Exploring the Online Shopping- The Role of Prior Experience

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Abstract—**Our study empirically examined the role of prior online shopping experience within a proposed model which is integrated perceived uncertainty, trust, and two key variables (perceived ease–of–use, and perceived usefulness) as depicted in the technology acceptance model (TAM) to understand the difference between low- and high-experienced online shoppers. The study found that the importance of trust in an e-vendor vis-à-vis the TAM constructs has consistent effects for all experienced online shoppers. However, results indicate that perceived uncertainty affects trust in an e-vendor but only in the low-experience online shoppers. The data also show that the low- and high-experienced online shoppers have some divergence in the source of perceived uncertainty which is classified into relationship uncertainty and environmental uncertainty. The study result may be useful for managers of e-vendors to understand the effect on determinants of repurchase intention and the concerns of perceived uncertainty for the different experienced online shoppers, especially when they are making decisions to extend their businesses.**

***Index Terms*—online shopping, uncertainty, trust, agency theory, TAM (Technology Acceptance Model), PCV (Psychological Contract Violation)**

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I. Introduction

While the B2C e-commerce is widely accepted, many customers are still unwilling to purchase products from virtual stores. Online shopping is truly different from traditional store shopping, since it lacks of human interaction and customers cannot entirely monitor the seller's behavior. Consequently, many people hesitate to make online product purchases due to the fact that a variety of uncertainties arise in an online transaction environment. Unlike the buyer-seller relationship in traditional businesses, customers buy products and services using the e-vendor's website interface which is an information technology (IT). Hence, to explain web design and online repurchase intentions, TAM (Technology Acceptance Model)[1](Davis, 1989) has been expanded and validated by numerous empirical studies[2-5].On the other hand, customers trust in the e-vendor to play a vital role in online shopping. Moreover, some of the studies have focused on trust and TAM in online shopping [2, 3, 5].

Despite the many studies that have explored trust being one of the important determinants of customer's acceptance of internet shopping [2, 6, 7, 12], the mechanisms by which trust is heavily influenced by uncertainty of online transactions are still not well understood. Few empirical studies have been conducted on the effect of uncertainty or have looked into what factors cause the uncertainties in an Internet shopping environment. In addition, customer beliefs and behavior may change with time as he or she gains more knowledge and experience from past transaction. This is in accordance with Taylor and Todd's [8] literature review which found that prior experience is an important determinant of behavior and helps to form intention. Likewise, the relative important of perceived uncertainty changes as a customer gets acquainted with a specific e-vendor [3] in online transaction. That is, there may be difference between low- and high-experienced online shoppers in the relative influence of the various antecedents of perceived uncertainty.

The purpose of this study is to propose an integrated model which explores the relationships among perceived uncertainty, trust and TAM, and to explore online shoppers' beliefs and repurchase intentions from the perspective of prior purchase experiences of the participants. Also, a set of antecedents of perceived uncertainty are identified and investigated on whether they have the same influence for low- versus high-experienced online shopper. The outcomes of this study are expected to be of consequence to business, consumers and researchers.

II. Research Model

Previous studies have found that prior experience is a crucial determinant of behavior [3, 9,10]. As the beliefs and behavior may change with time, we intend to explore the buying experience and behavioral intention of different repeat customers for a specific e-vendor in online transaction environment. Since the online shopping environment is filled with various uncertainties, both perceived uncertainty and trust are taken into account in a customer's intentions to purchase products online. Developed from TAM, two constructs, perceived usefulness and perceived ease of use, were commonly proposed as the factors that reflected the user's intentions concerning Internet and IS usage [14, 17]. In addition, the agency theory is also employed to explicate the antecedents of perceived uncertainty in online exchange relationships [11]. The research model is proposed in Fig. 1 and leads to the following hypotheses in our studies:

H1: Perceived usefulness (PU) will positively influence a buyer's online repurchase intentions.
H2: Perceived ease of use (PEOU) will positively influence a buyer's online repurchase intentions.
H3: Perceived ease of use (PEOU) will positively influence the perceived usefulness (PU)

H4: Trust will positively influence a buyer's online repurchase intentions.
H5: Trust will positively influence Perceived usefulness (PU).
H6: Perceived ease of use (PEOU) will positively influence trust in an e-vendor.
H7: Perceived uncertainty will negatively influence trust in an e-vendor.
H8: Fears of seller opportunism is positively related to perceived uncertainty.
H9: Psychological Contract Violation (PCV) is positively related to perceived uncertainty.
H10: Price concern is positively related to perceived uncertainty.
H11: Delivery concern is positively related to perceived uncertainty.
H12: Feedback Mechanism Concern is positively related to perceived uncertainty

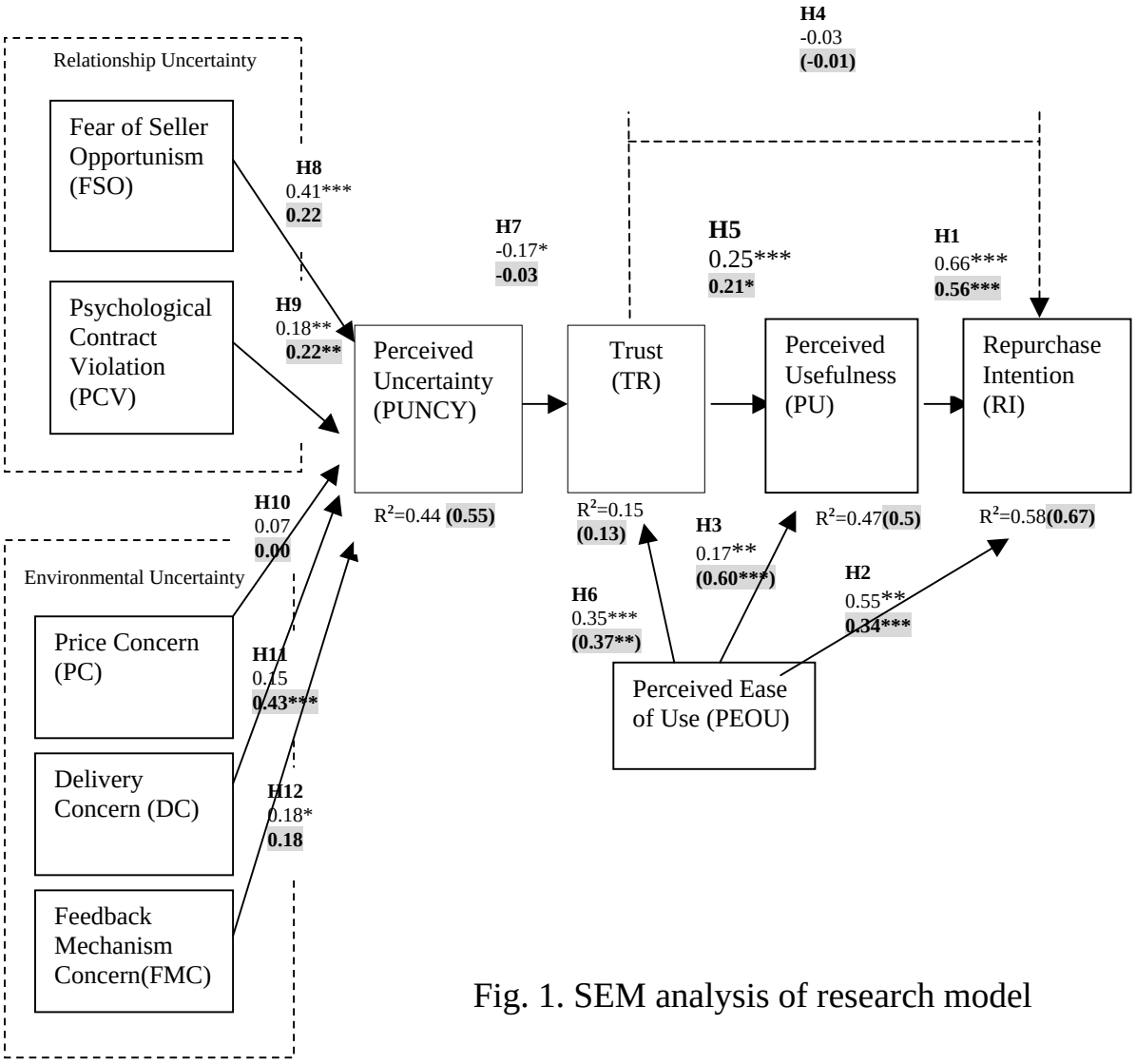

Fig. 1. SEM analysis of research model

Legend: 1.*p < .05. *p < .01. *p < .001.
2. Coefficients for high-experienced shoppers are in the shaded boxes.
3. R-square values for high-experienced shoppers are shown in the shaded boxes between parentheses.

III. Study One — Measurement Development

For this study, all measurement items in the questionnaire were developed either by adapting measures that have been validated by other researchers or by converting the definitions of constructs into a questionnaire format. A pretest of the questionnaire was performed to ensure content validity and reliability within the context. Three experts in the EC area were invited to assess wording clarity and question item sequence adequacy. The comments collected from these experts lead to several minor modifications of the wording and the item sequence. Furthermore, an online pilot study was conducted involving another three professors, five ph D. students and twenty full-time master students whose research areas were all related to EC . Comments from them lead to several minor modifications of the wording and the question item sequence. Most items were measured using a 5-point Likert scale with anchors ranging from strongly disagree (1) to strongly agree (5).

IV. Study Two — Model Testing

The web-based survey was conducted by this study and a hyperlink to link our online survey web pages from January to February, 2008. Survey method was used to test the research model, including 298 people randomly selected from the respondents. In the e-mail welcoming and thanking them for doing the survey

On the coverage, we gave some statements ensuring the participants the privacy when filling up the questionnaire. Furthermore, we offered the monetary rewards (US$200) for those twenty randomly selected respondents to increase the response rate. Of all the 298 participants, 224 usable data were used for analysis, yielding a response rate of 75.2 percent.

The analysis involved two stages: (1) assessment of the measurement model for item reliability, convergent validity, and discriminant validity by PLS confirmatory factor analysis. All loadings are higher than the 0.7 threshold. The smallest square root of AVE (Average Variance Extracted) was 0.75, which was well above 0.7 (see Table 1).

All the items demonstrate satisfactory convergent and discriminant validity. (2) assessment of the structural model (the hypotheses, the paths between the items by PLS Graph 3.0) [15, 16]. The PLS path coefficients and explained variances for testing the structural model of the study are shown in Fig. 1.

V. DISCUSSIONS

The empirical findings show that online shoppers' trust in sellers is positively associated with perceived usefulness, and perceived usefulness is positively associated with their repurchase intentions. This result is consistent with prior studies [2, 5] and confirms the acceptance of B2C e-commerce for experienced online shoppers. Moreover, the trust variable has an indirect effect to repurchase intention. These findings lead us to believe that the effect on determinants of repurchase intention is similar for high- and low-experienced online shoppers. That is, this result is, more or less, not concerned with a customer's online shopping experience. In addition, this study also finds that there are some differences between high- and low-experienced online shoppers in the antecedents of perceived uncertainty. The two distinct groups have some different perceptions and beliefs that influence their repurchase intentions. Such differences may inspire the e-vendors to find better ways to reduce uncertainty concerns of customer and effectively manage internet risk in order to enhance a customer's repurchase intention. Therefore, these are important managerial implications to better understand the role of experience in the proposed model.

As with other empirical researches, this study also has several limitations. This study has tested the research model via prior online shopping experience. Although believing the study has provided some valuable insights, our findings might be limited in exploring only two well-known e-vendors in Taiwan. It may be a direction for future research to examine the relative importance and relationships of the study constructs for numerous e-vendors to enhance the generalizability of study. Furthermore, future research could examine the proposed model in different countries to understand cross-cultural effects on online shopping behavior.

This study only focuses on the most important factors of perceived uncertainty which were restricted to the six constructs (fear of seller opportunism, psychological contract violation, price concern, delivery concern, and feedback mechanism concern) [13]. Some factors that may result in perceived uncertainty could be examined in further research. For instance, information privacy concerns, information security concerns [11], the buyer's personal traits, and mood condition [17]. Otherwise, the interrelationship of perceived uncertainty antecedents should also be tested in the future.

The empirical data presented are cross-sectional, and the determinants of repurchase intention were measured at a static point. Further research could take a longitudinal perspective and exploring the online shopping behavior, not only for repurchase intention, but also with continual transaction behavior. Longitudinal research can provide further observation to realize whether those two groups of experienced online shoppers have an actual transaction with the specific e-vendor, in order to truly trace the crucial relationship between repurchase intention and actual transaction.

Table 1. Correlations And AVE

Construct	AVE	FSO	PCV	PC	DC	FMC	PUNCY	TR	RI	PU	PEOU
FSO	0.87	**0.93**	—	—	—	—	—	—	—	—	—
	(0.90)	**(0.95)**									
PCV	0.79	0.22	**0.88**	—	—	—	—	—	—	—	—
	(0.79)	(0.23)	**(0.89)**								
PC	0.73	0.21	0.26	**0.85**	—	—	—	—	—	—	—
	(0.71)	(0.42)	(0.36)	**(0.84)**							
DC	0.71	0.34	0.14	0.43	**0.84**	—	—	—	—	—	—
	(0.68)	(0.53)	(0.27)	(0.58)	**(0.82)**						
FMC	0.78	0.30	0.03	0.27	0.36	**0.88**	—	—	—	—	—
	(0.80)	(0.52)	(0.21)	(0.32)	(0.49)	**(0.89)**					
PUNCY	0.79	0.57	0.32	0.32	0.41	0.38	**0.89**	—	—	—	—
	(0.56)	(0.56)	(0.39)	(0.39)	(0.64)	(0.52)	**(0.75)**				
TR	0.77	-0.06	-0.24	-0.18	-0.19	-0.02	-0.16	**0.88**	—	—	—
	(0.79)	(0.11)	(-0.21)	(0.20)	(0.17)	(0.13)	(0.07)	**(0.89)**			
RI	0.89	0.17	-0.25	-0.12	0.05	0.17	0.06	0.33	**0.94**	—	—
	(0.87)	(0.16)	(0.01)	(-0.05)	(0.27)	(0.24)	(0.23)	(0.35)	**(0.93)**		
PU	0.74	0.12	-0.26	-0.20	-0.04	0.15	-0.02	0.45	0.75	**0.86**	—
	(0.84)	(0.16)	(-0.05)	(0.02)	(0.27)	(0.17)	(0.11)	(0.43)	(0.78)	**(0.92)**	
PEOU	0.73	0.16	-0.10	-0.14	-0.04	0.13	0.02	0.35	0.58	0.64	0.85
	(0.64)	(0.33)	(0.17)	(0.15)	(0.35)	(0.21)	(0.27)	(0.36)	(0.71)	(0.68)	(0.80)

*Value for high-experienced shoppers are shown in the between parentheses which is under the value for low-experienced shoppers.
*Diagonal elements (in bold) are the square root of the average variance extracted (AVE). Off-diagonal elements are the correlations among constructs. For discriminant validity, diagonal elements should be larger than off-diagonal elements.
*FSO=fear of seller opportunism; PCV=psychological contract violation; PC= price concern; DC=delivery concern; FMC=feedback mechanism concern; PUNCY=perceived uncertainty; TR=trust; PU=perceived usefulness; PEOU= perceived ease of use; RI=repurchase intention.

REFERENCES

[1] F. D. Davis, "Perceived usefulness, perceived ease of use and user acceptance of information technology," MIS Quarterly vol. 13, pp. 319-340, 1989.
[2] D. Gefen, E. Karahanna, and D. W. Straub, "Trust and TAM in online shopping: An integrated model," MIS Quarterly, vol. 27, pp. 51-90, Mar 2003.
[3] D. Gefen, E. Karahanna, and D. W. Straub, "Inexperience and ExperienceWith Online Stores: The Importance of TAM and Trust," IEEE Transactions On Engineering Management, vol. 50, pp. 307-321, 2003.
[4] M. Koufaris, "Applying the technology acceptance model and flow theory to online consumer behavior," Information Systems Research, vol. 13, pp. 205-223, Jun 2002.
[5] P. A. Pavlou, "Consumer Acceptance of Electronic Commerce:Integrating Trust and Risk with the Technology Acceptance Model," International Journal of Electronic Commerce, vol. 7, pp. 101-134., 2003.
[6] D. H. McKnight, V. Choudhury, and C. Kacmar, "Developing and Validating Trust Measures for E-Commerce: An Integrative Typology," Information Systems Research, vol. 13, pp. 334-359, 2002.
[7] S. L. Jarvenpaa, N. Tractinsky, and M. Vitale, "Consumer trust in an Internet store," Information Technology and Management, vol. 1, pp. 45-71, 2000.
[8] S. Taylor and P. Todd, "Assessing IT Usage:The Role of Prior Experience," MIS Quarterly/December pp. 561-570, 1995.
[9] R.-A. Shang, Y.-C. Chen, and L. Shen, "Extrinsic versus intrinsic motivations for consumers to shop on-line," Information & Management, vol. 42, pp. 401-413, Mar 2005.
[10] D. Gefen and D. W. Straub, "The relative importance of perceived ease-of-use in IS acceptance: A study of e-commerce acceptance," Journal of AIS, vol. 1, pp. 1-30, 2000.
[11] P. A. Pavlou, H. Liang, and Y. Xue, "Understanding and Mitigating Uncertainty in Online Exchange Relationships: a Principal-Agent Perspective," MIS Quarterly, vol. 31, pp. 105-136, March 2007.
[12] M. Koller, "Risk as a determinant of trust," Basic-and-Applied-Social-Psychology, vol. 9, pp. 265-276, 1988.
[13] P. A. Pavlou and D. Gefen, "Psychological Contract Violation in Online Marketplaces: Antecedents, Consequences, and Moderating Role," Information Systems Research, vol. 16, pp. 372-399, Dec 2005.
[14] G. Torkzadeh and G. Dhillon, "Measuring factors that influence the success of Internet commerce," Information Systems Research, vol. 13, pp. 187-204, 2002.
[15] J. C. Anderson and D. W. Gerbing, "Structural equation modeling in practice: a review and recommended two-step approach," Psychological Bulletin vol. 103, pp. 411-423, 1988.
[16] C. Fornell and D. F. Larcker, "Evaluating structural equation models with unobservable variables and measurement errors," Journal of Marketing Research, vol. 18, pp. 39-50, 1981.
[17] C.-H. Yen and H.-P. Lu, "Factors influencing online auction repurchase intention," Internet Research, vol. 18, pp. 7-25, 2008.