Trust on E-Commerce Website in Thailand

-A Case of Online Hotel Reservation-

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***Abstract*— Prior study of the customer trust in an Internet store has not yet dealt with online hotel reservation. In order to test its generalization, this current study was designed to investigate whether or not the perceived trust and perceived risk would affect the customer's attitude towards using online hotel reservation and intention to use it in Thailand. The model was developed and its hypotheses were tested by using the structural equation modeling. The results of questionnaire filled out by 446 Thai university students pointed out that the customer's perceived trust is significantly associated with the customer's attitude towards using online hotel reservation but the customer's perceived risk has no effect on the attitude towards using it.**

Keywords- trust; e-commerce; online hotel reservation; Thailand

I. INTRODUCTION

Trust in electronic commerce (EC) is defined as an individual's willingness to rely on the seller and take action in circumstances where such action makes him/her vulnerable to the seller [1]. Lack of trust in online businesses is one of the main reasons for customers not purchasing items through the Internet [2]. Customers are reluctant to input their personal information when online shopping sites asks for it. In addition, they are concerned about the interception and misuse of information sent over the Internet. Consequently, they may not trust in online shopping. As trust is the key element of EC and EC depends on trust being created and maintained with the help of digital devices and services [3], the topic of customer trust deserves to be examined.

Lack of trust is one of the greatest barriers inhibiting online trade between buyers and sellers who are unfamiliar with each other. Previous studies [4], [5] stated that trust is a critical factor in EC. Internet users' survey in Thailand indicated that the two most popular goods and services purchased online are books and reservation (hotel, tickets, car, etc.) and the most important reason why Internet users did not purchase through the Internet is that they do not trust the sellers [6]. This denoted that trust is the primary concern for the online consumers of EC in Thailand. Thus, it is interesting to investigate trust in online hotel reservation in Thailand.

II. TRUST IN ONLINE HOTEL RESERVATION

By using interdisciplinary approaches, prior literature provides comprehensive elements affecting the customer's trust of web sites. Fogg et al. [7] found that there are five elements increasing the perception of a web site's credibility: real-world feel, ease of use, expertise, trustworthiness, and tailoring, and two elements damaging to a web site's credibility: commercial implications and amateurism. As EC was developed based on IT infrastructure and applications such as Internet and World Wide Web, the system driving EC is IT-based. Indeed, EC involves trust not simply between the online company and the consumer, but also between the consumer and the computer system through which the transactions are executed [8]. Hacking into company databases, stealing credit card numbers, and insecurity of transactions are problems of IT-based systems. These may decrease the level of trust in an EC system. Therefore, to gain the customer's trust in a web site, the following components of web site must be guaranteed.

Security is the ability of the web site to protect customers' personal information and transactions from unauthorized use or disclosure and transfer them safely. Customers hope that Internet stores will provide secure methods for exchanging products and information with them. If there is even the slightest possibility that the online payment system may be insecure, trust and confidence of this system will begin to erode.

The model of customer trust in an Internet store developed by [9] reveals that trust is a significant antecedent of customers' attitude towards an Internet store and shopping intention. This model also successfully holds for the online book store and online flight booking. Since this model has not yet been generalized, it is necessary to test it with other domains of EC website. Thus, this model is chosen to be tested with online hotel reservation domain. In order to avoid a bias on company's reputation, the perceived reputation is omitted in our proposed model. Our hypotheses are listed below.

Perceived Size of online hotel reservation website:

H1: A customer's perceived size of company positively influences a customer's perceived trust.

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Perceived Trust:

H2: A customer's perceived trust in online hotel reservation positively influences his or her attitude towards using it.

H3: A customer's perceived trust negatively influences his or her risk perception.

Perceived Risk:

H4: A customer's perceived risk negatively influences his or her attitude towards using online hotel reservation.

H5: A customer's perceived risk negatively influences his or her intention to use online hotel reservation.

The last hypothesis was in line with previous studies.

H6: A customer's attitude toward using online hotel reservation positively influences his or her behavioral intention to use it.

III. RESEARCH MODEL

After reviewing the literature, we found that a model studying on trust in Internet store [9] has not yet been tested with the online hotel reservation website. Thus, Fig. 1 shows our model to explore the perceived trust factors influencing the intention to use online hotel reservation.

A. Data Collection

We conducted a paper-based questionnaire consisting of two sections. The first section was designed to gather general attitude towards Internet shopping. The second section is to measure the perception of trust and risk as well as the customers' attitude towards online hotel reservation. Each construct contained several items measured by the four-point scale ranging from (1) "Agree", (2) "Somewhat Agree", (3) "Somewhat Disagree", and (4) "Disagree".

The questionnaire, originally written in English, was translated into Thai by IT-oriented, bilingual native Thai speakers. The questionnaire was then translated back into English by IT oriented native English speakers. The English versions were then compared, and no culturally specific linguistic or IT-related items were found. That is, all items were culturally appropriate to Thailand. We asked university students in Bangkok, Thailand to answer the questions. The questionnaire period ran in February 2010. After the initial reliability and validity screening, 446 responses were found to be complete and usable. Table I lists some of the demographic profiles of the respondents.

TABLE I. DEMOGRAPHIC CHARACTERISTICS

Category	Percentage (%)
Gender:	
Male	35.4
Female	63.7
Not answer	0.9
Age:	
17-22	96.6
23-28	2.5
29-37	0.7
Not answer	0.2
Education level:	
Bachelor degree	96.4
Master degree	2.7
Doctoral degree	0.2
Not answer	0.7

B. Measurement Development

The measures were developed from the literatures. The questionnaire used for data collection contained scales to measure the various constructs of the research model. The six items of perceived store trustworthiness, the three items of perceived size, the three items of the perceived risk, and the three items of attitudes towards using online hotel reservation were developed from Jarvenpaa et al.'s study [9]. The intention to use online hotel reservation was measured by four items from [10, 11].

C. Data Analysis

The data analysis employed a two-step approach [12] using a statistical program, SPSS, and a covariance-based program, AMOS. In the first step, the measurement model was examined for composite reliability and tested for goodness-of-fit. The second step involved confirming the relationships and testing the hypotheses of the research model by using the structural equation modeling (SEM) technique.

The validity of each construct was assessed by examining the standardized factor loadings of its hypothesized items obtained from the measurement model. The construct validity would be acceptable if each item has a minimum factor loading of 0.60 on its hypothesized construct [13]. In addition, the internal consistency of the measurement model was assessed by computing the composite reliability (CR). The reliability coefficients and the coefficients of average variance extracted (AVE) are displayed in Table II. All constructs have higher composite reliability than the acceptance level of 0.60 [14]. This suggests that the data has high internal reliability. The coefficients of AVE indicate what percentage of the variance of the construct is explained by an individual item. Almost all constructs have higher AVEs than the acceptance level of 0.50 [14]; therefore, it is concluded that the validity of both the constructs and the individual variables is high and showed convergent validity.

The initial test of the structural model estimated the goodness-of-fit of the initial and final models so that the hypothesized model would be a good representation of the structures underlying the observed data. After revising the initial model, the Chi-square $\chi^2(84, N=446)$ was calculated to be 209.183, $p < .001$). The root mean square error of approximation (RMSEA) is 0.058, which indicates a good fit and small errors of approximation in the population. The incremental fit index (IFI) of 0.946, the normed fit index (NFI) of 0.913, and the comparative fit index (CFI) of 0.946 are higher than the recommended levels of 0.90. Overall, the final model for the model of trust in online hotel reservation appears to be statistically well fitting.

IV. RESULTS

The standardized factor loadings are presented in Table II. In this step, we examined the path significance of each relation in our research model and variance explanation (R^2 value) of each path. All the hypotheses were tested on the

basis of the significance of the structural coefficients shown in Fig. 1. The estimated path effects (standardized) are presented. All of path coefficients are significant at p = 0.001, which indicates strong support for all the hypothesized relationships, except the link between perceived risk and attitude towards using online hotel reservation which was non-significant at p = 0.05.

TABLE II. FACTOR LOADINGS AND RELIABILITY OF MEASURED CONSTRUCTS

Construct	Item	Standardized factor loadings	CR	AVE
Size	S1	0.928	0.828	0.871
	S2	0.607		
Trust	T1	0.713	0.574	0.728
	T2	0.423		
	T3	0.455		
	T6	0.552		
Risk	R1	0.769	0.796	0.871
	R2	0.679		
	R3	0.832		
Attitude	A1	0.747	0.844	0.903
	A2	0.875		
	A3	0.835		
Intention	I1	0.67	0.699	0.801
	I2	0.63		
	I3	0.624		

Intention to use online hotel reservation was predicted by attitude towards using online hotel reservation (β = 0.66) and perceived risk (β = -.57), which accounted for 67% of the variance in the intention to use online hotel reservation.

Attitude towards using online hotel reservation was predicted by perceived trust (β = 0.55), perceived risk (β = -.15, $p > .05$), which accounted for 44% of the variance in the online reservation attitude.

Perceived risk was predicted by perceived trust (β = -.68). Perceived trust was predicted by perceived size of online hotel reservation website (β = 0.47), which accounted for 22% of the variance in the perceived trust.

V. CONCLUSION

In this current study, the aim was to investigate whether or not the perceived trust and perceived risk would affect the customer's attitude towards using online hotel reservation and intention to use it in Thailand.

The results of the model of trust on online hotel reservation show that the perceived trust was negatively related to the perceived risk and was positively related to the attitude towards booking hotel through the Internet, which directly affected the online hotel reservation intention. Perceived size of online hotel reservation website positively affected the customer's perceived trust.

Perceived risk was not significantly related to the attitude towards using online hotel reservation. This shows that the perceived risk had no effect on the attitude towards using online hotel reservation. This result does not conform to what Jarvenpaa et al. [9] concluded that the customer's perceived risk is associated with the customer's attitudes towards shopping at the Internet store. Thus, Jarvenpaa et al.'s model of consumer trust in an Internet store could not be generalized to other domains especially online hotel reservation. However, this conclusion may be limited in a specific group of online customers, particularly university students.

Further analysis can be conducted by further exploring both perceived trust and perceived risk. First, perceived trust can be investigated by finding what elements of online hotel reservation website will make online users trust the website. The elements might be security, accessibility, ease of use, and real-world presence [1]. Second, perceived risk should be identified to lower their risk in booking hotel online. This can be done by surveying what kinds of risk happened during online booking. There are 6 types of perceived risk: financial, performance, physical, psychological, social and time risk [15].

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REFERENCES

[1] K. Atchariyachanvanich and N. Sonehara, "A research framework of trust in electronic commerce," Proc. 1st Workshop on Information Credibility on the Web (WICOW), April 2007, pp.17-24.

[2] D.L. Hoffman, T.P. Novak, and M. Peralta, "Building consumer trust online," Communications of the ACM, vol. 42, no. 4, 1999, pp. 80-85.

[3] P. Cofta, "Convergence and trust in eCommerce," BT Technology Journal, vol. 24, no. 2, 2006, pp. 214-218.

[4] K. Atchariyachanvanich, A study on factors affecting the success of electronic commerce, Doctoral Thesis, Graduate University for Advanced Studies, Tokyo, Japan, 2007.

[5] B. J. Corbitt, T. Thanasankit, and H. Yi, "Trust and e-commerce: a study of consumer perceptions," Electronic Commerce Research and Applications,vol. 2, 2003, pp.203-215.

[6] National Electronics and Computer Technology Center, Internet user profile of Thailand 2009. Bangkok: National Electronics and Computer Technology Center, 2009.

[7] B.J. Fogg, J. Marshall, O. Laraki, A. Osipovich, C. Varma, N. Fang, J. Paul, A. Rangnekar, J. Shon, P. Swani, and M. Treinen, "What makes web sites credible? a report on a large quantitative study," CHI Letters, vol. 3, no. 1, 2001, pp. 61-68.

[8] K.O.M. Lee and E. Turban, "A trust model for consumer Internet shopping," International Journal of Electronic Commerce, vol. 6, no. 1, 2001, pp. 75-91.

[9] S.L. Jarvenpaa, N. Tractinsky, and M. Vitale, "Consumer trust in an Internet store," Information Technology and Management, vol. 1, 2000, pp. 45-71.

[10] P.A. Pavlou and D. Gefen, "Building effective online marketplaces with institution-based trust," Information Systems Research, vol. 15, no. 1, March 2004, pp. 37-59.

[11] K.J. Stewart, "Trust transfer on the world wide web," Organization Science , vol. 14, no. 1, January 2003, pp. 5-17.

[12] J.C. Anderson and D.W. Gerbing, "Structural equation modeling in practice: a review and recommended two-step approach," Psychological Bulletin, vol. 103, no. 3, 1988, pp. 411-423.

[13] J.C. Nunnally, Psychometric Theory. New York: McGraw-Hill, 1978.

[14] R. Bagozzi and T. Yi, "On the evaluation of structural equation models," Journal of the Academy of Marketing *Science, vol. 16*, no. 1, 1988, pp. 74-94.

[15] L.F. Cunningham, J.H. Gerlach, M.D. Harper and C.E. Young, "Perceived risk and the consumer buying process: internet airline reservations," International Journal of Service Industry Management, vol. 16, no. 4, 2005, pp. 357-372.

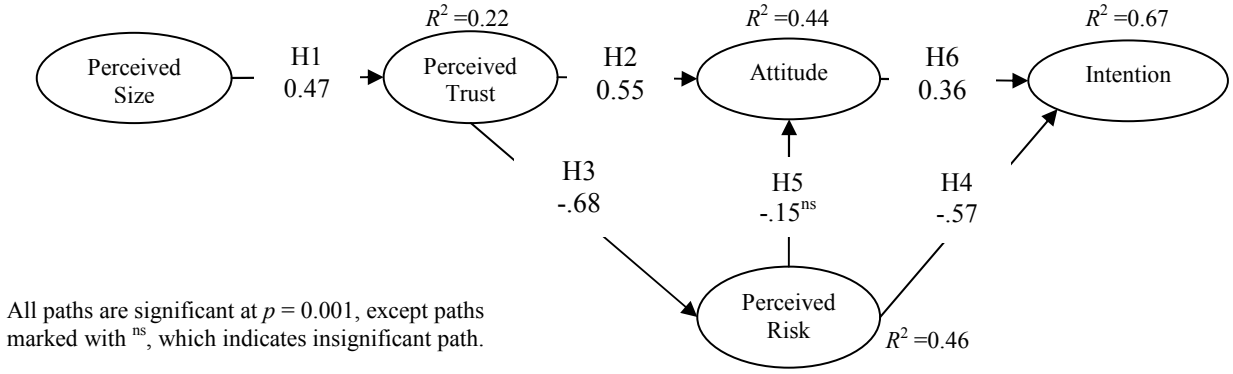

Figure 1. Model of Trust on Online Hotel Reservation.

Appendix A: Items/scales of the model variables

Perceived size of online hotel reservation website
S1 This booking service is that of a very large company.
S2 This booking service is the industry's biggest supplier on the web.
S3* This booking service is a small player in the market. (reversed coding)

Perceived store trustworthiness
T1 This booking service is trustworthy.
T2 This booking service wants to be known as one that keeps promises and commitments.
T3 I trust this booking service keeps my best interests in mind.
T4* I think it is necessary to be cautious with this booking service. (reversed coding)
T5* This booking service has more to lose than to gain by not confirming the reservation.
T6 This booking service behaves in a way that meets my expectations.

Perceived risk
R1 There is a considerable risk involved in reserving a hotel from this booking service.
R2 There is a high potential for loss involved in reserving a hotel from this booking service.
R3 My decision to reserve a hotel from this booking service is risky.

Attitudes towards using online hotel reservation
A1 The idea of using the Internet to reserve a hotel from this booking service is appealing.
A2 I like the idea of using the Internet to reserve from this booking service.
A3 Using the Internet to reserve from this booking service is a good idea.

Intention to use online hotel reservation
I1 Given the chance, I think that I would consider reserving my hotel from this booking service in the future.
I2 I probably would not reserve a hotel from this booking service. (reversed coding)
I3 It is likely that I would use this booking service to reserve a hotel.
I4* After comparing this booking service with other online booking services in my short list, it is unlikely that I would return to this booking service before making the final reserving decision. (reversed coding)

*Items dropped after doing analysis