Consumer Satisfaction and Repurchase Intention from Cross-border e-Commerce: A Trust-Risk-based Study

(Conference Proceedings)

ABSTRACT

E-commerce is a fast-growing economy today. The waves of cross-border e-commerce has also been accelerated resulting in big opportunities as well as threats to firms. Understanding consumer perception towards cross-border e-commerce is crucial especially perception trust and risk towards cross-border e-commerce for they need to transact with the system that may lead to various vulnerabilities. Moreover, the consumer loyalty is also critical for business in the central of highly competitive market to ensure sustainable profit and stable position. In this study, Trusting Belief and Perceived Risk are major constructs incorporated with Expectation-disconfirmation Theory to extend the knowledge of e-commerce study by focusing on cross-border e-commerce amongst the consumers in Thailand. Trusting Belief and Perceived Risk were formed into expectation and performance construct in accordance to Expectation-disconfirmation Theory to evaluate the pre-to-post purchase perception. The Structural Equation Model suggests that the post-purchase trust and perceived risk are highly influence to the expectation disconfirmation of which results in satisfaction and repurchase intention from the e-seller. In term of cross-border e-commerce, consumer expectation towards risk and trust on e-sellers is vary and not significant. They tend to expose themselves to risk at first; however, the post-purchase trust and risk are highly influential and shape a firm perception of trust and risk towards the e-sellers.

Keywords: e-commerce, cross-border e-commerce, trust, perceived risk, repurchase intention, Expectation-disconfirmation theory.

INTRODUCTION

Electronic commerce, or E-Commerce, is inarguably growing and expanding throughout the world. Market value of E-Commerce triplicates from about one million US dollars in 2012 to 3 million USD in 2017 globally. Electronic commerce offers customer various benefit on shopping such as variety of product, fast searching, decreasing asymmetric of product information, etc. (Amaral, 2017). International electronic trade or cross-border E-Commerce has been enriched thank to technology advancement and connected world. It is today's growth rocker in E-Commerce with USD 300 million market size in 2017 and average growth of 20 percent per year (DHL Express, 2016).

ASEAN, Association of South East Asian Nations, has announced that they will boost digital economy throughout the region which will benefit cross-border E-Commerce. The ministry of trade and industry of Singapore said that they would support advanced payment and transaction to help small and medium firms to expand their E-Commerce; however, there are challenges for less developed counties such as Myanmar, Cambodia, and the Philippines on logistic and internet penetration (Iwamoto, 2018).

In the customer perspective, the E-Commerce benefits their shopping. Consumers across markets are motivated to shop cross-border for fundamental reasons - product availability, a more attractive offering (including price), and trust. Fashion and electronics are long-known cross-border top sellers, but consumers now crave more on other product categories such as beauty and cosmetics, pet care, food and beverage, and sporting goods (DHL Express, 2016). However, cross-border e-commerce has received relatively less research attention than in domestic e-commerce context (Xiao, Wang, & Liu, 2018) while the business has been changing very fast. Cross-border E-Commerce in Thailand has been growing in accordance to the region trend. In Thailand, E-Commerce has been adopted for many years with the linear increasing sales from 2,865 million USD in 2015 to 4,239 million USD in 2017 (Priest, 2017). Studying on Thailand's population is interesting due to a high growth in both digital commerce adopters and Thailand is part of South East Asia region which is a fast-growing region in e-commerce market (Priest, 2017).

In this study, we develop research questions on the cross-border e-commerce that need to be answered. Do consumer trust expectation and risk expectation influence consumer disconfirmation and later trust and risk perception towards cross-border e-commerce or not? Do disconfirmation of consumer trust and risk expectation, consumer satisfaction, post-purchase trust and risk perception influence repurchase intention from cross-border e-commerce or not? Does consumer trust affect perceived risk at the pre-purchase stage as well as post-purchase stage or not? Do consumers expect trust and risk from cross-border e-commerce sellers and domestic e-commerce sellers differently across the pre-purchase and post-purchase stage or not?

LITERATURE REVIEW

Expectation-Confirmation Theory

The expectation-confirmation theory has been widely adopted and many fields of study, especially marketing field. The theory extensively studies the post-purchase experience involving customer satisfaction and continuance of using services or repurchase based on their satisfaction of prior purchase, usage of services, or adoption. The theory proposes that the expectation which is a pre-purchase stage affects the confirmation or disconfirmation of the belief which can be resulted in actual purchase or adoption (Oliver, 1980). Satisfaction in the theory refers to the customer overall satisfaction after adoption, purchase, or usage of product

or services. Although ECT has been widely adopted in marketing field; however, many researchers discuss that the theory ignores viability of the post-experience expectation i.e. the customer changes their perception after period of time after making purchase from negative to positive or vice versa due to intermediate effect of environment possibly social influence and marketing campaign (Bhattacherjee, 2001).

Trust

The definition of trust is complicate due to its abstract and complex factor nature. Trust has been addressed in many previous researches with vast definition and stages (Bonsón Ponte, Carvajal-Trujillo, & Escobar-Rodríguez, 2015). Several theories regarding trust are diverse into many stages of the interaction between trustee and trustor (Stouthuysen, Teunis, Reusen, & Slabbinck, 2018). Trust has been studied in many fields, yet the diverse conceptualisation of trust is ununified. Trust is of central importance in this decision (Fisher & Zoe Chu, 2009) reflecting the willingness of a party to be vulnerable to the actions of another party based on positive expectations regarding the other party's motivation and/or behaviour. In the field of electronic commerce, trust formulate a belief of the consumer on the seller to the extent of positive belief. Due to the nature of the electronic commerce, consumers experience uncertainty of the online purchase; therefore, trust plays an important role as a solution to uncertainty/risk (Kim, Ferrin, & Rao, 2008; Zhu, Neal, Lee, & Chen, 2009).. On McKnight and Chervany's previous research in the area of electronic commerce proposes a decomposition and conceptualisation of trust and the antecedents of trust that trust constructors can be differentiated into two dimensions which are Institutional trust and dispositional trust (Harrison McKnight & Chervany, 2001). The disposition to trust means the extent to which one displays a consistent tendency to be willing to depend on others in general across a broad spectrum of situations and persons (McKnight, Choudhury, & Kacmar, 2002) while institutional trust refers to an individual's beliefs about the structural safety or favourability of the conditions beyond a given transaction and beyond specific sets of exchange partners (Harrison McKnight & Chervany, 2001).

Perceived Risk

Risk is one of the most important factors to study in cross-border e-commerce due to its uncertainty in transaction and experience. Cross-border online shopping is an unfamiliar and uncertain activity for consumers, more so than domestic electronic commerce (Lesma & Okada). Risk is a situation that that may be resulted in uncertainty or negative consequence (Naovarat, 2015).

Risk may be classified into various type such as Jacoby and Kaplan's seven type of risk which are financial, performance, physical, psychological, time, social, and opportunity cost risk (Kim et al., 2008). Likewise, risk can be grouped into System-dependent uncertainty and Transaction-specific uncertainty according to study from (Rouibah, Lowry, & Hwang, 2016). In the previous research from Featherman and Pavlou on the consumer risk on an aspect of consumer behaviour, they intensively study the various aspect of risk and classify them into 7 facets of risk which are performance risk, financial risk, time risk, psychological risk, social risk, privacy risk, and overall risk (Featherman & Pavlou, 2003).

Trust-Risk Interaction and EDT Model

Pavlou's study on Trust and Risk interaction towards Intention suggest that Trust affects Risk (P. A. Pavlou, 2003) based on TAM (Technology Acceptance Model) in accordance to the study by Kim et. al. which conduct longitudinal study based on EDT suggests the same effect direction (Kim, Ferrin, & Rao, 2009) as well as the work done by Zhu et. al. in later year (Zhu et al., 2009). Trust and Risk are not very influential to customer intention to repurchase or continuance intention (N. Lankton, McKnight, & Thatcher, 2014) even though the previous study shows strong relationship of Trust to intention to use in TAM model (Gefen, Karahanna, & Straub, 2003; Pappas, 2016; Rouibah et al., 2016). This conflict of relationship is due to strong and dominant effect of customer satisfaction (Mou, Shin, & Cohen, 2015) in the Expectation Disconfirmation Theory while TAM does not incorporating Satisfaction into the Theory. This research incorporates the trust and perceived risk in to EDT model together where trust have positive effect on disconfirmation while perceived risk influence disconfirmation negatively.

METHODOLOGY

Population and Sample

Based on Statista, 12.1 million Thailand's online shopper is estimated in 2017 and the number of digital shoppers is estimated to 13.9 million in 2021; however, no evidence from any sources that classify number cross-border shoppers is addressed; therefore, the population for our study is unknown within the 12.1 million users. Sample size for analysis is calculated based on Cohen's guideline for power analysis (Cohen, 1988) resulting in 416 minimum sample size for the inference ($u = 6, f^2 = 0.05$, Power Test ($\beta = 0.95$, Significant Level (α) = 0.05). In this study, the paired t-test (Confidence Interval = 0.95, Significant Level (α) < 0.05) is used as well in order to test whether there is any difference between pre and post purchase trust and risk as well as pre and post purchase trust and risk towards domestic e-commerce and cross-border e-commerce. The data are collected via online form and Facebook.

Data Analysis

This study conducts a confirmatory factor analysis and Structural Equation Model to confirm the previous theory and quantify the relationships between latent variables. There are several tests that are conducted and addressed in this study to ensure non-violation assumptions which are normality test (result from CFA), construct validity analysis, and reliability analysis. The conceptual framework was developed for ease of understanding the relationship paths (refer to Figure 1) and research hypotheses are formulated as shown on Table I.

Table 1 Research Hypothesis

No.	Hypothesis
H1	Trusting Expectation from cross-border e-commerce has negative effect on Perceived Risk Expectation from cross-border e-commerce.
H2	Trusting Expectation from cross-border e-commerce has positive effect on Expectation Disconfirmation from cross-border e-commerce.
H3	Perceived Risk Expectation from cross-border e-commerce has negative effect on Expectation Confirmation from cross-border e-commerce.
H4	Trusting Performance from cross-border e-commerce has positive effect on Expectation Confirmation from cross-border e-commerce.
H5	Perceived Risk Performance from cross-border e-commerce has negative effect on Expectation Confirmation from cross-border e-commerce.
H6	Trusting Expectation has positive effect on Trusting Performance.
H7	Perceived Risk Expectation has negative effect on Perceived Risk Performance.
H8	Trusting Performance has negative effect on Perceived Risk Performance
H9	Expectation Disconfirmation has positive effect on Satisfaction.
H10	Satisfaction has positive effect on Repurchase Intention.
H11	Trusting Expectation from cross-border e-commerce is less than domestic e-commerce on average.
H12	Perceived Risk Expectation from cross-border e-commerce is higher than domestic e-commerce on average.
H13	Trusting Performance from cross-border e-commerce is less than domestic e-commerce on average.
H14	Perceived Risk Performance from cross-border e-commerce is higher than domestic e-commerce on average.
H15	Trusting Performance (post-purchase) is increased from Trusting Expectation (pre-purchase).

PAIRED T-TEST FOR DIFFERENCE PERCEPTION OF TRUST AND RISK

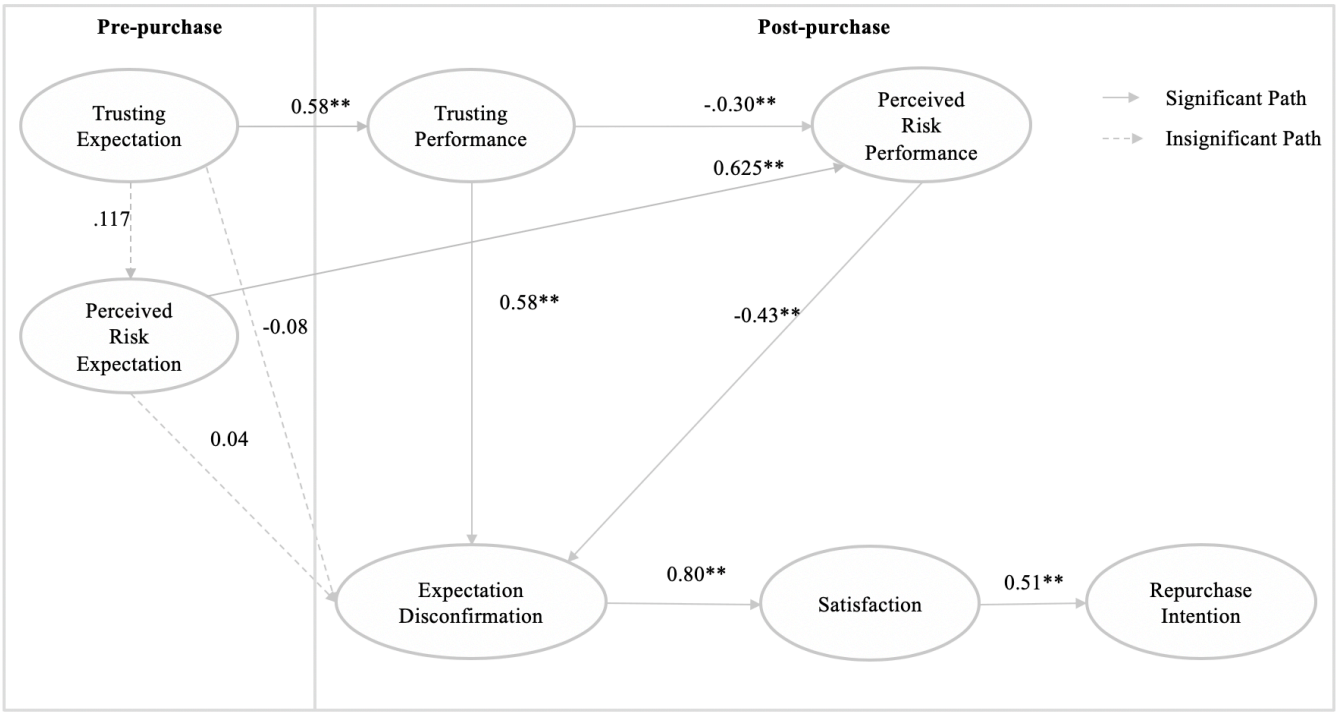
In term of different perception of pre-to-post purchase trust, the paired t-test shows that the consumer expects that domestic e-sellers would be more trustworthy than cross-border e-sellers, and their belief is confirmed as showed in the post-purchase trusting belief which is still lower than domestic e-commerce. Regarding the difference perception of pre-to-post purchase perceived risk, the paired t-test shows that the consumer expects that cross-border e-commerce would be less risky than domestic e-commerce. Interestingly, the consumer perceived that purchasing from cross-border e-commerce may be risker than expected but the risk in not different to purchasing via domestic e-commerce as shown on Table II.

Table 2 Paired T-test Result

No.	Hypothesis	Result
H11	Trusting Expectation from cross-border e-commerce is less than domestic e-commerce on average.	Supported
H12	Perceived Risk Expectation from cross-border e-commerce is higher than domestic e-commerce on average.	Not Supported
H13	Trusting Performance from cross-border e-commerce is less than domestic e-commerce on average.	Supported
H14	Perceived Risk Performance from cross-border e-commerce is higher than domestic e-commerce on average.	Not Supported
H15	Trusting Performance (post-purchase) is increased from Trusting Expectation (pre-purchase).	Not Supported
H16	Perceived Risk Performance (post-purchase) is decreased from Perceived Risk Expectation (pre-purchase).	Not Supported

STRUCTURAL EQUATION MODEL

Structural Equation Model and Confirmatory Factor Analysis are used with Maximum Likelihood Estimator to confirm the theory. This research has developed the hypothesis incorporating trust and risk into EDT. The visual path diagram with the SEM result is shown on Figure 1.



χ^2 = 530.434; DF = 332; Standardised Root Mean Square Residuals (SRMR) = 0.030; Root Mean Square Error of Approximation (RMSEA) = 0.037; Normed Fit Index (NFI) = 0.901; Non-normed Fit Index (TLI) = 0.955; Comparative Fit Index (CFI) = 0.960; e = residuals

Figure 1: Path standardized coefficient from SEM.

Trusting belief is proposed into Trusting Expectation and Trusting Performance; while, perceived risk is proposed into Perceived Risk Expectation and Perceived Risk Performance. The relationship of each construct is shown on Table 2. There are numbers of goodness of fit index for model evaluation; however, a combination of fit index is also suggested in determining the goodness of fit (Hu & Bentler, 1999) which are combinations of NNFI (TLI) with SRMR, RMSEA in with SRMR, and CFI with SRMR together. The CFA estimates are all significant between measurement items and their construct.

Reliability and validity test are also conducted suggesting that the measurement model is valid and reliable (Cronbach's $\alpha > 0.7$, Construct Validity > 0.4, Average Variance Extract > 0.6, Correlation Coefficients between -0.85 and 0.85). The summary of validity and reliability analysis result are shown on Table III.

Table 3: Measurement Model Validity and Reliability

Test	Result
Validity	
Convergence Validity	All items in a measurement model are statistically significant. (Refer to Table B.1) Other than that, the value of AVE for all construct is greater than 0.50. The Convergent Validity was achieved the required level. (Refer to Table 4.3)
Construct Validity	The construct validity was achieved the required level. (Refer to Table 4.3)
Discriminant Validity	The correlation between all constructs are not lower than -0.85 or higher than 0.85. (Refer to Table 4.4)
Reliability	
Internal Reliability	The value of Cronbach Alpha is greater than 0.60. The internal reliability was achieved the required level. (Refer Table 4.4)
Construct Reliability	The value of CR for all constructs are greater than 0.60. The composite reliability was achieved the required level.
Average Variance Extracted	The value of AVE for all constructs are greater than 0.50. The required level was achieved. (Refer Table 8)

Direct Effect

This study hypothesises that each construct formulates a direct relationship to the dependent variable. The path between post-purchase construct are significant in term of effect. The consumer's expectation of Trust is not predictive of Perceived Risk Expectation ($\beta =$, $p > 0.05$) which is against the previous study on trust and risk interaction (Kim et al., 2008, 2009; Mou et al.,

2015; Zhu et al., 2009) on e-commerce. Moreover, the Trusting Expectation to Expectation Disconfirmation ($\beta = 0.$, $p < 0.05$) effect is not significant as well as Perceived Risk Expectation to Expectation Disconfirmation ($\beta = 0.04$, $p < 0.05$). Trusting Performance is significantly directly influence Expectation Disconfirmation ($\beta = 0.53$, $p < 0.05$) as well as Perceived Risk Performance which is significantly affect Expectation Disconfirmation ($\beta = -0.43$, $p < 0.05$) negatively. Trusting Performance negatively affect Perceived Risk Performance ($\beta = -0.30$, $p < 0.05$) significantly as well. Expectation Disconfirmation is predictive and directly affect Satisfaction ($\beta = 0.80$, $p < 0.05$), and, Satisfaction is significantly predictive and directly affect Repurchase Intention ($\beta = 0.51$, $p < 0.05$) which confirm the construct relationships based on EDT in previous study (Ambalov, 2018; Bhattacherjee, 2001; N. Lankton et al., 2014; N. K. Lankton, McKnight, Wright, & Thatcher, 2016; Zhang, Lu, Gupta, & Gao, 2015) in a context of cross-border e-commerce. The hypothesis result of direct influence of latent variables is provided on Table IV.

Table 4: Direct Effect Hypothesis Result

No.	Hypothesis	Result
H1	Trusting Expectation from cross-border e-commerce has negative effect on Perceived Risk Expectation from cross-border e-commerce.	Not Supported
H2	Trusting Expectation from cross-border e-commerce has positive effect on Expectation Disconfirmation from cross-border e-commerce.	Not Supported
H3	Perceived Risk Expectation from cross-border e-commerce has negative effect on Expectation Confirmation from cross-border e-commerce.	Not Supported
H4	Trusting Performance from cross-border e-commerce has positive effect on Expectation Confirmation from cross-border e-commerce.	Supported
H5	Perceived Risk Performance from cross-border e-commerce has negative effect on Expectation Confirmation from cross-border e-commerce.	Supported
H6	Trusting Expectation has positive effect on Trusting Performance.	Supported
H7	Perceived Risk Expectation has negative effect on Perceived Risk Performance.	Supported
H8	Trusting Performance has negative effect on Perceived Risk Performance	Supported
H9	Expectation Disconfirmation has positive effect on Satisfaction.	Supported
H10	Satisfaction has positive effect on Repurchase Intention.	Supported

Indirect Effect

Result produced from SEM analysis suggests indirect effect of the path with mediator which are shown on Table 3 below. The Trusting Expectation has indirect effect on Perceived Risk Performance ($\beta = -0.140$, $p > 0.05$), Expectation Disconfirmation ($\beta = 0.395$, $p > 0.05$), Satisfaction ($\beta = 0.249$, $p > 0.05$), and Repurchase Intention ($\beta = 0.127$, $p > 0.05$). Although it provides good contribution, the path is not significant ($p > 0.05$). Trusting Performance has positively indirect effect on Expectation Disconfirmation ($\beta = 0.131$, $p < 0.05$), Satisfaction ($\beta = 0.574$, $p < 0.05$), and Repurchase Intention ($\beta = 0.293$, $p < 0.05$) and the path are all significant. The indirect effect of Trusting Performance is highly contributed to Expectation Disconfirmation and Repurchase Intention respectively. Perceived Risk Expectation is not significant predictor in the model; however, it contributes very high on Repurchase Intention ($\beta = -0.910$, $p > 0.05$). Perceived Risk Performance has negative indirect effect towards Satisfaction ($\beta = -0.349$, $p < 0.05$) and Repurchase Intention ($\beta = -0178$, $p < 0.05$) and this path is significant. Lastly, Expectation Disconfirmation contribute largely as indirect effect towards Repurchase Intention ($\beta = 0.490$, $p < 0.05$) and the path of this relationship is significant

In term of goodness of fit evaluation, this Structural Model achieved most of the criteria. The Non-normed Fit Index (NNFI or TLI) is the only one that does not achieve. This indicates that the model is of good fit. The summary of fit index is provided on the Table V.

Table 5: Model Fit Index

Fit Index	**Criteria**	**Model Result**	**Model Fit Acceptance**
Comparative Fit Index			
NFI	NFI > 0.95	0.901	Not Accepted
TLI	TLI > 0.95	0.955	Accepted
CFI	CFI > 0.95	0.960	Accepted
Other Fit Index			
SRMR	SRMR < 0.08	0.055	Accepted
RMSEA	RMSEA < 0.07 (RMSEA < 0.03 excellent fit.)	0.037	Accepted
Combination Criteria			
NNFI (TLI) and SRMR	NNFI (TLI) ≥ 0.96 and SRMR ≤ 0.09.		Not Accepted
RMSEA and SRMR	RMSEA ≤ and SRMR ≤ 0.09.		Accepted
CFI and SRMR	CFI ≥ 0.96 and SRMR ≤ 0.09		Accepted

CONCLUSION

This study has confirmed that the performance constructs of these trust and risk are settled well within Expectation-disconfirmation Theory; however, the relationships between trust and risk expectation towards expectation disconfirmation of consumer in this study is insignificance.

It is very important to firms who would like to gain higher competitive advantages over the others to pay their attention to building trust over the customers and reducing risks over systems and processes. A proper management on trust and risk in cross-border e-commerce or domestic e-commerce will be resulted in higher satisfaction and loyalty of the consumers. In the context of domestic e-commerce providers, trust and risk are crucial factors to compete with this new era of digital colonisation, cross-border e-commerce expansion, as reflected on t-test that the consumers still believe that domestic e-sellers are more reliable, trust worthy, and less risky. If the belief is confirmed and intensified positively, the domestic e-commerce sellers will position themselves strongly against a high influential cross-border e-commerce firm.

LIMITATION AND RECOMMENDATION

This study was conducted on Thai population only. The result may not be able to be applied to people in different countries or different social and culture context. Additionally, the cross-border e-commerce in Thailand is still at a growing state. It is not matured as global e-commerce; therefore, the consumer may not compare them distinctively. Moreover, risks in this study are evaluated as a general perception in combination of financial risk, delivery risk, and overall risk. This study measures the pre-purchase expectation as consumer recall of their past-experience rather than measuring before the actual purchase; therefore, the responses to trust and risk expectation may be distorted by long period before answering the questionnaire.

The result from this study shows that the incorporating trust and risks into the EDT model is significant in the post-purchase stage; however, the interaction on the trust and risks expectation (pre-purchase) towards expectation disconfirmation does not support the hypothesis. The future research on cross-border e-commerce may observe their relationships again which may have different outcome. The perceived risk in this study may be separated and emphasize independently in the future research to study on them differently such as financial risk, performance risk (product defection or bogus), and overall risk. Moreover, the research design in the future may conduct twice in a style of longitudinal study separating the pre-purchase and post-purchase measurement conducting on the same samples.

ACKNOWLEDGMENT

This work is partially supported by the Faculty of Commerce and Accountancy, Thammasat University, Thailand. The author would like to express deep gratitude to Professor Siriluck Rotchanakitumnuai, research supervisor, for her patient guidance, enthusiastic encouragement, and useful critiques of this work. The author would also like to thank to Assistant Professor Mathuspayas Thongmak, the chairman of this research, for her advice and assistance in reviewing the work. Moreover, the author would like to thank you Assistant Professor Chatpong Tangmanee from Department of Statistics, Chulalongkorn University, for his valuable guidance on statistical analysis and Structural Equation Modelling. The author grateful thanks are also extended to officers in Master of Science Program in Management Information Systems, Thammasat Business School, who always help and offer me the advices needed for research. The author would also like to thank to Library of Thammasat University who provides necessary tools for thesis development. Finally, the author wishes to thank to his parents and colleagues for their support and encouragement throughout this work.

REFERENCES

Ahmad, S., Zulkurnain, N., & Khairushalimi, F. (2016). *Assessing the Validity and Reliability of a Measurement Model in Structural Equation Modeling (SEM)* (Vol. 15).

Amaral, T. P. M., Teresa Garín; Iñigo, García Herguera; Unda, Angel Valarezo. (2017). Drivers and Barriers to cross-border e-commerce: evidence from Spanish household.

Ambalov, I. A. (2018). A meta-analysis of IT continuance: An evaluation of the expectation-confirmation model. *Telematics and Informatics, 35*(6), 1561-1571. doi:10.1016/j.tele.2018.03.016

Bagozzi, R. P., & Yi, Y. J. J. o. t. A. o. M. S. (1988). On the evaluation of structural equation models. *16*(1), 74-94. doi:10.1007/bf02723327

Bhattacherjee, A. (2001). Understanding Information Systems Continuance: An Expectation-Confirmation Model. *MIS Quarterly, 25*(3), 351-370. doi:10.2307/3250921

Bonsón Ponte, E., Carvajal-Trujillo, E., & Escobar-Rodríguez, T. (2015). Influence of trust and perceived value on the intention to purchase travel online: Integrating the effects of assurance on trust antecedents. *Tourism Management, 47*, 286-302. doi:10.1016/j.tourman.2014.10.009

Cerny, B. A., & Kaiser, H. F. (1977). A Study Of A Measure Of Sampling Adequacy For Factor-Analytic Correlation Matrices. *Multivariate Behavioral Research, 12*(1), 43-47. doi:10.1207/s15327906mbr1201_3

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, N.J.: L. Erlbaum Associates.

DHL Express. (2016). THE 21ST CENTURY SPICE TRADEA GUIDE TO THE CROSS-BORDER E-COMMERCE OPPORTUNITY. Retrieved from Press Release website: http://www.dhl.com/content/dam/downloads/g0/press/publication/g0_dhl_express_cross_border_ecommerce_21st_century_spice_trade.pdf

Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: a perceived risk facets perspective. *International Journal of Human-Computer Studies, 59*(4), 451-474. doi:10.1016/S1071-5819(03)00111-3
Fisher, R., & Zoe Chu, S. (2009). Initial online trust formation: the role of company location and web assurance. *Managerial Auditing Journal, 24*(6), 542-563. doi:10.1108/02686900910966521
Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in Online Shopping: An Integrated Model. *MIS Quarterly, 27*(1), 51-90. doi:10.2307/30036519
Harrison McKnight, D., & Chervany, N. L. (2001, 2001//). *Trust and Distrust Definitions: One Bite at a Time.* Paper presented at the Trust in Cyber-societies, Berlin, Heidelberg.
Hong, I. B. (2015). Understanding the consumer's online merchant selection process: The roles of product involvement, perceived risk, and trust expectation. *International Journal of Information Management, 35*(3), 322-336. doi:10.1016/j.ijinfomgt.2015.01.003
Hooper, D., Coughlan, J., & R. Mullen, M. (2007). *Structural Equation Modeling: Guidelines for Determining Model Fit* (Vol. 6).
Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1-55. doi:10.1080/10705519909540118
Iwamoto, K. (2018). ASEAN to promote cross-border e-commerce with new framework. *NIKKEI ASIAN REVIEW*.
Kenny, D. A. (2015). Measuring Model Fit. Retrieved from http://www.davidakenny.net/cm/fit.htm
Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems, 44*(2), 544-564. doi:10.1016/j.dss.2007.07.001
Kim, D. J., Ferrin, D. L., & Rao, H. R. (2009). Trust and Satisfaction, Two Stepping Stones for Successful E-Commerce Relationships: A Longitudinal Exploration. *Information Systems Research, 20*(2), 237-257. doi:10.1287/isre.1080.0188
Lankton, N., McKnight, D. H., & Thatcher, J. B. (2014). Incorporating trust-in-technology into Expectation Disconfirmation Theory. *The Journal of Strategic Information Systems, 23*(2), 128-145. doi:10.1016/j.jsis.2013.09.001
Lankton, N. K., McKnight, D. H., Wright, R. T., & Thatcher, J. B. (2016). Research Note—Using Expectation Disconfirmation Theory and Polynomial Modeling to Understand Trust in Technology. *Information Systems Research, 27*(1), 197-213. doi:10.1287/isre.2015.0611
Lesma, V. R. B., & Okada, H. (2012/10//). *Feedback and trust-related factors of consumer behavior in cross-border electronic commerce*.
McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and Validating Trust Measures for e-Commerce: An Integrative Typology. *Information Systems Research, 13*(3), 334-359. doi:10.1287/isre.13.3.334.81
Mou, J., Cohen, J., Dou, Y., & Zhang, B. (2017). *Predicting Buyers' Repurchase Intentions in Cross-Border E-Commerce: a Valence Framework Perspective*, Guimarães, Portugal.
Mou, J., Shin, D.-H., & Cohen, J. F. (2015). Trust and risk in consumer acceptance of e-services. *Electronic Commerce Research, 17*(2), 255-288. doi:10.1007/s10660-015-9205-4
Naovarat, S. (2015). *Factors that affect intention to purchase of customer and the role of trust as a moderator in E-Marketplace.* Thammasat University,
Oliver, R. L. (1980). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research, 17*(4), 460-469. doi:10.2307/3150499
Pappas, N. (2016). Marketing strategies, perceived risks, and consumer trust in online buying behaviour. *Journal of Retailing and Consumer Services, 29*, 92-103. doi:10.1016/j.jretconser.2015.11.007
Pavlou, & Fygenson. (2006). Understanding and Predicting Electronic Commerce Adoption: An Extension of the Theory of Planned Behavior. *MIS Quarterly, 30*(1), 115-115. doi:10.2307/25148720
Pavlou, P. A. (2003). Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model. *International Journal of Electronic Commerce, 7*(3), 101-134.
Pham, T. S. H., & Ahammad, M. F. (2017). Antecedents and consequences of online customer satisfaction: A holistic process perspective. *Technological Forecasting and Social Change, 124*, 332-342. doi:10.1016/j.techfore.2017.04.003
Priest, C. (2017). Commerce 2018—Internet Trends Report. Retrieved from Medium website: https://medium.com/@cameronpriest/commerce-2018-internet-trends-report-cd5ee157bb0d
Rouibah, K., Lowry, P. B., & Hwang, Y. (2016). The effects of perceived enjoyment and perceived risks on trust formation and intentions to use online payment systems: New perspectives from an Arab country. *Electronic Commerce Research and Applications, 19*, 33-43. doi:10.1016/j.elerap.2016.07.001
Sfenrianto, S., Wijaya, T., & Wang, G. (2018). Assessing the Buyer Trust and Satisfaction Factors in the E-Marketplace. *Journal of theoretical and applied electronic commerce research, 13*(2), 43-57. doi:10.4067/s0718-18762018000200105
Stouthuysen, K., Teunis, I., Reusen, E., & Slabbinck, H. (2018). Initial trust and intentions to buy: The effect of vendor-specific guarantees, customer reviews and the role of online shopping experience ☆. *Electronic Commerce Research and Applications, 27*, 23-38. doi:10.1016/j.elerap.2017.11.002
Xiao, Z., Wang, J. J., & Liu, Q. (2018). The impacts of final delivery solutions on e-shopping usage behaviour. *International Journal of Retail & Distribution Management, 46*(1), 2-20. doi:10.1108/ijrdm-03-2016-0036

Zhang, H., Lu, Y., Gupta, S., & Gao, P. (2015). Understanding group-buying websites continuance. *Internet Research, 25*(5), 767-793. doi:10.1108/IntR-05-2014-0127

Zhu, D., Neal, G. S. O., Lee, Z., & Chen, Y. (2009, 29-31 Aug. 2009). *The Effect of Trust and Perceived Risk on Consumers' Online Purchase Intention.* Paper presented at the 2009 International Conference on Computational Science and Engineering.

APPENDIX A: Measurement Items

This section includes measurement items used in the questionnaire for data collection and analysis. The Measurement Items are each listed with adaptation and original sources on Table A1 below.

Table A1: Measurement Items Development

Construct	Measurement Item	Adapted from
Trusting Expectation Trusting Performance (Cross-border and Domestic e-commerce)	This seller is trust worthy.	(Kim et al., 2008) (Gefen et al., 2003) (P. A. Pavlou, 2003)
	The seller would be willing to help when there is question or problem.	(McKnight et al., 2002)
	The seller would keep promises and commitments for their services.	(Pavlou & Fygenson, 2006)
	would provide product and services information correctly.	(Pavlou & Fygenson, 2006)
Perceived Risk Expectation Perceived Risk Performance (Cross-border and Domestic e-commerce)	Purchasing from this Website would involve more product risk (i.e. not working, defective product).	(Kim et al., 2008)
	Purchasing from this seller would involve more financial risk (i.e. fraud, hard to return).	(Hong, 2015) (Featherman & Pavlou, 2003)
Expectation Disconfirmation (Cross-border e-commerce)	Overall, most of my expectations were confirmed.	(Mou, Cohen, Dou, & Zhang, 2017)
	My experience with purchasing from this seller was better than what I had expected.	(Mou et al., 2017)
	Overall, purchasing from this seller was not risky as expected.	*New item*
	Overall, purchasing from this seller is trust worthy as expected.	(Kim et al., 2008) (Pham & Ahammad, 2017)
Satisfaction (Cross-border e-commerce)	I am satisfied from purchasing from this seller.	(Pham & Ahammad, 2017) (Sfenrianto, Wijaya, & Wang, 2018)
	Overall, I am quite satisfied with my experience dealing with e-sellers.	(Kim et al., 2008) (Featherman & Pavlou, 2003)
	I have good impression with the service provided by e- sellers.	(Pham & Ahammad, 2017) (Kim et al., 2009) (Featherman & Pavlou, 2003)
	Overall, how would you rate your experience purchasing from this seller?	(Kim et al., 2008) (Featherman & Pavlou, 2003)
Repurchase Intention (Cross-border e-commerce)	I intended to continue purchasing from cross-border seller again in the future.	(Featherman & Pavlou, 2003)
	I plan to purchase from cross-border seller again in the future.	(N. Lankton et al., 2014)
	I intend to repurchase from cross-border seller in near future.	(N. Lankton et al., 2014)
	I intend to continue purchasing from cross-border seller.	(N. Lankton et al., 2014)

APPENDIX B: Confirmatory Factor Analysis Summary

This section provides Confirmatory Factor Analysis summary for each construct including factor loading for each measurement items in the measurement model, Cronbach's alpha suggesting sufficient level of covariation between the items in each latent variable, average variance extracted from each latent variable, and the CR for Construct Validity.

Table B1: CFA Construct Summary

Construct	Measurement Item	Factor Loading	α	AVE	CR
Cross-border Perceived Risk Expectation (CBPRE)	CBPRE4	0.674	0.839	0.730	0.862
	CBPRE3	0.701			
	CBPRE2	0.781			
	CBPRE1	0.765			
Cross-border Trusting Performance (CBTRP)	CBTRP1	0.747	0.778	0.691	0.910
	CBTRP2	0.678			
	CBTRP3	0.635			
	CBTRP4	0.702			
Cross-border Perceived Risk Performance (CBPRP)	CBPRP1	0.654	0.807	0.714	0.881
	CBPRP2	0.593			
	CBPRP3	0.919			
	CBPRP4	0.688			
Repurchase Intention (CON)	CON1	0.715	0.804	0.712	0.896
	CON2	0.712			
	CON3	0.674			
	CON4	0.748			
Expectation Disconfirmation (DCE)	DCE4	0.773	0.868	0.785	0.938
	DCE3	0.768			
	DCE2	0.780			
	DCE1	0.820			
Satisfaction (SAT)	SAT4	0.751	0.813	0.699	0.881
	SAT3	0.698			
	SAT2	0.618			
	SAT1	0.730			
Cross-border Trusting Expectation (CBTRE)	CBTRE4	0.669	0.721	0.630	0.876
	CBTRE3	0.628			
	CBTRE2	0.652			
	CBTRE1	0.571			

Note: α = Cronbach's Alpha; AVE = Average Variance Extracted; CR = Construct Validity