

Customer-Perceived Insecurity of Online Shopping Environment

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ABSTRACT: Customer-perceived insecurity of online shopping environment has become one of the major obstacles to the growth of electronic commerce. The main purpose of this study was to examine the influence of insecurity of Internet usage towards online purchase decision as well as consumers' attitudes and intentions towards online purchasing. The data was collected through survey questionnaire using the purposive sample of 253 Croatian students from the University of Dubrovnik. Research results indicate a significant relationship between the insecurity of Internet usage and online purchase decision. Additionally, a significant relationship was found between the insecurity of Internet usage and consumers' attitudes and intentions towards online purchasing. The overall analysis reveals that consumers have positive attitudes and intentions towards online purchasing whilst insecurity towards online purchasing lowers when online purchases are made more frequently.

Keywords: insecurity of Internet usage; online purchase decision; online purchase intention

JEL Classifications: D12; L81

1. Introduction

The topic of customer-perceived trust when shopping online has attracted substantial research interest in recent years. Trust is defined as the feeling of security or insecurity about relying on an entity, and in the case of online shopping, consumers' trust in virtual stores is reflected in personal information privacy and security (Chen and Tan, 2004:60). Trust in the vendor/website's ability positively affects the intention to get information and the purchase intention (Lu *et al.*, 2010). Similarly, consumer trust mediates the positive influence of pleasure on purchase intention (Ding and Lin, 2012).

In that context, security and privacy concerns have become important issues for online retailers in order to maintain their customers. Moreover, both concerns have been regarded as major barriers for e-commerce usage. When considering the main impediment to shopping on the Internet, Udo (2001) outlines that the public lack of confidence in online information technology is not merely about security of value, but also about trust in the information society.

It is often stated that privacy concern has a negative influence on online spending, i.e., people who are concerned about privacy spend less on online purchases (Akhter, 2012). In general, their concerns mainly refer to the risks associated with online retailing, such as revealing personal information, the possibility of credit card fraud and the inability to touch the products before purchasing. In that sense, online trust can discourage online consumers from online retailing and can influence purchase intentions. Risk perceptions regarding Internet privacy and security have been identified as issues for both new and experienced users of Internet technology (Miyazaki and Fernandez, 2001).

Nowadays, electronic retailers are using technology to convert “touch-and-feel” attributes into “look-and-see” attributes (Weitz, 2010). In doing so, marketers offering Web-based shopping typically try to provide a convenient, safe, and pleasant online shopping environment, appropriate to addressing shoppers’ functional goals (Bridges and Florsheim, 2008). In that sense, e-vendors have adjusted their online shopping systems to convince customers those vendors and systems are trustworthy (Jarvelainen, 2007).

In their study, Lee and Turban (2001) outline that e-commerce success, especially in the business-to-consumer area, is determined in part by whether consumers trust sellers and products they cannot see or touch, and electronic systems with which they have no previous experience. The findings of their study indicate that merchant integrity is a major positive determinant of consumer trust in Internet shopping, and that its effect is moderated by the individual consumer’s trust propensity.

The role of trust is often emphasized in predicting online purchase intentions (Schlosser *et al.*, 2006). Mukherjee and Nath (2007) argue that trust and commitment are the central tenets in building successful long-term relationships in the online retailing context and that behavioural intentions of customers are consequences of both trust and commitment. In addition, Salo and Karjaluoto (2007) outline that the actual outcome of trust-enhancing methods in online environments should be the development of long-term trusted customer relationships. Consequently, online initial trust and familiarity with online purchasing have a positive impact on purchase intention (Chen and Barnes, 2007).

As regards Croatian scholarly literature, the topic of perceived insecurity of online purchasing is a rather under-researched area. Therefore, it is of the utmost importance for online retailers and marketers to understand the insecurity issues related to online purchasing in order to foster more positive attitudes and online purchase intentions. Consequently, the main research objective of the paper is to examine the influence of insecurity of Internet usage towards online purchase decision, consumers’ intentions and attitudes towards online purchasing. In that context, the perceptions of 253 Croatian students from the University of Dubrovnik are analysed.

To achieve the research objectives, the paper is divided into five sections. Following the introduction, the second section provides the selected literature mainly related to the issue of insecurity of online shopping environment. Research methodology is discussed in the third section, while the fourth presents research results and the discussion of findings. The final section of the paper draws certain conclusions.

2. Literature Review

The examination of security issues related to online purchase decision and online purchase intentions is a wide area covering a number of different elements. In that sense, different aspects should be taken into consideration, e.g. perceived risk, trust, repurchase intentions and online environment. Generally, higher amounts of Internet use (for non-shopping activities) are associated with an increased amount of Internet product purchase (Citrin *et al.*, 2000) and perceived usefulness is positively related to increased time of use and Internet impacts (Anandarajan *et al.*, 2000).

Sometimes the information available over the Internet is insufficient to make high-risk purchase decisions (Weitz, 2010). On the other hand, it is often stated that the motivations that lead a potential e-customer to make a purchase are not the same as those that influence an experienced customer (Hernandez *et al.*, 2009). As regards the relationship between past online purchases and purchasing intentions, the results show that past purchasing predicts intentions to purchase (Weisberg *et al.*, 2011). In addition, Shim *et al.* (2001) report that intention to use the Internet to search for information is not only the strongest predictor of Internet purchase intention but also mediates relationships between purchasing intention and other predictors, such as attitude toward Internet shopping, perceived behavioural control, and previous Internet purchase experience.

As regards attitude, it is often seen as an antecedent variable, and motivation variables have a significant causal relationship with information search variables (Vazquez and Xu, 2009). Shim *et al.* (2001) emphasize those consumers’ attitudes towards online shopping affect consumers’ intention to use the Internet for information search and, consequently, influence their intention to use the Internet for purchasing. In their research, Van der Heijden *et al.* (2003) examine online purchasing intention using two different perspectives: a technology-oriented perspective and a trust-oriented perspective.

They assert that the trust-antecedent ‘perceived risk’ and the technology-antecedent ‘perceived ease-of-use’ directly influence the attitude towards purchasing online. Moreover, Thamizhvanan and Xavier (2013) report that impulse purchase orientation; prior online purchase experience and online trust have significant impact on the customer purchase intention.

In the study of Internet and e-commerce usage, Liebermann and Stashevsky (2002) emphasize that perceived risk is an important ingredient in the consumer decision-making process. In the context of online purchase decision-making, Yoon (2002) found that personal variables such as familiarity with e-commerce and prior satisfaction with e-commerce have high correlation with web-site satisfaction as well as trust, and, on the other hand, web-site trust, web-site satisfaction, and web-site awareness all were found to influence the online-purchase intention. In examining the effects of consumer trust and risk on online purchase decisions-making from the perspective of the buying decision process, Comegys *et al.* (2009) found that respondents with higher levels of trust towards online shopping tended to buy more, while people with little trust towards e-vendors actually reduced their e-shopping over time.

When considering the survival and success of both traditional and online store, repeat purchasing is of vital importance. Generally, with regards to customers’ repurchase intentions in online shopping; the findings reveal that trust, perceived ease of use, perceived usefulness and enjoyment are significant positive predictors of customers’ repurchase intentions (Chiu *et al.*, 2009). Kim and Gupta (2009) outline that potential and repeat customers of an online store possess different amount of information and use different criteria for making purchase decisions. Furthermore, the results of their study reveal that value perception (of transactions made with the online vendor) as an overall judgment for decision making is more strongly influenced by the non-monetary (perceived risk) factor than by the monetary factor (perceived price) for potential customers, whereas it is more strongly influenced by the monetary factor than by the non-monetary factor for repeat customers.

Moreover, in their study, Chiu *et al.* (2012) investigated the moderating role of habit on the relationship between trust and repeat purchase intention. The results indicate that a higher level of habit reduces the effect of trust on repeat purchase intention. The data also show that value, satisfaction, and familiarity are important to habit formation and thus relevant within the context of online repeat purchasing. As regards the effects of consumers’ perception of online retailers’ ethical behaviour on consumer purchase and revisit intentions it was found that perceived ethics of an Internet retailer’s website significantly affected consumers’ trust and attitudes to the retailer’s website that eventually had positive impacts on purchase and revisit intentions (Limbu *et al.*, 2012).

To conclude, the review of the examined literature emphasizes that security and privacy issues together with trust, perceived risk, and, consequently, purchasing intentions play an important role in online decision-making process as well as preference for online purchasing.

3. Research Methodology

The analysis of the relationship between insecurity of Internet usage and online purchase decision and consumers’ attitudes and intentions is undertaken on the dataset collected from February to May 2013 through a survey questionnaire of 253 Croatian students from the University of Dubrovnik. This study was orientated towards young, college educated, experienced Internet users. The survey questionnaire consisted of 10 statements and questions. In addition, the questionnaire included demographic characteristics such as gender and monthly allowance of the students surveyed. Surveys were completed anonymously during regular class time, with a response rate of a 100 percent.

Consumers’ attitudes and intentions towards purchasing online were measured with an ordinal measurement scale taking degrees from 1 to 5, where respondents expressed their degree of agreement or disagreement with the statement (1=strongly disagree, 5=strongly agree). Also, the purchase decision was measured with the ordinal scale taking statements from 1 to 4 (1-do not purchase, 2 – purchase once a year, 3-purchase several times a year (2 to 8 times), 4-purchase several times a year (more than 8 times). The question for insecurity of Internet usage was measured with nominal measurement scale (0-Yes, 1-No).

Table 1 shows demographic and personal characteristics of the students who participated in this empirical research.

Table 1. Sample characteristics of the surveyed students

Characteristics	N	Percentage (%)
Gender:		
Male	86	34.00
Female	167	66.00
Total	253	100
Monthly allowance (Kunas):		
-499	48	19.00
500-999	48	19.00
1000-1999	59	23.30
2000-2999	35	13.80
3000 and more	63	24.80
Total	253	100
Online purchase decision:		
do not purchase	71	28.10
purchase once a year	54	21.30
purchase several times a year (2 to 8 times)	84	33.20
purchase several times a year (more than 8 times)	44	17.40
Total	253	100
Insecurity of Internet usage:		
Yes	168	66.40
No	85	33.60
Total	253	100

Source: Research findings (N=253)

The collected data was analysed using statistical software package SPSS 20. Moreover, various statistical analyses were used, such as crosstabulation and Spearman correlation analysis.

4. Results

Prior to the inferential statistical analysis of collected data it is important to present the descriptive statistics for the first statement. The further processing of data is approached by using the descriptive statistic, crosstabulation. Table 2 shows crosstabulation of the insecurity of Internet usage against online purchase decision.

Table 2. Crosstabulation of insecurity of Internet usage against online purchase decision

Insecurity of Internet usage	Online purchase decision			
	do not purchase	purchase once a year	purchase several times a year (2 to 8 times)	purchase several times a year (more than 8 times)
Yes	58	42	51	17
No	13	12	33	27

Source: Research findings (N=253)

The crosstabulation analysis shows that the majority of students expressed insecure emotions while shopping in an online environment, even the students who purchase several times a year (2 to 8 times). Such finding is in line with reported evidence from existing literature in Section 1 (Miyazaki and Fernandez, 2001). However, slightly more than a half of respondents who purchase more than 8 times a year feel secure in an online environment while purchasing. Therefore, it could be noted that the insecurity of Internet usage has a tendency to decrease only if respondents purchase more than 8 times a year.

The further processing of data is approached by using the Spearman's correlation coefficient. Correlation analysis determines the relation direction, strength as well as the significance of the relation. The relationship between the insecurity of Internet usage and online purchase decision were examined by using Spearman's rank correlation. Table 3 shows the correlation matrix between the insecurity of Internet usage and online purchase decision by using Spearman's correlation coefficient.

Table 3. Correlation matrix between the insecurity of Internet usage and online purchase decision

	Online purchase decision
Insecurity of Internet usage	.313**
	.000

** Correlation is significant at the 0.01 level
Source: Research findings (N=253)

Correlation analysis indicates a statistically significant and moderately strong relationship between the insecurity of Internet usage and online purchase decision. Values of correlation coefficient show the positive direction, indicating that the insecurity of Internet usage influences consumers online purchase decision.

The results of correlation analysis between the insecurity of Internet usage and consumers attitudes towards online purchasing are shown in Table 4.

Table 4. Correlation matrix between insecurity of Internet usage and consumers' attitudes towards online purchasing

	Consumers' attitudes towards online purchasing
Insecurity of Internet usage	.235**
	.000

** Correlation is significant at the 0.01 level
Source: Research findings (N=253)

The results of data in Table 4 reveal statistically significant, moderately weak but positive correlation between the insecurity of Internet usage and consumers attitudes towards online purchasing. Therefore, it can be concluded that consumers are more inclined towards online shopping if they perceive online purchasing as a secure form of shopping.

Most respondents perceived online purchase as a risk form of shopping, even those who purchase online 2 to 8 times a year. In that context, the frequency of online purchase decision will increase only for those who purchase more than 8 times a year as they consider online environment as a secure place for shopping. Thus, it is assumed that purchase frequency in online environment increases confidence in online purchasing. Table 5 shows the results of correlation matrix between the insecurity of Internet usage and consumers' intentions towards online purchasing.

Table 5. Correlation matrix between the insecurity of Internet usage and consumers' intentions towards online purchasing

	Online purchasing is a good thing	Online purchasing is necessary nowadays	Online purchasing is favourable for consumers	I like purchasing online
Insecurity of Internet usage	.245**	.205**	.222**	.307**
	.000	.000	.000	.000

** Correlation is significant at the 0.01 level
Source: Research findings (N=253)

Correlation analysis indicates a statistically significant but weak relationship between the insecurity of Internet usage and consumers' intentions towards online purchasing. Values of correlation coefficient show the positive direction in the range of $0.205 < r > 0.307$, indicating that the insecurity of Internet usage influences on consumers' intentions towards online purchasing.

These results show that if respondents perceive online shopping as a secure environment they will have positive intentions towards online purchasing i.e. intentions towards online purchasing have tendency to increase with the decline of insecurity in online environment. These results are in line with the previous studies (Van Noort *et al.*, 2008; Harris and Goode, 2010; Ha and Stoel, 2012) indicating that both privacy and security concerns exerted a powerful influence over trust and purchase intentions.

5. Conclusions

The research contributes to the existing literature by providing insights into university students' perceptions and attitudes towards the insecurity of online shopping environment. The aim of this study was to investigate the relationship between the insecurity of Internet usage and online purchase decision as well as attitudes and intentions towards online purchasing.

The results reveal statistically significant and moderately strong relationship between the insecurity of Internet usage and online purchase decision indicating that the insecurity of Internet usage influences on consumers' online purchase decision. Correlation analysis indicates statistically significant relationship between the insecurity of Internet usage and consumers' attitudes and intentions towards online purchasing.

Based on the findings, it can be stated that the insecurity of the online environment is evident and it influences on consumers' attitudes and intentions towards online purchasing. These findings reveal that young students are still discovering the advantages and convenience of online purchasing. Although the majority of respondents perceived online environment as risky and insecure, they have positive attitudes and they will be inclined towards online shopping in the future. It might also be concluded that insecurity towards online purchasing lowers when online purchases are made more frequently.

However, the findings should be considered in the light of their limitations. First of all, it refers to a sample selection, i.e. university students. This limited sampling frame may affect the generalization of findings. Future research sample should be extended by including other population groups. In addition, other factors could also be taken into consideration and included in the future research, primarily age, education, product type, prior purchase or web-site satisfaction.

Given that the university students represent a group of young adult online shoppers, the research findings may be useful to web-retailers, marketing managers and internet marketers to recognize insecurity obstacles affecting online purchasing behaviour and the growth of electronic commerce and help them develop more positive attitudes and online purchase intentions.

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