

# Understanding the Online Customer Shopping Behavior: The Interrelated Role of Website Image, Customer Review and Perceived Risk

Wan Kalthom Yahya,

Faculty of Business Management, Universiti Teknologi  
MARA UiTM, Cawangan Melaka  
Kampus Alor Gajah, Malaysia  
wkalthom@melaka.uitm.edu.my

Mohamad Ridhuan Mat Dangi,

Faculty of Accountancy, Universiti Teknologi MARA  
Selangor, Kampus Puncak Alam, Malaysia

Norulhuda Tajuddin

Faculty of Business Management, Universiti Teknologi MARA,  
Cawangan Pahang, Kampus Jengka, Malaysia  
Graduate School of Business, Universiti Kebangsaan Malaysia,  
Bangi, Selangor, Malaysia

**Abstract**— The study on intention to shop online has been done widely across the globe by testing numerous predictors. However, the rapid growth of technology development affecting the Internet user suggests other new predictors that need to be considered as antecedents of online shopping intention. This study proposes customer review, online store image, and the perceived online risk as three main antecedents to explain the motivation of the customer to purchase online. This study was conducted to test the direct relationship between the variables of customer review, website image, and perceived online risk that influence the intention to shop online. Subsequently, this study analyzed the interrelated role for those variables that affected the online buying behavior as a contribution to the body of knowledge. The simple random sampling technique was used to capture the online users in response to the questionnaire through online web survey. The data was analyzed using the structural equation modeling techniques (SEM) to test the hypotheses and to confirm the predictive model. The finding of this study will help to improve the online retail industry as a contributor to the country's economic development.

**Keywords**— *customer review, intention to shop online, perceived risk, website image,*

## I. INTRODUCTION

The emerging online activity such as online shopping is competing against the traditional shopping. Traditional approach was identified to rely on the word of mouth among satisfied customers to influence potential shoppers. In relation to

that, the shop owners will invest to improve their shop image in terms of decoration, appearance, maintaining good relationship with customers, and welcoming the buyers to shop from their store. Nowadays, as more customers are switching their preference to shop online, researchers have found it interesting to investigate how electronic word of mouth (e-WOM), also known as customer review, and online store image, influence the customers' intention to shop online.

Previous studies have found that empirically tested customer review and online store image influenced the online buying behavior among customers, however, there is a gap in examining the effect of the customer review and the online image. This study will further investigate the effect of the customer review on the image of the online store and the effect of the best online store image in influencing the customer to write a review. Other than that, customer perception about the safety of online shopping also has the propensity to influence their eagerness to conduct online shopping. This is because, customers' confidence level to engage in online shopping takes place when there is existence of security and reliability of transactions over the web and termed transaction risk [1]. Privacy and security concerns are among the main factors that influence consumers' trust and confidence level in online shopping as they seek protection against the risk of misuse of personal information, financial loss or even fraudulent activities. Therefore, based on the established theory of planned behavior, this study is designed to investigate the relationships between the three variables mentioned below as to determine the intention to shop online. Therefore, this study is expected to explain what motivates

customers to buy products online, the role of the customer review (e-WOM), the effects of online store image, and the perceived online risk to determine the customers' intention to shop online.

## II. LITERATURE REVIEW

### A. Customer Review

A customer review can be considered as an electronic word-of-mouth (e-WOM), which provides important information to influence others' buying decision [2]. Normally, the review is provided by another customer who has experienced the products or services in the form of text (e.g. written form) and numerical such as star rating on the retailers' website. The function of customer review is divided into two; first, the review provides product/service information and second, review leads to recommendation from the experienced customer's perspective. The written form of review offers more rich information as it portrays emotion, feeling and facts to the readers, whereas numerical appears in a standardized scale and codified assessment [3]. Since the customers provide reviews without having pressure from the seller; therefore, the review is more genuine, sincere, has greater credibility, easier to relate to, and more likely to evoke empathy with customers. Among the previous studies that empirically tested positive effects of customer reviews to online buying behavior are [4], [5] and [6].

### B. Online Image

Store image is defined as "the way in which consumers perceive the store based on its functional qualities and Store image is defined as "the way in which consumers perceive the store based on its functional qualities and environmental attributes" [7]. Online store image serves as multifaceted constructs or components which collectively make the image of the store [8]. Several studies have been conducted to examine the relationship between store image and customers' intention to buy. As such, a study suggested that online business entity needs a distinct set of components as a way for customers to perceive that the virtual business is totally different from one another [9]. The components of an online store image include (1) online store usefulness, (2) online store enjoyment, (3) online store ease of use, (4) online store style, (5) online store familiarity, (6) online store trustworthiness, and (7) online store settlement [8]. Past researchers have empirically tested the significant and positive relationship between store image and online purchasing intention [10], [9] and [8].

### C. Perceived Risk Online

The consumers' behavior to entail in online shopping is influenced by their acceptance toward the risks that could possibly occur during the enclosure of any transactions made on the web. Perceived online risks relate to the situation where a consumer needs to trust the technology involved to embark on

various tasks in searching and purchasing [1]. Furthermore, the risks in online transaction may arise from the inability of consumers to inspect and compare the product's quality, and for providing and compromising personal information uploaded on the web [11]. In the online environment, both security and privacy concerns are among the priority factors that influence consumer behavior to engage in online shopping. [12]. Privacy is defined as a protection given to information to conceal it from others which could be accessed by the system or network, while security is described as a situation that secures or makes safe, protection, guard or defense [13]. From the aspect of consumer behavior in online shopping, the aspect of privacy concern and security will be more likely related to the factors such as personal information, credit card number, bank account number or other information. Any attempt to misuse this information will possibly bring unpleasant feelings thus reducing consumers' trust and confidence levels toward online shopping service.

Based on the theory and reviewed literature, therefore, the study formulates the following hypotheses;

H1. There is a positive relationship between customer review and intention to shop online.

H2. There is a positive relationship between online store image and intention to shop online.

H3. There is a positive relationship between perceived online risk and intention to shop online.

## III. RESEARCH METHODOLOGY

### A. Measures

Using a quantitative approach, this study was conducted on online users using self-reported survey questionnaires designed and published on the web survey. An invitation letter along with the hyperlink to the website of the questionnaire was sent to the potential respondents via email for them to fill up the questionnaire on the web survey. Data covered all over Malaysia using the convenience sampling method. All the measurements used in this study were adopted and/or adapted from previous studies. Data was collected using self-administered questionnaires. 29 items were adapted from established instruments and were operationalized using 7-point Likert scales, ranging from 1=strongly disagree to 7=strongly agree. Measurements for online image were from [8], customer review from [14], perceived online risk from [15], and intention to buy online was from [2] and [9]. The Structural Equation Modeling (SEM) was performed based on the theoretical framework to test the hypotheses in the study using AMOS 22.0.

**B. Respondent Characteristics**

The demographic profile of the respondents is by gender, age, residency, education level, employment status, and monthly income. The male respondents represent 23.6% of the total respondents, while most the respondents are female with 76.4%. Most respondents (77.3%) are from the age group ranging from 30 and above. Meanwhile, 31.1% of the respondents are from the urban area and the majority hold either Master or PhD qualification (81%). About 47.6% of the total respondents earn a monthly income of above RM 5,000, with another 63.4% of the respondents earning an income of less than RM 5,000. Finally, 94.3% of the total respondents work full-time.

**C. Data Analysis**

An exploratory and confirmatory factor analysis (EFA) displays a three-factor solution consisting of the construct of online image with seven items, customer review with eleven items, and perceived risk online with six items. Factor analysis using an extraction method of principal component analysis with the rotation method of Varimax with Kaiser Normalization was also used to analyze the scales. The items with loadings higher than 0.50 on one factor were retained for further analysis [16]. Consequently, eight items were removed. The complete new factors were tested for reliability: online image (.901), customer review (.879), and perceived risk online (.673).

Convergent validity was tested by performing confirmatory factor analysis (CFA). Result from CFA measurement model indicates non-cross loading among the construct. Most of the CFI, TLI, and GFI values are above 0.90. Furthermore, the value of the RMR is below 0.03, which indicates a good model fit. This result proposes that convergent validity in this study is achieved. Consequently, the average variance extracted (AVE) was also performed to test discriminant validity. The results indicate that AVE for online image, customer review, and perceived risk online are 0.615, 0.513, and 0.416, respectively (Table 1). Although perceived risk online estimate values are below 0.50, this circumstance is satisfactory since prior studies indicate that it is common to have estimates below 0.50 when the value of composite reliability is satisfactory (Hatcher, 1994). Thus, discriminant validity was achieved among the construct. Lastly, the internal consistency reliability test recorded excellent coefficient alpha of above 0.60 for all the factors in this study [16]. Finally, Figure 1 shows the structural equation model of the study.

TABLE I. DESCRIPTIVE STATISTICS, AVERAGE VARIANCE EXTRACT, COMPOSITE RELIABILITIES, AND CONSTRUCT INTERCORRELATIONS

	Cronbach's Alpha	AVE	OLM	CR	PR
OLM	0.902	0.615	<b>0.979</b>		
CR	0.879	0.513	0.472**	<b>0.985</b>	
PR	0.673	0.416	0.604**	0.365**	<b>0.738</b>

<sup>a.</sup> Composite reliabilities are shown on the diagonal

<sup>b.</sup> \*\* Correlation is significant at the 0.01 level (2-tailed)

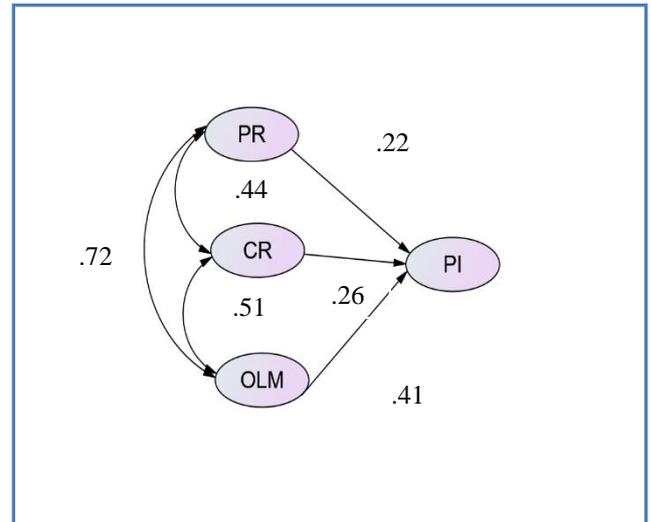


Fig. 1. Structural Equation Model of the Study

**D. Analysis of the Study**

Structural Equation Modeling (SEM) via AMOS version 22.0 was adopted to analyze the hypothesis. The constructs, namely: online image, customer review, and perceived risk online test were measured against online purchasing intention. Table 2 shows the result of the hypothesis testing. All hypotheses are accepted. The customer's intention on online purchasing is influenced by the online image ( $\beta = .409$ ), customer review ( $\beta = .259$ ), and perceived risk ( $\beta = .224$ ). The results identified that online image appeared to have the highest positive significant relationship with intention to purchase online ( $p \leq 0.001$ ). This was expected because attractive and appealing images of the online sellers are the first thing that customers would look for before they surf the web page. As researched by [17], the online store image has a positive effect on purchase intention, particularly when it reflects the aspect of financial, psychosocial, time and convenience, and usefulness.

TABLE II. THE DIRECT EFFECT OF THE CONSTRUCTS ON PURCHASE INTENTION ONLINE

Dependent Variable	Independent Variable	Hypothesized Sign	Support
PI	OLM	+	Yes
	CR	+	Yes
	PR	+	Yes

<sup>c.</sup> Notes:  $\beta$  is standardized regression weights. Significance level: \*\*\*\*  $p \leq 0.001$  \*\*\*  $p \leq 0.01$  \*\*  $p \leq 0.05$  \*  $p \leq 0.1$

**IV. DISCUSSION**

The analysis related to demographics reflected that female respondents overpowered male. On average, most of the respondents were aged from 30 to 40 years old which is usually the age of people with stable income. In terms of the education

level, majority respondents have a Master degree or PhD. Moreover, majority of the respondents also reside in the urban area and as we generally know, urban residents have a busy lifestyle and most of them come from the middle and high-income groups. This indicates that their choice of online purchasing intention would be influenced by their lifestyle.

According to the findings, online image received the highest positive significant relationship as compared to customer review and perceived risk. In this regard, the findings are consistent with [8], who concluded that the image-related factors can explain a major portion of the attitude toward purchasing online. Additionally, if online image is able to capture the appeal of consumers, it can influence the attitudes and encourage their behavioral beliefs toward a retailer and product [17]. Apart from the appearance and image of the retailers' website itself, another factor such as price discount can also have a positive effect on the online store image that subsequently influences consumer purchase intention [18]. In fact, distributing a product through high image stores would be a successful alternative to persuade consumers in the international market [19].

Perceived risk and customer review also show a positive relationship with online shopping intention. Customers are also concerned with risk because they tend to expose important and private information such as personal identification, credit card number, bank account, and so forth when performing online shopping transactions that can potentially be stolen and manipulated. Some other factors related to risk include financial risk, product risk, time risk, delivery risk, social risk, and information security [20]. However, risk level could also be influenced depending on the category of product being purchased online and the customer's acceptance toward risk. As such, online shoppers that have experience in shopping online had less perceived risk than the non-shoppers [21]. As suggested by [14], social benefits, economic incentives, concern for others and extraversion/self-enhancement are the primary reasons consumers publish their experiences on opinion platforms, thus becoming the sources of reference that influence other customers in pursuance to online purchasing intention. For this study, although these two variables show a positive relationship, it is however not strongly significant. A possible explanation for this finding might suggest that customers view these factors as slightly important as compared to online image.

## V. LIMITATION AND CONCLUSION

This present study is subject to several limitations. Firstly, the survey was distributed and responded online through the web online survey. At the first phase of this study, it faced cooperation problems from the respondents. The hyperlink was sent directly to the respondents via the online survey questions through email. The possible situations were that either the recipient's email address was inactive, or the email was ignored by the respondents. Other than that, this method also limited us from asking open-ended questions since there is no room for face-to-face interactions between the researchers and the respondents to conduct the interview session. Although it is possible to do so, it might be inappropriate because without a proper interview session, it might limit researchers to explore more responses from the answers as well as find it a challenge to verify the data truthfulness and possibly lead to less reliable data.

The changes and advancement in communication technology have opened the opportunities for retailers to make sales and reach their

customers. Unlike the traditional physical retailing strategy, using digital or virtual retailing on the website provides flexibility where high numbers of customers could be reached. Shopping now is more convenient with the presence of the internet where consumers can enjoy new experiences. Hence, this could shape the behavior and attitude of consumers toward purchasing intention. Therefore, our study investigated the relationships between the customer review, online store image, and perceived online risk to determine the intention to shop online. Our study contributes to the development of conceptual models that depict the relationship between online image, customer review, and perceived risk toward online purchasing intention. Since all hypotheses are supported and show a positive relationship, our study is expected to draw out important implications for both research and practice.

This study will not only be able to add deep understanding about customers' behavior on online shopping, it also provides an additional glimpse to the existing body of literature on online purchasing. While in practice, it is suggested that online marketers and retailers could act to improvise their efforts in developing a dynamic and competitive online marketplace. Besides, online retailing provides many benefits such as abundance of potential customers, cost-effectiveness, flexibility, brand revitalization, and a wider market coverage. To attain a better understanding about this issue, future research could include a larger sample size and more items on variables. A study on the age factor between age group and computer literacy can be highlighted for future research. Other than that, this study could also be expanded by including the behavior of customers who engage in international online purchasing.

## REFERENCES

- [1] Bianchi C. & Andrews L. (2011), "Risk, trust, and consumer online purchasing behaviour: a Chilean perspective", *International Marketing Review*, 29 (3), 253-276.
- [2] Zhang, Z.K.K. & Cheung, M.K.C., and Lee, K.O.M. (2014), Examining the moderating effect of inconsistent reviews and its gender differences on consumers' online shopping decision," *International Journal of Information Management*, 34, 89-98.
- [3] Huang, W. Y., Schrank, H. & Dubinsky, A. J. (2004). Effect of brand name on consumers' risk perceptions of online shopping, *Journal of Consumer Behaviour*, 4(1), 40-50.
- [4] See-To W.K.E. & Ho, K.W.K. (2014), "Value co-creation and purchase intention in social network sites: The role of electronic Word-of-Mouth and trust – A theoretical analysis," *Computers in Human Behavior*, 31, 182-189.
- [5] Jimenez, F.R. & Mendoza, N.A. (2013), "Too popular to ignore: the influence of online reviews on purchase intentions of search and experience products," *Journal of Interactive Marketing* 27, 226-235.
- [6] Maxham III G.J. (2001), "Service recovery influence on consumer satisfaction, positive word-of-mouth, and purchase intentions," *Journal of Business Research*, 54,(1), 11-24.
- [7] Martineau, P., (1958), "The personality of the retail store. *Harvard Business Review* 36 (Jan./Feb), 47-55.
- [8] Van der Heijden, H. & Verhagen, T. (2004), "Online store image: conceptual foundations and empirical measurement," *Information & Management*, 41, 609-617.
- [9] Verhagen, T. & van Dolen, W. (2009), "Online purchase intentions: a multi-channel store image perspective," *Information & Management*, 46, 77-82.
- [10] Aghekyan-Simonian, M., Forsythe, S., Kwon, W.S., & Chattaraman, V. (2012), "The role of product brand image and online store image on perceived risks and online purchase intentions of apparel," *Journal of Retailing and Consumer Services* 19, 325-331.
- [11] D'Alessandro S., Girardi A., & Tiangsoongnern L. (2012), "Perceived risk and trust as antecedents of online purchasing behavior in the USA gemstone industry", *Asia Pacific Journal of Marketing and Logistics*, 24 (3), 433-460.

- [12] Komiak, S.X., & Benbasat, I. (2004). "Understanding customer trust in agent-mediated electronic commerce, web mediated electronic commerce and traditional commerce". *Information Technology and Management*, 5 (1/2), 181-207.
- [13] Kim J. E. (2005), "Understanding Consumers' Online Shopping And Purchasing Behaviors", ProQuest Information and Learning Company.
- [14] Hennig-Thurau, T., Gwinner, K.P., Walsh, G. & Gremler, D.D. (2004), "Electronic word-of-mouth via consumer-opinion platforms: what motivates consumers to articulate themselves on the Internet?" *Journal of Interactive Marketing* 18, 1, 38-52.
- [15] Andrews, L., Kiel, G., Drennan, J., Boyle, M., & Werawardeena, J. (2007). Gendered perceptions of experiential value in using Web-based retail channels. *European Journal of Marketing*, 41(5/6), 640-658.
- [16] Nunnally, J.C. (1978). *Psychometric Methods*. New York: Mc Graw-Hill.
- [17] Chen, J. S., Ching, R. K. H., Tsou, H. T. (2007). The Effect of Multi-Channel Store Image on Purchase Intention, *International DSI / Asia and Pacific DSI*.
- [18] Faryabi, M. Sadeghzadeh, K. & Saed, M. (2012). The Effect of Price Discounts and Store Image on Consumer's Purchase Intention in Online Shopping Context Case Study: Nokia and HTC, *Journal of Business Studies Quarterly*, 4(1), 197-205.
- [19] Yoo, B. (2011). Store Image on Purchase Intention: The Moderating Effect of Individual and Societal Uncertainty Aversion among American and Korean Consumers, *Journal of International Business and Law*, 10(2), 359-368.
- [20] Masoud, E. Y. (2013). The Effect of Perceived Risk on Online Shopping in Jordan, *European Journal of Business and Management*, 5(6), 76-87.
- [21] Huang, W. Y., Schrank, H. & Dubinsky, A. J. (2004). Effect of brand name on consumers' risk perceptions of online shopping, *Journal of Consumer Behaviour*, 4(1), 40-50.