

Perceived risk of security and privacy in online shopping: A study of Malaysia context

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Abstract: Online shopping is a new phenomenon in the field of E-Business and is certainly going to be the future of shopping in the world. Though online shopping is very common outside Malaysia, its growth in Malaysian Market, which is a large and strategic consumer market, is still not in line with the global market. The present research paper has used exploratory study to highlight the various factors and variables impacting the behavior of consumers towards on-line shopping in Malaysia. Data was collected from students' samples in Malaysia. SEM (Structural Equation Model) was used to test the hypotheses and confirmed the fit of the model. The researcher found that there are three factors for explaining attitude and intention towards online shopping, which are privacy, security and subjective norm. The results show that if students worry about whether their information due to the process of online shopping will be used for other purposes, it will reduce their purchase attitude.

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1. Introduction

With the rapid growth of the Internet, online shopping has become one of the most profitable e-commerce on the Internet over the last decade. Electronic commerce has created significant benefits, but has also increased the likelihood or negative consequences of some risks that already exist in the offline environment and created some risks that are completely new. Understanding people's perceptions of attitudes towards online risks is therefore, important for e-commerce (Gabriel & Nyshadham, 2008). This study addresses perceived risk of security and privacy with respect to online shopping services as trading platforms, which can remove any middlemen between the vendors and consumers and facilitate a safe and legal authentication mechanism as well as a secure transaction platform (Kayworth & Whitten, 2010; Martin & Camarero, 2008). Prior research suggests that perceived risk is an important factor influencing online consumer behaviour (Cunningham, Gerlach, & Harper, 2005; Pavlou, 2003; Salam, Iyer, Palvia, & Singh, 2005; Schlosser, White, & Lloyd, 2006). Previous studies have shown that perceived risk is derived from consumer uncertainty, especially in the case of Internet shopping (Bakos, 1997; Martin & Camarero, 2008).

Similarly, Miyazaki and Fernandez (2001), found that perceived risk had a significant impact on online purchasing behaviour. Behaviour researchers, for the most part, defined perceived risk in terms of the consumer's perceptions of the uncertainty and

potential adverse consequences of buying a product or service (Littler & Melanthiou, 2006), and is frequently defined as the possibility of negative results (Das & Teng, 2004). According to Lallmahamood (2007), discussed perceived security and privacy as the user's perception of protection against security threats and control of their personal data information in an online environment. In this study, perceived risk refers to the uncertainty that consumers face when they cannot predict the consequences of their online transaction behavior (Samadi & Yaghoob-Nejadi, 2009). Security and privacy is the negative result in online buying that is not found in traditional commerce (Corner & Thompson, 2005; Salo & Karjaluo, 2007; Zhou, Dresner, & Windle, 2008). Miyazaki and Fernandez (2001) pointed out that the Internet security of Intimate details is the main barrier to consumer online shopping. Personal data being transferred to others without authorization, insecure transactions, and personal information being stolen by others are the aspects associated with the security and privacy of the Internet (Aldás-Manzano, Lassala-Navarré, Ruiz-Mafé, & Sanz-Blas, 2009; Polasik & Wisniewski, 2009). In present study, perceived risk focuses on users' concerns about possible losses due to fraud, personal information being intercepted by others, the unauthorized use of personal information, and unprotected transactions as well as consumer behaviour researchers. In a number of studies, a significant negative impact of risk perception on the attitude towards online shopping or likelihood to

purchase online was found (Grabner-Kruter & Faullant, 2008; Jarvenpaa, Tractinsky, & Michael 2000; Teo & Liu 2007). The influence of risk perception on consumer attitudes and intention may be different in situations that are dominated by different types of risk (Mandrik & Bao, 2005). The impact of risk factors on attitudes, intentions or actual usage of online-shopping has been investigated in several studies (Chang, Cheung, & Lai, 2005). Pavlou (2003) found that perceived risk has a negative effect on the intention to do e-commerce transactions. Kim (2008) also demonstrates that perceived risk has a strong negative impact on the intention to purchase via the Internet. As a result, in the online channel, perceived risk reduces consumers' intention to conduct transactions. Consumers hesitate to utilize a retail store when they feel insecure and perceive risk related to purchase (Korgaonkar & Karson, 2007). Consumer's fears their private information may be misused by some unauthorized person, and, thus, are reluctant to provide information on the Internet. Jarvenpaa and Tractinsky (1999) argued that a customer might be willing to buy from an online store if it is perceived to be of low risk even if they do not have a highly positive attitude towards the store.

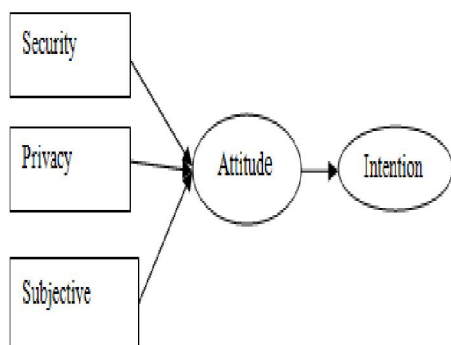


Figure 1. Research Model

Beside attitude refers to “the degree of a person’s favorable or unfavorable evaluation or appraisal of the behavior in question” (Fishbein and Ajzen, 1975). According to the TPB, attitude impacts users’ behavioral intention, which in turn influences their actual behavior. When individuals form positive attitude towards online shopping, they will have a stronger intention toward adopting it, and thus they are more likely to use it. Subjective norm refers to “the perceived social pressure to perform or not to perform the behavior” (Ajzen, 1991). In other words, subjective norm is related to the normative beliefs about the expectation from other people. Many Internet users choose to shop online because their friends shop online too, and they recommend it to

Them. Research model (Figure 1) was adhered to observe the factors affecting online shopping which have demonstrated literature support.

Therefore, based on our earlier discussion, we propose the following hypotheses:

H1: There is a negative relationship between perceived risk (privacy, security) and intention toward online shopping.

H2: There is a positive relationship between subjective norm and intention online shopping.

2. Materials and Method

Present study used a questionnaire survey with two parts to test our theoretical model. The first part had questions measuring the constructs in the research model, while the second part had demographic questions about the participants. Each item corresponding to the constructs was measured using a seven-point Likert scale, with answer choices ranging from “disagree strongly” (1) to “agree strongly” (7), and most of these items were adapted from the existing literature while the scale items for subjective norm, , and attitude were adapted from Taylor and Todd (1995). In addition, the items measuring perceived risk were adapted from Lee (2009).

Survey approach was chosen to gather information directly from students in universities located in the Klang valley .students are potentially able of utilizing internet services and are believed to be the most frequent and active internet users (Zendehdel, Paim, Bojei, & Osman, 2011). Thus, it is significant for retailers and consumers’ behavior researcher to recognize Malaysian students’ population intention toward online shopping due to student’s role in online marketing in Malaysia (Sabri et al., 2008). Thus selecting students as our sample was appropriate. And cluster sampling method was used. Firstly, whole population (population of universities in klang valley) was separated into two clusters (public and private). Then, from the selected clusters the researcher chose four universities from each cluster through simple random sampling. Hence, students who enrolled in a broad range of courses in each faculty and institute were chosen.

Among 400 questionnaires that were dispersed, about 380 were returned, but only 375 completely answered. Frequency distribution profile of respondents showed that 60 percent of the respondents were female while 40 percent were male. The majority of the respondents (55.2 %) fall in the age range between 20 to 25 years of age. Respondents having a monthly income ranging from less than RM 2400 were the majority income group (72.3 %). From the ethnic point of view, Malays comprised 52.4%, followed by Chinese and Indians

that composed 32.8% and 14.4% of the study sample respectively.

3. Result

In order to achieve the research aim and test the hypotheses, AMOS 16 was used to perform these analyses. Comprehensive instrument validation and reliability procedures were followed in order to validate the instrument empirically. For the constructs of perceived risk (privacy, Security) and attitude, intention, subjective norm, this study used CFA as a confirmatory test to measure validity and reliability, while other constructs were examined with SEM was used to test the model fit. "Structural equation modeling seeks to explain the relationships among multiple variables; it examines the structure of interrelationships.

3.1 Analysis of the structural model

We assessed the overall goodness of fit using the chi-square test. The chi-square test assesses the adequacy of a hypothesized model in terms of its ability to reflect the variance and covariance of the data. The results of structural equation modeling obtained for the proposed conceptual model (Table 1). Approximation (RMSEA) of 0.055. Generally, fit statistics greater than or equal to 0.9 for GFI, NFI, RFI, and CFI indicate a good model fit (Hairs et al., 1998). In addition, RMSEA Values ranging from 0.05 to 0.08 are acceptable (Hairs et al., 1998), indicating that our model fit was acceptable. The other fit indices, except AGFI, indicated that our proposed model obtained an adequate model fit.

Table 1. Overall Fits of the Research Model

Fit indices	χ^2/df	CFI	NFI	RMSEA	AGFI	GFI
Observed value	2.645	.942	.911	.066	0.85	0.90
Recommended value	<3	>.9	>.9	<.08	>.9	>.9

Table 2. Results of Hypotheses Testing of this Study

Hypothesis	IV	DV	Coefficient	(P-value)	Remark
H1	Privacy	Attitude	-.413	***	Supported
H2	Security	Attitude	-.327	***	Supported
H3	Subjective norm	Attitude	.470	***	Supported

4. Discussion

The results, as displayed in (**Error! Reference source not found.**), show that there is a significant negative relationship between perceived risk and attitude towards online shopping. Therefore, H1-2 was supported by the data in this study. This is consistent with previous studies in which risk perception was found to have a significant negative impact on the attitude towards online shopping or likelihood to purchase online (Grabner-Kruter & Faullant, 2008; Jarvenpaa et al., 2000; Teo & Liu 2007). The results show that if students worry about whether their information due to the process of online shopping will be used for other purposes, it will reduce their purchase attitude. Furthermore, this study found that if information security is not guaranteed, students will actually reduce consumption. Thus, online shopping managers must pay attention. The government must also protect the Privacy and security of consumers as one of the main roles it can contribute in growing internet shopping.

The results, as depicted in (table 2), show that the exogenous variable of subjective norm made a significant contribution in the prediction of attitude towards online shopping. Therefore, the significant relationship between normative and attitude H3 was supported. This finding is consistent with Miniard and Cohen (1983), and Ryan (1982) who proposed that normative beliefs influence attitude formation, as attitude may be formed on the basis of information provided by an expert referent or expectations of other significant people. In addition, a few studies have examined potential relationships between attitude and subjective norms (Quintal et al., 2010), that is, students are likely to believe the opinion of others who are important to them (e.g., peers, family) when they decide whether or not to buy a product. The results also lend support to previous findings, indicating that purchase intention is positively influenced by subjective norm. This finding implies that when students find that people around them have adopted online shopping, they will be more willing to use it.

5. Implications

In terms of subjective norm they should build positive word of mouth to enhance the perception of friends and family members of current customers. In this respect, online shopping providers may use a positive word-of-mouth strategy to enhance the awareness of their services and promote their benefits. Further, from a managerial standpoint, identifying consumer risks is important and how to reduce these is of great importance to e-marketers, who need to ensure that security and privacy policies are appropriately defined, implemented, and communicated to the relevant stakeholder. Online shopping marketers could also look into the possibility of spreading and promoting security and privacy related information on the Internet. First, e-commerce computer network security technologies, such as firewalls, virtual private networks, intrusion detection systems, and virus prevention techniques, should be used to strengthen online security. Second, e-commerce security management systems should be developed, including personnel management, security systems, tracking audit systems, maintenance systems, data backup systems, and regular cleaning of virus systems.

Finally, the managerial implications of this study are to provide online shopping companies with information security policy considerations, and to help companies to develop online marketing strategies using information technology regarding consumer behaviour and psychological impact. Future research can create an in-depth understanding of security perceived risk and consumer behaviour. This implies that controlling the risk of online shopping is particularly important for managers as they decide how to assign resources to retain and expand their current customer base. However, building a risk-free online shopping transaction environment is a difficult thing. Therefore, online stores need to search for risk-reducing strategies that might assist in inspiring high confidence in potential customers. This study suggests that they should consider focusing on the prevention of fraud, identity theft, and financial loss. For example, building secure firewalls to avoid intrusion, developing methods for strengthening encryption and authenticating websites are all measures that should be undertaken.

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