

Investigating the on-line shopping intentions of Vietnamese students: an extension of the theory of planned behaviour

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ABSTRACT: The aim of this study was the examination of an integrated model that extended the Theory of Planned Behaviour (TPB) with an additional factor - trust - by investigating Vietnamese university students' behavioural intention to on-line shopping. The results showed that trust can enhance the predictive utility of the TPB for the intention of engaging in on-line shopping behaviour, along with the three variables of the TPB. As well, it is possible that trust performs a moderating factor in the relation between attitude and behaviour intention toward on-line shopping.

INTRODUCTION

On-line business is growing worldwide: the number of on-line shoppers continues to increase and on-line technologies are improving. Many of today's business transactions are conducted through the Internet and retailers benefit greatly from the surge in on-line sales and the multiplicative effect across other distribution channels. According to Forrester Research [1], on-line sales in the leading retail categories were US\$235.4 billion in 2009 and will continue to grow by a compound annual growth rate of 12% through 2012 to US\$334.7 billion, or 15% of overall retail sales.

In Vietnam, on-line shopping is now a new market, with the rapid rise of the Internet over the past decade. Vietnam has ranked in the top 17 countries of Internet users in 2008. Compared with that, 43% of Internet users in the US buy on-line; the number of consumers' purchases on-line is only 7% of the population of Internet users up to the end of 2008. With continued rapid growth of the Internet and the fast-growing on-line shopping potential in the region, it is vital to explore the motivational factors associated with on-line shopping in Vietnam.

The rapid increase in on-line shopping among many different cultures around the world has gained the attention of researchers interested in discovering the attraction individuals have toward this mode of shopping. Initial studies have been conducted to explore the factors affecting consumer on-line shopping, but they are only descriptive of the characteristics of consumer behaviours [2-6]. Theoretical perspectives are then suggested for the better understanding of consumer on-line shopping behaviour, including the Theory of Planned Behaviour (TPB) [7-9], the technology acceptance model [10][11], the theory of adoption of innovations [12], and the tradeoff/transaction costs perspective [10][13]. Among these, the TPB has proven useful as an actionable framework for marketers in influencing behaviour [14-16].

THEORETICAL BACKGROUND

Behaviour intentions refer to the intentions or motivations when trying to adopt a specific behaviour [17]. According to the TPB [18][19], behaviour intentions are the most direct, dominant factor in determining the decision to take a specific action or not, and that all factors which may influence actual behaviour are a manifestation of the indirect influence of intentions on behaviour [17]. Under TPB, the assumption is made that an individual thinking of undertaking a specific action will estimate and evaluate expected results, determine his or her willingness to comply with the viewpoints of salient individuals or groups about the action, and decide how well his or her capabilities will allow him or her to control the action or behaviour in question [17].

Therefore, TPB posits that attitude toward on-line shopping (ATT), subjective norms (SN) and perceived behavioural control (PBC) are three important factors in influencing an individual's behaviour intention (BI) to perform a given

behaviour at any given time [19][20]. However, some studies have argued that the three variables in the TPB model are insufficient to predict behavioural intentions, and additional variables could further improve its predictive capability [21][22].

Trust plays a key role in commerce, where consumers look for experience and credence in the quality of goods or services [23-27]. Some researchers have suggested that an important reason why on-line consumers are reluctant to shop on-line is because of the fundamental lack of faith that currently exists between most businesses and consumers on the Web and they generally stay away from the e-vendors whom they do not trust [26][28].

Trust is a significant antecedent of participation in business processes in general and, even more so, in on-line shopping because of the greater ease with which vendors can behave in an opportunistic manner [29]. In respect of its important relationship with the on-line shopping consumer's attitudes, Martin and Camarero proposed that individual attitudes and rules of behaviour influence consumers' perceptions of Web site actions and consequently their degree of, and willingness to, trust [30]. Once consumers have had a satisfactory experience with previous results and are prepared to trust a certain on-line vendor, their beliefs about the outcomes of the behaviour or the attitudes toward on-line shopping, will be greatly enhanced [27]. Although there is a shortage of reference literature, it is possible that trust performs a moderating factor in the relation between attitude and behaviour intention in on-line shopping. From this reasoning, an attempt will be made to develop an extension of TPB with this additional factor and determine if it can help to better predict student consumer behaviour, or not, by investigating the on-line shopping patterns of student consumers in Vietnam.

Based on the TPB model and previous studies on the key role of trust in on-line shopping, a research framework for the study is given in Figure 1, and the following hypotheses that provide the framework can be deduced:

- H1: *The attitude toward on-line shopping has a positive impact on consumers' behaviour intention.*
- H2: *The subject norm has positive impact on on-line shopping consumers' behaviour intention.*
- H3: *The perceived behavioural control has positive impact on on-line shopping consumers' behaviour intention.*
- H4: *Trust has a positive impact on on-line shopping consumer's behavioural intention.*
- H5: *Trust has a positive impact on consumers' attitude toward on-line shopping.*

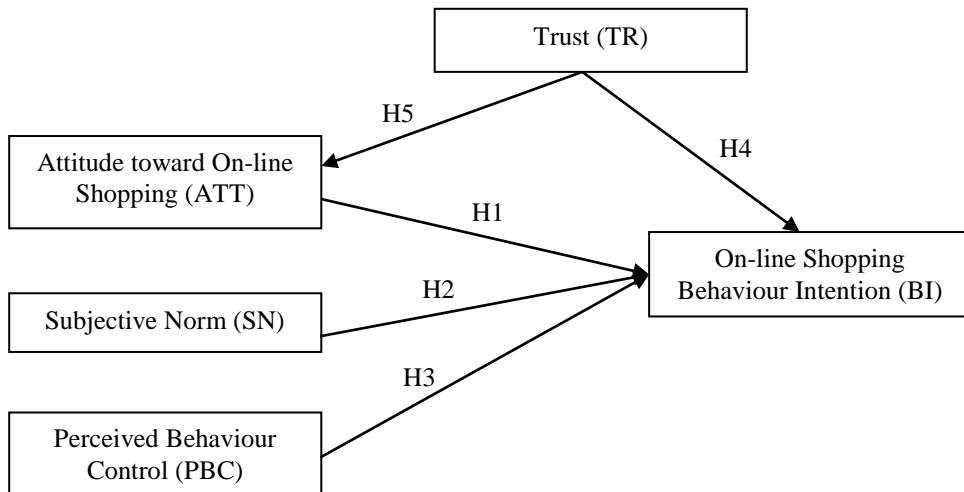


Figure 1: Schematic diagram of the research model.

METHOD

This survey was carried out at the universities in Hanoi City - Vietnam's capital. Three hundred questionnaires were delivered randomly to students who usually use the Internet; 285 of these questionnaires were returned, including both the students, who have/have not purchased on-line. The 182 questionnaires chosen were by the participants, who have purchased on-line. In this study the sample consisted of 75 males and 107 females, whose age ranged from 18 to 28 with an average of 24. All the participations in the survey were voluntary and anonymous.

The questionnaire has three main sections. The first section had instructions for completing the questionnaire, enhancing the possibility that respondents would provide usable, qualifying answers. The second section of the questionnaire consisted of four parts, so as to examine responses on four dimensions. These four parts included attitude toward on-line consumer behaviour, subjective norms, perceived behavioural control and on-line shopping behavioural intentions. Finally, the third section collected respondents' demographic information. Individuals were asked to indicate their agreement with each item based on the five-point Likert-type scale, from 1 strongly disagree to 5 strongly agree.

Items for measurement in this study were adapted from pre-validated measures in TPB and on-line shopping consumer trust research with minor modification of the wording. Trust was measured with items adapted from [30], and items for measuring attitude, subjective norm, perceived behaviour control and on-line shopping behaviour intention were adapted from previous studies [20][31][32]. The questionnaire initially was designed in English, and then translated into Vietnamese because all the respondents were Vietnamese. After that, the Vietnamese version was translated back into English to ensure the semantic and wording preciseness of the translation.

RESULTS

Table 1 lists the questionnaire items and measures, and shows the results of factor analysis. Cronbach's alpha test estimated for the survey ranged from 0.70 to 0.89 and showed a reasonable level of reliability ($\alpha > 0.70$). Factor analysis also confirmed the construct validity of the scales were adequate. The factor loadings for all items exceeded the minimum value of 0.5.

Table 1: Summary of measurement scales.

Constructs and Measures	Mean	SD	Factor loading
Attitude Toward On-line Shopping ($\alpha=0.76$)			
ATT1 - I think using on-line shopping is good for me.	3.62	0.84	0.736
ATT2 - I think using on-line shopping is appropriate for me.	3.75	0.91	0.772
ATT3 - I think using on-line shopping is beneficial for me.	3.54	1.04	0.671
ATT4 - I have positive opinion of on-line shopping.	3.67	0.86	0.643
Subjective Norm ($\alpha=0.81$)			
SN1 - My family think I should use on-line shopping.	3.56	0.84	0.750
SN2 - Boy/girl friend think I should use on-line shopping.	3.43	0.84	0.772
SN3 - Friends think I should use on-line shopping.	3.61	0.89	0.608
SN4 - My colleagues think I should use on-line shopping.	3.08	0.97	0.627
SN5 - My relatives think I should use on-line shopping.	3.26	0.87	0.719
Perceived Behaviour Control ($\alpha=0.72$)			
PBC1 - How much personal control do you feel you have over using on-line shopping?	4.02	0.73	0.526
PBC1 - How much do you feel that whether you use on-line shopping is beyond your control?	4.01	0.69	0.730
PBC3 - Whether or not I use on-line shopping is entirely up to me.	3.86	0.83	0.567
Trust ($\alpha=0.80$)			
TR1 - I think this Web site operates in an ethical manner.	4.18	0.72	0.838
TR2 - This Web site stands out for its honesty and transparency	4.29	0.68	0.888
On-line Shopping Behaviour Intention ($\alpha=0.88$)			
BI1 - I will use on-line shopping in the future.	3.01	1.02	0.803
BI2 - I intend to use on-line shopping in the future.	3.23	1.03	0.857
BI3 - I have plans to use on-line shopping in the future.	3.43	1.03	0.843

The correlations among constructs are shown in Table 2, where the correlation coefficient of no pair exceeded the criterion of 0.9 [33]. It indicates the satisfactory discriminant validity of the constructs, and the scale should have sufficient validity.

Table 2: Bi-variate correlations among constructs.

Constructs	Attitude	Subjective Norm	Behaviour Control	Trust	Behaviour Intention
Attitude	1.000				
Subjective Norm	0.505**	1.000			
Behaviour Control	0.715**	0.539**	1.000		
Trust	0.722**	0.456**	0.494**	1.000	
Behaviour Intention	0.631**	0.504**	0.718**	0.374**	1.000

** Correlation is significant at the 0.01 level (two-tailed).

Multiple regression analysis was applied to find the relationship between dependent variable and independent variables. According to the β coefficient, the four independent variables with an influence on the on-line shopping behaviour intention are listed in Table 3.

Regression coefficients and t -tests indicate a significant relationship for the four variables: Attitude toward On-line Shopping, Subjective Norm, and Perceived Behaviour Control and Trust. The results of the multiple regression analysis are summarised thus:

1. *Attitude* factor reaches a level of significance ($\beta=0.158$ and $p=0.039<0.05$), which shows that a consumer's attitude will positively influence his/her on-line shopping behavior intention. Therefore, Hypothesis 1 is accepted.
2. *Subjective Norm* factor reached a level of significance ($\beta=0.137$ and $p=0.024<0.05$), which means that the influence of social relationship (family, friends, etc) on on-line shopping will positively affect his/her purchase behaviour, and therefore Hypothesis 2 is accepted.
3. *Perceived Behavioural Control* factor reached a level of significance ($\beta=0.487$ and $p=0.000<0.05$), which means a consumer will be positively influenced toward on-line shopping by his/her behavioural control. Therefore, Hypothesis 3 is accepted.
4. With a significance level of ($\beta=0.122$ and $p=0.029<0.05$), the *Trust* factor positively influenced the on-line shopper's intention toward his/her purchasing behaviour. Based on this, Hypothesis 4 is accepted.

Accordingly, regression coefficients and *t*-tests indicate a significant relationship between the four variables Attitude toward On-line Shopping, Subjective Norm, and Perceived Behaviour Control and Trust.

Table 3: Multiple regression analysis results for behavioural intention.

Independent Variables	Unstandardised β coefficient	Standardised β coefficient	<i>t</i>	Sig.
Attitude toward On-line Shopping	0.216	0.158	2.085	0.039
Subjective Norm	0.189	0.137	2.276	0.024
Perceived Behaviour Control	0.646	0.487	6.562	0.000
Trust	0.143	0.122	2.195	0.029
<i>R</i>		0.753		
<i>Adjusted R Square</i>		0.557		
<i>F</i>		57.959 ($p=0.000$)		

Dependent variable: On-line Shopping Behaviour Intention

A simple regression was used to test hypotheses H5 and the result indicates that the Trust factor positively influenced consumers' attitude toward on-line shopping with a significance level ($\beta=0.451$ and $p=0.000$), $R=0.451$ and Adjusted R Square=0.199. Therefore, Hypothesis 5 is accepted. The overall results are shown in Figure 2.

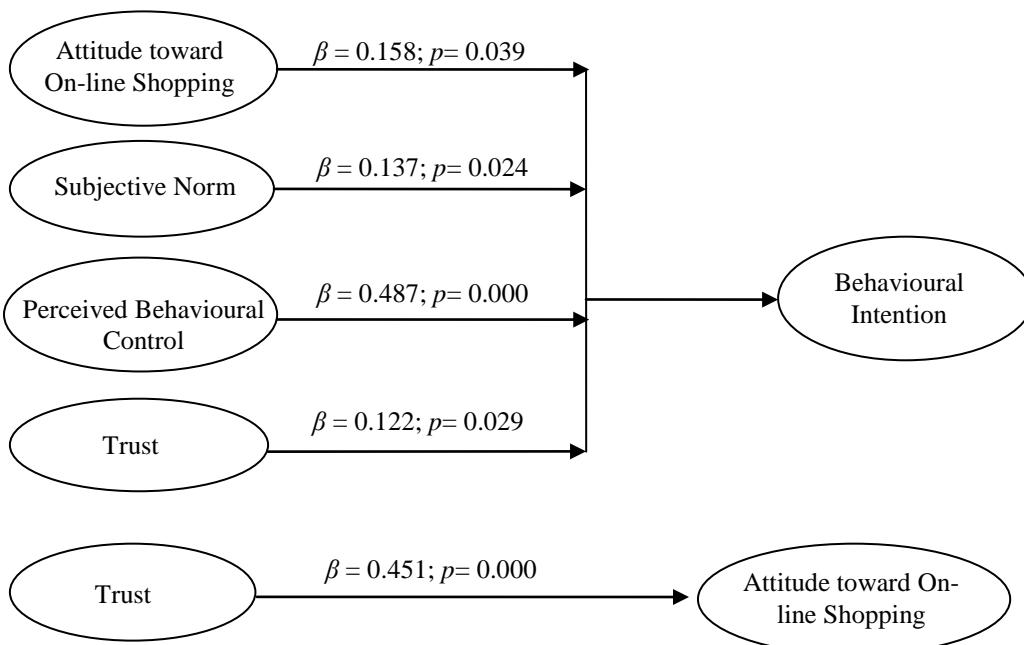


Figure 2: Model results.

DISCUSSION

According to the accepted hypotheses, the effect of those four independent factors on behavioural intention and trust, and on attitude was shown through the significance of the coefficients. It can be seen that the perceived behavioural control factor greatly influences the on-line shoppers' behavioural intention. The more consumers think they can control the transaction; information about on-line products; Web site and are able to return or change the products on on-line shopping, the more likely it is they will buy the on-line products. The attitude and subjective norm factor also influence consumer behavioural intention by validating the temporal change in users' beliefs and attitude and examining their effects on on-line shopping intention.

The results of the study demonstrate that the TPB is applicable to the measurement of behavioural intentions in on-line shopping. This study provides empirical support for the adequacy of Janzen's TPB model in on-line shopping behaviour. The findings in this study also demonstrate that trust exerts significant influence on on-line shopping behaviour. Together with the other three variables of the TPB, trust can enhance the predictive utility of the TPB to determine on-line shopping behaviour. Therefore, the addition of trust to the TPB model improves the prediction of on-line shopping behaviour.

However, the TPB model rarely has been applied to examine factors that influence consumers' attitude in a dynamic perspective. This study has indicated that trust has great influence on consumers' attitude. Therefore, it is possible that trust performs a moderating factor in the relation between attitude and behaviour intention in on-line shopping. Finally, it is concluded in this study that extending TPB with trust as an additional factor may be helpful to understand on-line shopping behaviour and the intention of consumers in Vietnam.

LIMITATIONS AND FUTURE RESEARCH

Some limitations of the study may have biased the conclusions drawn from the findings. First, only the extended model of TPB with the on-line shopping consumers in Vietnam was tested in this study. The subjects are limited in type and place where the survey was carried out. The participants of the survey were the students who usually use the Internet in Vietnam. As well, the survey was carried out in one part of the country rather than more broadly and, therefore, the results may be limited or biased.

Secondly, this study did not classify products or services, and might not be completely accurate. Consumers' cognition of product quality was classified into three groups: search goods; experienced goods; and trust goods. Search goods and trust goods were suitable for Internet marketing, while experienced goods were suitable for retail stores [34]. Therefore, future work might cover the classification and characteristics of products/services, and how they affect on-line shopping behaviour.

Third, the questionnaire was designed as a self-reporting format, so there may be self-reporting distortions. These distortions include: differences between subjects' interpretation and the real situation; subjects' emotional status; and their social expectation.

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