
t_worthiness	0.752	0.892			
website content	0.733	0.764	0.827		
website design	0.679	0.717	0.827	0.809	
website structure	0.679	0.702	0.825	0.822	0.797

Note: Diagonals represent the square root of the average variance extracted while the other entries represent the correlations

Despite GoF, PLS also generate R^2 value (Halawi & McCarthy, 2008), it is an indicator to measure the model fits the data (Kim, 2012). R^2 indicates the percentage of the constructs and the thumb of rule of R^2 endogenous LVs was 0.67 (substantial), 0.33 (moderate), followed by 0.19 (weak) (Chin 1998). In this study, R^2 is .633, it means the interactions are able to explain 63.3 percent of the variance of customer e-loyalty, these are website design, website contents, and website structure. These three indicators demonstrated the fit of the proposed model for this study.

The mediating effects

A mediator focuses on how a given effect occurs (Baron and Kenny 1986), and according to McKinnon, Warsi, and Dwyer (1995), the mediating effects 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, and Lo 2011). As shown in Table 5, website design, website content, and website structure are positively related to trustworthiness with ($\beta = 0.210, p < 0.01$), ($\beta = 0.482, p < 0.01$), and ($\beta = 0.132, p < 0.01$) respectively, as well as trustworthiness on customer e-loyalty ($0.429, p < 0.01$). However, according to the rule of thumb of mediating effect, website design ($\beta = 0.068, P < 0.05$) and website structure ($\beta = 0.105, P < 0.05$) don't show the positive relationship with customer e-loyalty. As such, it is rational to conclude that the effect of website content is positively related to customer e-loyalty through the mediating effect of trustworthiness. In this respect, trustworthiness has played a key role as mediator in this study and, H6 was supported. And, H5 and H7 are rejected due to the fact that both of them are not fulfil the rule of thumb of mediating effect.

5. DISCUSSION

The statistical analysis indicated that website content was positively related to customer e-loyalty. Previous studies are in line with this finding, with content found to be an important determinant of website performance (Nielsen 1999) and the most critical attribute of a professional website (Sinha, Hearst, Ivory, Draisin 2001). Besides, empirical findings suggest that trustworthiness is positively related consumer e-loyalty, which is in line with Sahadev and Purani (2008), whose study showed that e-trust affected consumer e-loyalty. Similarly, Kim, Kim, and Kandampully (2009) found that e-consumer trust was an important determinant of customer loyalty (Eid 2011). This implies that the more consumers trust the seller, the more they are retaining at the same website in near future. Online trust is an imperative in virtual environment to assist an experienced customer to share their attitude to e-purchasing based on their previous experiences (Wang and Wu 2010).

The statistical results in the present study found that trustworthiness mediates the relationship website content and customer e-loyalty. This is because the quality of website is associated with trust beliefs and trust intentions, trust may be built based on the website itself (Mcknight et al. 2002a). If an individual customer perceives the information displayed on website is high quality, he or she will expect that particular website is trustworthy, leading to trust intentions. With consumer trust, it substantially enhances customer purchase intentions (Ganguly et al. 2009). Further reasons for this result could stem from a sense of trust, leading to commitment (Morgan and Hunt 1994) and strengthening of customers' purchase intentions (Lin, Tzeng, Chin and Chang 2010). Commitment is essential in the development of long term relationships between e-retailers and e-consumers (Walter, Mueller, Helfert, and Walter 2000). With commitment, customers not only have more confidence with the service provider (Aurier and N'Goola 2010), but are more likely to return and purchase again (Hennig-Thurau et al. 2004).

5.1 Limitation and Direction for Future Research

Similar to other studies, they are several research limitations that need to be considered. First, the study sample lacked diversity. Methodically, this survey concentrated on urban area only, thus it did not represent the whole population of Malaysia. Second, although the sample size of this study, 395 respondents, is acceptable, it is required to maximize it to generate stronger generalizations in future that can represent the whole population. 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 study, respondents were free to think of any product or service website before filling the questionnaire. As such, a future researcher has to classify clearly what products or services websites to use in order to avoid selecting inaccurate variables. Different product types have different variables to evaluate (Lowengart and Tractinsky 2001). Fifth, this study only focused on those who have experience in online purchasing or existing Internet shoppers, and did not include potential consumers. This is not representative of the general Malaysian population; however, this bias is exactly what is desired for the data of online respondents of this study.

5.2 Implication

From a theoretical perspective, the findings of this study enrich the body of knowledge of Malaysian online consumer behaviour, online consumer choice, and online buying behaviour in terms of preferences and frequency of visits to a particular website. Hence, the e-retailers and e-marketers probably will know the types of Malaysian e-consumers, their online purchasing patterns, consumers' attitudes toward online shopping, behaviour, habits, intention-to-shop on the Internet, the nature of the Internet shoppers' characteristics, and others characteristics. Besides, based on the findings, e-marketers have more information upon which to design a competitive online marketing strategy, and create promotions and advertisements that influence potential e-buyers' purchasing decisions.

From a practical standpoint, the findings of this study played important route to Malaysians e-retailers, e-marketers, and e-store. This substantial body of knowledge enables Malaysian e-retailers to understand and address the key factors of e-commerce that help them retain existing consumers and capture new e-consumers. With Internet shopping gaining more attention and momentum, these pertinent antecedents ultimately benefit e-marketers and e-designers who are tasked with developing new online marketing strategies and tactics to persuade more Malaysians to shop online. This need will remain as online shopping in Malaysia continues to be widely promoted as a convenient avenue for shopping (Anand 2011). Additionally, the important roles of trustworthiness are highlighted in the study due to lack of direct interaction in virtual environment. E-customers cannot physically touch the products or question a sales person face-to-face. Perhaps, with a sense of trustworthiness, an individual online consumer becomes more confidence with the trusted e-retailer or e-marketer. Therefore, to retain and attract new customers, e-retailers need to comprehend the importance and the role of trustworthiness in customer-retailer relationships, and how consumer trust (trustworthiness) supports e-business on the Internet.

5.3 CONCLUSION

The analytical results indicated that website content and trustworthiness are positively related to customer e-loyalty in a Malaysian online context. The results also found that trustworthiness mediates the relationship between website content and customer e-loyalty. In other word, a sense of trustworthiness is played a key role in encouraging, persuading, and capturing among Malaysian Internet users and online consumers. The findings are useful especially the online marketers or online service providers in Malaysia to encourage more Malaysians to involve in an electronic-based community and assist online consumer to make smart purchasing decision via the Internet. Malaysian e-consumers should perceive positively the Internet as the fastest and most efficient communication channel. Therefore, academics and practitioners who continue to enrich their knowledge of customer e-loyalty in a stronger position to develop an efficient marketing strategy, of customer e-loyalty in the context of Malaysian Internet shopping.

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