Difference of Risk-relievers between High Risk and Low Risk in Online Purchasing

Hua-Long Fang* · Sun-Dong Kwon** · Kee-Su Bae***

Abstract

The Online business model for purchasing agent service is getting more popular. However, consumers perceive more risk when buying products from foreign online purchasing agents (FOPA) than from common online sellers (COS). This study focuses on finding out how consumers manage risk when they perceive risk and what different risk-reliever strategies they use when buying from high-risk FOPA and low-risk COS. This study has proved the following two. First, when consumers perceive risk at online purchasing, they tend to select risk-reliever strategies, such as the use of communication media, online assurance mark, seller's record, and secure payment to mitigate risk. With the application of those risk-reliever strategies, they built trust with the seller. Second, risk-perception of FOPA influences usage of communication media and check of online assurance mark more strongly than that of COS. On the contrary, risk-perception of COS influences the check of seller record more strongly than that of FOPA. This study helps to explain why FOPA is proliferating, despite its inherent high risk due to the fact that buyers and sellers are separated in time and space and that buyers and sellers have different social and cultural backgrounds. This study also helps managers of E-commerce to relieve consumer's risk-perception and to build trust.

Keywords : Foreign Online Purchasing Agent, Risk, Trust, Online Assurance Mark, Secure Payment, Seller Record, Structural Equation Modeling

1. Introduction

When customers buy products, they perceive risk. Risk is the potential of losing something of value. Many researchers proved that perceived risk has a negative effect on purchase in non-information systems field [Ajzen, 1991; Sitkin and Weingart, 1995] and in information systems field [Jarvenpaa et al., 2000; Pavlou, 2003; Pavlou and Gefen, 2004]. When consumers perceive risk, they search information and demonstrate diverse risk-relieving behaviors and then obtain trust in sellers and products [Pavlou and Gefen, 2004]. Trust-building influences purchasing intention.

The prior literature revealed that risk must be reduced, in order that purchasing intention is fulfilled. However, they didn't show the difference in buyers' risk-relieving behaviors when purchasing in high-risk and low-risk circumstances. In the real world, risk in a purchase varies with the purchasing situation. In recent years, a high-risk new business model called foreign online purchasing agent (FOPA) emerges and becomes highly popular in South Korea and China. In the FOPA business model, the sellers who provide the purchasing agent service live in foreign countries far from buyers. Thus when a consumer orders a product, it has to be sent from overseas by international express. If the buyer is not happy with the product he or she receives, he or she can not change or return the product easily, because of the long distance and the complicated process. In addition, the fact that buyer and seller may come from different social and cultural backgrounds further increases risk. So, risk-perception in FOPA is higher than that

in the common online seller (COS).

In spite of the high risk, the number of people who use FOPA increases dramatically in Korea and China. To be specific, the sales volume of FOPA in China increases from 4.3 billion US dollars in 2011 to 12 billion US dollar in 2014 [CECRC, 2011], and the number of visits of FOPA websites has mounted to over 200,000 per day. Therefore, FOPA is a phenomenon that a researcher cannot afford to neglect. Previous literature shows that when consumers perceive risk, they try to reduce the risk by information searching, communication, etc., and then gradually build the trust in the process. In the real online purchasing world, consumers face risk at various levels. The risk of purchasing in FOPA is relatively high and the risk of purchasing in COS is relatively low. However, the distinction between these two risk levels has not yet been studied. Thus, this study focuses on finding out how consumers manage risk when they perceive risk and what different risk-reliever strategies they deploy when buying from high-risk FOPA and low-risk COS. This study samples from the Chinese growing FOPA market, because low and high risks coexist in the Chinese market.

2. Literature Review

The studies on risk-perception and its effect have shown different results, as to the stage of e-commerce development [Jarvenpaa et al., 2000; Kim, 2001; Chang, 2005; Kim et al., 2007]. In the early 2000s, risk-perception negatively influenced purchasing intention [Jarvenpaa et al., 2000; Kim, 2001]. But since 2005, risk-perception did not

influence purchasing intention [Chang, 2005; Kim et al., 2007]. Kown et al. [2012] explained the reason of this inconsistency as the level of e-commerce establishment and customer's familiarity with e-commerce. In the early stage of e-commerce development that e-commerce systems were not established and customers were not familiar with new way of purchasing, customers relatively highly perceived purchasing risk. But as time passes, e-commerce infrastructure became established and customers were familiar with e-commerce, customers relatively lowly perceived purchasing risk [Kwon et al., 2012]. From this literature, this study deduced that risk-perception of COS could be relatively high and that risk-perception of FOPA could be relatively low, because COS has long history and much cumulative experience but FOPA has short history and is relatively new way of purchasing.

2.1 Foreign Online Purchasing Agent

When a consumer orders products from a foreign online purchasing agent (FOPA), the FOPA buys products in an offline store on behalf of the consumer and mails them to the consumer who live overseas. In this way, the consumer who use FOPA doesn't need to go abroad and can still buy the products which he or she can't find in the local stores. Although some products can be found in their own country, the price is higher than that of the products that FOPA sells. In either case, the consumers who would like to buy foreign products prefer FOPA to domestic common online sellers (COS). Nevertheless, the purchasing risk of FOPA is much higher than

that of domestic COS.

2.2 Risk-perception, Risk-reliever, and Trust-building

When consumers do online shopping, they perceive the risk regarding the outcome of a purchasing decision. Thus they try to reduce their risk with diverse risk-relievers. After risk-relieving, they build trust on the online shopping and place a purchasing order. Risk-perception and risk-reduction have usually been studied as two separate subjects in prior literature, even though consumers' risk-processing can be considered as the succession of these steps. This study integrates risk-perception, and risk-reliever, and trust-building into a successive process which forwards to buying, as shown in <Figure 1>.

| Risk-perception | ⇨ | Risk-reliever | ⇨ | Trust-building | ⇨ | Purchasing |
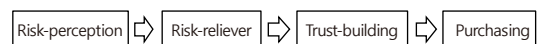
<Figure 1> Purchase Steps

2.2.1 Risk-perception

Risk-perception refers to an individual's subjective belief about potentially negative consequences from his or her decision. Several types of risk that consumers perceive have been identified: functional risk, time loss risk, physical risk, financial risk, social risk, and psychological risk [Cunningham, 1967; Roselius, 1971; Jacoby and Kaplan, 1972; Taylor, 1974; Henthorne et al., 1990; Schiffman et al., 1994; Javenpaa and Todd, 1997; Swaminathan et al., 1999; Garbarino and Sreahilevitz, 2002]. This study includes all of these dimensions.

2.2.2 Risk-reliever

Consumers attempt to reduce risk by collecting more information using communication media and by seeking the recommendations of a peer group, as well as by reviewing the reputation and the sales history of the online seller. Online sellers also try to reduce consumers' risk by reassuring guaranties and by providing safe payment method [Roselius, 1971; Greatorex and Mitchell, 1994; Cases, 2002]. Risk-reliever is defined as any action initiated by a buyer or seller and used as a strategy for resolving risk [Roselius, 1971]. A risk-relieving strategy is a strategy that a consumer devises to diminish the risk level with a set of possible risk-relievers until it reaches a trust level for the consumer to decide to purchase [Cases, 2002]. In general, consumers may use multiple risk-relieving strategies in a single purchasing situation. The different levels of risk perception seem to evoke different relieving strategies [Cases, 2002].

This study focused on the Chinese online market, because it is a place where low and high risks coexist. Based on prior literature, this study examines risk-relievers such as usage of communication media, online assurance mark, seller record, and secure payment.

2.2.3 Trust-building

After consumers reduce their risk, they build their trust on online purchasing. Trust-building is the foundation of E-commerce. Trust has been defined in various ways in literature [Mayer et al., 1995; McKnight et al., 1998]. Trust is the willingness to rely on an exchange partner in whom one has confidence. Trust exists when one party has confidence in an exchange partner's reliability and integrity [Doney and Cannon, 1997; Gefen and Sliver, 2000; Gefen et al., 2003]. Trust is classified into two parts: cognition-based trust and affect-based trust [Saparito et al., 2004; McAllister, 1995]. Cognition-based trust means that a consumer obtains trust by observing the trustee's personality directly. For example, consumers use the communication media, such as telephone, instant messenger, or E-mail to get the information about a product or its vendor. Affect-based trust means that a consumer earns trust by getting information without directly connecting with a seller [Saparito et al., 2004; McAllister, 1995]. For instance, a consumer checks seller record or online assurance to judge the seller. This study includes both cognition-based trust and affect-based trust.

3. Research Model and Hypotheses

3.1 Research Model

As shown in <Table 1>, risk in online purchasing is originated from the product itself, remote transaction, and the website. The risk is categorized into functional risk, financial risk, delivery risk, time loss risk, privacy risk, and social risk [Javenpaa and Todd, 1997; Garbarino and Sreahilevitz, 2002]. When a buyer perceives risk in a purchase, he could pursue diverse risk relievers from information searching to site reputation as shown in third column of <Table 1>. Based on prior literature [Cases, 2002; Gefen and Sliver, 2000; Gefen et al., 2003], this study categorizes diverse risk-relievers into usage of communication media, online assurance mark,

〈Table 1〉 Risk and Risk-reliever

Risk source	Risk dimension	Risk-reliever	Risk-reliever typology
Product	Functional risk	Information from merchandising Price information Comparison of products	Usage of communication media
Remote transaction	Financial risk Delivery risk Time loss risk	Phone to a sales person Remote contact by e-mail, instant messenger, and SMS Exchanging product and money-back guarantee	Online assurance mark
	Privacy risk	Secure payment	Secure payment
Website	Social risk	Word of mouth in chatrooms Site reputation Sales amount	Seller record

secure payment, and seller record.

This research model focuses on finding out how consumers manage risk when they perceive risk and how risk-reliever strategies they use when facing the high risk of FOPA and the low risk of COS is.

〈Figure 2〉 Research Model

Basically, this study makes two propositions. First, when consumers perceive risk at online purchasing, they select risk-reliever strategies such as usage of communication media, online assurance mark, seller record, and secure payment, and that after applying the risk-reliever strategies, they build trust enough to buy. Second, risk-perception in FOPA influences usage of communication media and online assurance mark

more strongly than that of COS. On the contrary, risk-perception in COS influences check of seller record more strongly than that of FOPA. 〈Figure 2〉 summarizes the research model of this study.

3.2 Research hypotheses

3.2.1 Usage of Communication Media

At the beginning of the purchasing process, consumers always perceive risk. Therefore, consumers use various risk-reduction strategies. A popular strategy is information search and communication [Rao and Farley, 1987; Srinivasan and Ratchford, 1991; Dowling and Staelin, 1994]. Literature on information search has pointed out that risk-perception is the main driver of consumer searches [Conchar et al., 2004; Jacoby and Kaplan, 1972]. Communication means that consumers share helpful information with sellers in proper time [Anderson and Narus, 1990]. Mukherjee and Nath [2003] subdivided communication into information quality, speed of response, and openness. Mitra et al. [1999] and Murray [1991] proved that risk-perception had a positive effect on the information search.

Consumers use communication media such as instant messenger, telephone, online bulletin board, short message service, and e-mail to obtain the information about products and sellers. This study focuses on the usage of communication media, because it provides information about both how much consumers do information search and which media consumers use for risk-relieving.

Communication is one of the antecedent factors of trust-building [Anderson and Narus, 1990; Morgan and Hunt, 1994]. Consumers could get more useful information and feel a sense of relief by using communication media. When consumers made a purchase in the online shopping process, communication had a positive effect on trust-building [Kim et al., 2008] and the responses in proper time also helps to build trust [Moorman et al., 1993]. Mukherjee and Nath [2007] proved that communication had a positive effect on trust-building in their empirical research. Therefore, we argue that while consumers perceive risk, they will use communication media and this leads to trust-building. Thus the following hypotheses were inferred:

Hypothesis 1: Risk-perception influences usage of communication media.

Hypothesis 2: Usage of communication media influences trust-building.

3.2.2 Online Assurance Mark

Third-party assurance is one of the primary methods of trust-building in business transaction [Zucker, 1986]. Though third-party intermediaries such as insurance services and authentication may be present in buyer-seller transactions, this study primarily focuses on the organization that issues online assurance mark. Online assurance mark gives a customer relief, when he/she has troubles in product or delivery service. If a seller doesn't keep his or her promise, the organization who issues the online assurance mark refunds or changes the product, for the seller. Therefore online assurance mark can reduce risk-perception in E-commerce [Zhang, 2004]. Tan [1999] proved that assurance of refund and exchange decreases the consumer's risk-perception. Zucker [1986] showed that assurance could facilitate consumers' trust-building in sellers. Gefen [1997] showed that adding a structural assurance to a Web site increases trust. Zucker [1986] suggests that institutional trust is the most important mode of trust creation.

Organization who issues online assurance mark also offers online information security assurance mark, because privacy is easier to be disclosed on Internet. Online information security assurance mark reduces the consumer's risk-perception [Luo, 2002] and provides trust in sellers and transactions [Miyazaki and Krishnamurthy, 2002]. This leads us to hypothesize:

Hypothesis 3: Risk-perception influences the check of online assurance mark.

Hypothesis 4: The check of online assurance mark influences trust-building.

3.2.3 Seller Record

Seller record shows how long a seller has done the business and how much the cumulated sales amount of a seller is [Dellarocas, 2003]. Customer

can reduce risk by checking the period of the business operation. In general, long business history of a site diminishes anxiety and uncertainty caused by online buying than sorter history. Prior literature showed that seller record influences perceived risk [Pavlou and Gefen, 2004] and build trust [Ba and Pavlou, 2002]. Fay and Xie [2008] found that seller record which was written by customer was more trustful.

There are 6 million online shopping sellers in Taobao.com in China. Every day, 10 thousands of them open new online shopping site and, at the same time, more than 10 thousands close their business every day [Taobao.com, 2012]. Thus, new online shopping sites have relatively high possibility of closing their operations. When a site closes its business, consumer who purchased a product may not receive the product and can suffer economic loss.

The cumulated sales amount of an online site plays the same role as the business history of an online site. A customer can identify the cumulated sales amount by making an inquiry using instant messenger or e-mail and by checking the question and answer of an online bulletin board. Thus when customers perceive risk, they checks seller record, and this behavior leads to trust-building. Therefore the following hypotheses were inferred:

> Hypothesis 5: Risk-perception influences the check of seller record.
> Hypothesis 6: The check of seller record influences trust-building.

3.2.4 Secure Payment

A buyer can select diverse payment methods

such as escrow service, credit card, and electronic fund transfer in online shopping. Escrow service guarantees the financial side of the transaction by authorizing payments only after the buyer is satisfied. Escrow service is provided by the third-party financial organization such as Paypal. By providing escrow services for sellers, third party provides a transaction guarantee to the buyer [Pavlou and Gefen, 2004]. This reduces risk and builds trust in the community of sellers. The fact that some sellers offer an escrow option and that an escrow company is willing to guarantee some transactions creates a signal of the marketplace's trustworthiness [Gefen, 2000]. Escrows also build trust by adding a level of control to the transaction. With respect to risk, effective escrow services reduce actual risk by absorbing some of the uncertainty regarding payments, product quality, and delivery [Stewart, 2003]. This leads us to hypothesize:

> Hypothesis 7: Risk-perception influences the choice of secure payment.
> Hypothesis 8: The choice of secure payment influences trust-building.

3.2.5 Comparative Hypothesis about Usage of Communication Media

Consumers buy a product in foreign online purchasing agent (FOPA), because it is not easy for a domestic consumer to buy FOPA's products in a domestic online or offline site. Even though the domestic consumer can buy it, the price is much higher than that of FOPA. In general, the purchasing in FOPA is characterized by expensive branded product, long delivery time, and

different transaction culture. To consumers, FOPA is especially in the absence of familiarity, similarity, and well established legal recourse [Pavlou and Gefen, 2004]. Therefore, risk of FOPA is much higher than that of common online seller

(COS). To reduce high risk in FOPA, consumers will use more communication media for searching information about seller, price, delivery, or security [Srinivasan and Ratchford, 1991; Dowling and Staelin, 1994]. This leads us to hypothesize:

⟨Table 2⟩ Survey Items and Sources

Indicator type	Constructs	Indicators	Survey items	Sources
Formative indicator	Risk-perception	risk1	There would be differences between actual product and product image.	Roselius [1971], Javenpaa and Todd [1997], Luo et al. [2010]
		risk2	Product quality is low compared with price.	
		risk3	I fear that the product which I buy will not be luxurious.	
		risk4	I fear that when problems happen during transport it will take a long time to deal with these problems.	
		risk5	I fear that when my credit card information leaks out I will get financial risk.	
		risk6	I fear that when I pay on Internet I will get financial risk.	
		risk7	I fear that product will be lost during transport.	
Formative indicator	Usage of communication media	UoCM1	When inquiring, I use Bulletin Board	Created in this research
		UoCM2	When inquiring, I use E-mail.	
		UoCM3	When inquiring, I use telephone.	
		UoCM4	When inquiring, I use instant messaging service.	
		UoCM5	When inquiring, I use SMS.	
Reflective indicator	Seller record	SR1	Business history of which I use shopping site is long.	Resnick and Kuwabara [2000]
		SR2	Sales volume of which I use shopping site is larger than the others.	
		SR3	Sales amount of which I use shopping site is large.	
		SR4	Sales amount of which I use shopping site is growing.	
Reflective indicator	Online assurance mark	OAM1	The third party institute or online shopping mall provides warranty service.	Spremann [1988], Gefen et al. [2003]
		OAM2	When consumers have problems with seller, third-party institute will pay the consumer firstly.	
		OAM3	Third-party institute or online shopping mall has security technologies to protect personal information.	
		OAM4	Third-party institute or online shopping mall ensures that personal information will not leak out.	
Formative indicator	Secure payment	payment1	I use third-party payment system (Paypal).	Pavlou and Gefen [2004]
		payment2	I use credit card.	
		payment3	I use electronic funds transfer	
Reflective indicator	Trust-building	trust1	I think the online vendor is honest	Javenpaa et al. [1999], Gefen [2000], Gefen et al. [2003]
		trust2	I think the online vendor cares about customers	
		trust3	I trust the online vendor	
		trust4	I think the online vender protects the consumers' privacy	
		trust5	I think there is no financial risk in online payment.	

Hypothesis 9: In foreign online purchasing agent than common online seller, risk-perception more strongly influences usage of communication media, which influences trust-building.

3.2.6 Comparative Hypothesis about Online Assurance Mark

FOPA sells relatively expensive products. If a customer has problems with the transaction in FOPA, economic loss can be heavy. Thus a consumer who would like to use FOPA will prefer online assurance mark. Especially money-back guarantee can be more preferred for the high-risk transaction [Tan, 1999]. Online assurance mark is especially suited for new and unknown transactions such as FOPA [Pavlou and Gefen, 2004]. This leads us to hypothesize:

Hypothesis 10: In foreign online purchasing agent than common online seller, risk-perception more strongely influences online assurance mark, which influences trust-building.

3.2.7 Comparative Hypothesis about Seller Record

FOPA sells well-known branded products. When buying in there, consumers seldom search information about product itself or its quality. On the contrary, COS sells unstandardized and unfamiliar products. Thus, customer is likely to search much information about the product that customer wants to buy. In order to identify how much the products are selling and how many peoples prefer the products, customers who want to buy the products in COS would like to check seller records. This leads us to hypothesize:

Hypothesis 11: In common online seller than foreign online purchasing agent, risk-perception more strongly influences check of seller record, which influences trust-building.

4. Research methodology

4.1 Data collection

In 2013, the number of Chinese e-commerce user reached 312 million [CERCR, 2014]. Taobo.com accounts for 85% of Chinese e-commerce market [CNNIC, 2012] and the number of online sellers who are doing business in taobao.com is over 3 million. Chinese e-commerce market divides into COS and FOPA. COS occupies 96% of Chinese e-commerce market and FOPA has 4%. FOPA market in China is fast growing, while the number of its visitors was over 200,000 per day. And its market size is expected to reach 12 billion dollar in 2014 [CECRC, 2014].

Thus Chinese online market is very suitable to do comparative research about high risk such as FOPA and low risk such COS. Therefore, we distributed survey questionnaires to many and unspecified FOPA and COS users and collected 638 survey responses from customers who had bought products in Taobao.com in September 2012. Among them, 214 responses were collected from FOPA buyers and 424 responses were collected from COS buyers. Survey questionnaire

〈Table 3〉 Reliability and Validity Test

	Indicators	Loading values	t-values	Composite reliability	AVE	UoCM	SP	OAM	SR	Risk	Trust
Usage of Communication Media	UoCM 1	0.628	8.099	N/A	N/A	N/A					
	UoCM 2	0.477	3.880								
	UoCM 3	0.375	3.076								
	UoCM 4	0.711	9.788								
	UoCM 5	0.552	5.226								
Secure Payment	SP1	0.869	15.199	N/A	N/A	0.484	N/A				
	SP2	0.540	5.452								
	SP3	0.349	2.511								
Online Assurance Mark	OAM 1	0.853	45.400	0.915	0.729	0.404	0.382	0.854			
	OAM 2	0.821	39.200								
	OAM 3	0.855	41.712								
	OAM 4	0.886	71.900								
Seller Record	SR 1	0.860	51.429	0.911	0.72	0.356	0.315	0.483	0.848		
	SR 2	0.893	65.685								
	SR 3	0.881	61.242								
	SR 4	0.752	26.832								
Risk-Perception	Risk 1	0.745	8.683	N/A	N/A	0.253	0.263	0.249	0.266	N/A	
	Risk 2	0.699	7.434								
	Risk 3	0.671	6.678								
	Risk 4	0.622	4.947								
	Risk 5	0.756	6.794								
	Risk 6	0.679	6.989								
	Risk 7	0.764	8.247								
Trust-Building	Trust 1	0.813	17.257	N/A	N/A	0.432	0.369	0.49	0.473	0.212	N/A
	Trust 2	0.705	11.151								
	Trust 3	0.809	19.274								
	Trust 4	0.720	11.547								
	Trust 5	0.783	14.385								

was required to check FOPA user or COS user. And people who had bought products in both FOPA and COS were required to answer to the buying experience of COS. Most of respondents were people who had bought clothes. Because major item sold in FOPA was clothes, and in order to compare FOPA and COS, this study needed to restrict respondents of COS to people who bought clothes. Among respondents, male was 28% and female was 72%. Respondents were twenties to thirties year old people who had experienced online shopping.

The survey items were adopted from previous literature, and were modified based on user interviews. A pilot test was conducted to test reliability and validity of the survey items. By repetitive process of survey item development, our measurement items were revised and finalized [Rossiter, 2002]. Javis et al. [2003] suggested the four criteria in identifying formative and reflective indicator such as direction of causality between construct and indicators, interchangeability among indicators, covariation among indicators, and nomological net among indicators. Formative

indicators have the causal direction from indicators to construct, do not have interchangeability among indicators, and do not need covariation among indicators. Based on these criteria, we judged risk-perception, usage of communication media, secure payment, and trust-building as formative indicators and seller record and online assurance mark as reflective indicators. Survey items were measured as Likert 5 point scale. <Table 2> shows survey items and these sources.

4.2 Data Analysis

Partial Least Square (PLS) 3.0 was used for data analysis. We chose PLS for a couple of reasons. First, PLS is useful to analyze model with formative indicators [Chin, 1998] while this research model has both formative and reflective indicators. Second, there is no empirical literature that risk-perception, risk-reliever, and trust-building have been studied in one research model. PLS is an appropriate method for the exploratory model like this study [Teo et al., 2003].

〈Table 4〉 Means and t-values of Research Constructs

	Common online seller (n = 424)	Foreign online purchasing agent (n = 214)	t-value
Risk-perception	3.4	3.7	3.272***
Usage of communication media	2.7	3.1	6.035***
Online assurance mark	3.3	3.9	8.406***
Seller record	3.6	3.9	4.835***
Secure payment	2.8	3.4	8.970***

*p < 0.05, **p < 0.01, ***p < 0.001.

<Table 4> shows means and t-values of constructs used in this research. Respondents felt more risk in foreign online purchasing agent (FOPA) (mean = 3.7) than common online seller (COS) (mean = 3.4). And buyers in FOPA more used risk-relievers than that of COS.

4.2.1 Measurement model

In structural equation model, measurement model has to test convergent validity, internal consistency, and discriminant validity. This study tested convergent validity by Bootstrapping and investigated constructs' loadings and their t-values. <Table 3> demonstrates the results of these tests and proves that loading values of 23 items among 28 items were greater than 0.7 criteria [Fornell and Larcker, 1981] and that their t-values exceeded 2.576 which is the boundary criterion at the significant level of 0.01.

Internal consistency is measured by composite reliability [Fornell and Larcker, 1981], and it exceeded the criterion value of 0.7 [Nunnally, 1987; Thompson et al., 1995; Werts et al., 1974]. Average variance extracted (AVE) also was over 0.5 [Fornell and Larcker, 1981]. All of these results proved that our measurement items were satisfying the level of convergent validity and internal consistency.

PLS analysis needs confirmatory factor analysis (CFA) [Gefen and Straub, 2005]. CFA requires that loading values of indicators to relevant constructs should be greater than 0.7 [Srite and Karahanna, 2006], and that those loading values should be greater than their crossloading values [Gefen and Straub, 2005; Srite and Karahanna, 2006; Bhattacherjee and Sanford,

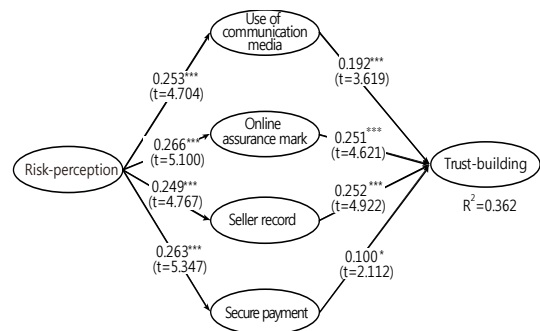2006]. The results of CFA met the requirement level.

At last, this study tested discriminant validity that square root values of AVE have to be greater than the correlation values between constructs [Fornell and Larcker, 1981]. <Table 3> confirms that our constructs satisfied the criteria of discriminant validity. And then, this study distinguished total data into FOPA data sample and COS data sample and tested their reliability and validity. Their tables were attached to <Appendix 1> and <Appendix 2>. In sum, this measurement model satisfied the requirements of convergent validity, discriminant validity, and internal consistency.

4.2.2 Structural Model

1) Total Model

<Figure 3> demonstrates that risk-reliever composed of usage of communication media, seller records, online assurance mark, and secure payment explains 36.2% of trust-building. This value exceeds 10% criteria recommended by Falk and Miller [1992]. We chose PLS for data analysis, because this study has both formative and reflective indicators, and because PLS is useful to analyze model with formative indicators. PLS

uses bootstrapping to estimate the significance (t-values) of the paths [Chin, 1998]. It is becoming the preferred method for analyzing data. Bootstrapping involves repeatedly randomly sampling observations with replacement from the data set and computing the statistic of interest in each resample. We calculated t-values of each path coefficient by using bootstrap method and t-values exceeded 1.96 which is the boundary criterion at the significant level of 0.05. <Figure 3> demonstrates that hypotheses from H1 to H8 were significant and accepted as true.

*p < 0.05, **p < 0.01, ***p < 0.001.

<Figure 3> Results of Path Analysis

2) Comparative Model

In order to prove difference of risk-reliever choice between low risk of common online seller (COS) and high risk of foreign online purchasing

<Table 5> Path Coefficient of COS and FOPA

Path	Common online seller		Foreign online purchasing agent	
	Path coefficient	t-value	path coefficient	t-value
Risk-perception → communication media	0.252***	4.799	0.308***	5.757
Communication media → trust-building	0.110	1.864	0.377***	8.361
Risk-perception → online assurance mark	0.201***	3.433	0.301***	5.99
Online assurance mark → trust-building	0.211***	3.451	0.195***	3.572
Risk-perception → seller record	0.330***	6.721	0.166**	2.785
Seller record → trust-building	0.291***	4.983	0.161***	3.345

*p < 0.05, **p < 0.01, ***p < 0.001.

⟨Table 6⟩ Combined Path Coefficient and Its Comparison

Path type	Seller type	Combined path coefficient	t-value	Difference between COS and FOPA	t-value
H9: RP → UCM → TB	COS	0.028	1.706	0.088***	54.189
	FOPA	0.116	4.719		
H10: RP → OAM → TB	COS	0.042	2.384	0.016***	10.601
	FOPA	0.059	3.037		
H11: RP → SR → TB	COS	0.096	3.975	-0.069***	39.257
	FOPA	0.027	2.086		

*p < 0.05, **p < 0.01, ***p < 0.001.

agent (FOPA), this study separated total data into COS data and FOPA data, and then calculated path coefficients and their t-values, as shown in ⟨Table 5⟩.

And then this study calculated combined path coefficients and their t-values, and compared COS with FOPA, as shown in ⟨Table 6⟩. Combined path coefficients and t-value were calculated by Sobel test [Sobel, 1982]. In Sobel test, combined path coefficient means the indirect effect of the mediator. It is calculated by the product of two indirect paths $(\alpha \times \beta)$. The significance of combined path coefficient is determined by t-statistic. It is derived by following.

$$t = (\alpha\beta)/SE$$

Where SE is the pooled standard error term and $SE = \sqrt{(\alpha^2\sigma^2\beta + \beta^2\sigma^2\alpha)}$ and $\sigma^2\beta$ is the variance of β and $\sigma^2\alpha$ is the variance of α.

Differences between two path coefficients were tested by the method recommended by Chin [1998] and Keil et al. [2000].[1] The result is following.

---

1) Standard error of difference between two groups

$$SE = \sqrt{\frac{(n-1) \times SE_1^2 + (m-1) \times SE_2^2}{n+m-2}} \times \sqrt{\frac{1}{n} + \frac{1}{m}}.$$

First, effect of risk-perception on usage of communication media to trust-building was stronger in FOPA (β = 0.116, t-value = 4.719) than COS (β = 0.028, t-value = 1.706), while difference of two path coefficients was significant (β = 0.088, t-value = 54.189). So, hypothesis 9 was supported.

Second, effect of risk-perception on online assurance mark to trust-building was stronger in FOPA (β = 0.059, t-value = 3.037) than COS (β = 0.042, t-value = 2.384), while difference of two path coefficients was significant (β = 0.016, t-value = 10.601). So, hypothesis 10 was supported.

Third, effect of risk-perception on seller record to trust-building is stronger in COS (β = 0.096, t-value = 3.975) than FOPA (β = 0.027, t-value = 2.086), while difference of two path coefficients was significant (β = -0.069, t-value = 39.257). So, hypothesis 11 was supported.

5. Conclusion

5.1 Summary

This research model focused on finding out how consumers manage risk when they perceive risk and how different the risk-reliever strategy

between high risk of foreign online purchasing agent (FOPA) and low risk of common online seller (COS) is. Basically, this study proved following two. First, when consumers perceive risk at online purchasing, they selected risk-reliever strategy such as usage of communication media, online assurance mark, seller record, and secure payment, and that, after applying the risk-reliever strategies, they built trust. Second, risk-perception in FOPA much stronger influenced usage of communication media and check of online assurance mark than that of COS. On the contrary, risk-perception in COS much stronger influenced check of seller record than that of FOPA. The results of this study can be summarized as following.

First, *Risk-perception influenced usage of communication media, which influenced trust-building.* Prior literature on information search has pointed out that risk-perception is the main driver of consumer's searches [Conchar et al., 2004; Jacoby and Kaplan 1972], and that as consumer gets more useful information, he/she feels a sense of relief. This result shows that prior researches are applicable to this research model and Chinese online market.

Second, *risk-perception influenced the check of online assurance mark, which influenced trust-building.* Online assurance mark can give a customer relief and reduce risk-perception in E-commerce. This risk-reliever can facilitate consumers' trust-building.

Third, *risk-perception influenced the check of seller record, which influenced trust-building.* Lots of sales amount and long business history of a site can reduce risk-perception. As they

checks seller record such as sales amount and business history, they relieve their risk-perception and facilitate trust-building.

Firth, *risk-perception influenced the choice of secure payment, which influenced trust-building.* By providing secure payment method like escrow services and by absorbing some of the uncertainty regarding payments, product quality, and delivery, third party organization provides transaction guarantee to buyer. This secure payment reduces risk and builds trust.

〈Table 7〉 Means of Usage of Communication Media

Communication media type	Common online seller	Foreign online purchasing agent	t-value
Instant messenger	3.67	4.17	5.603***
Online bulletin board	2.84	3.08	2.416**
Telephone	2.52	2.86	3.432***
Short message service	2.46	2.86	4.116***
E-mail	2.29	2.71	4.596***

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Fifth, *in FOPA than COS, risk-perception more strongly influenced usage of communication media, which influenced trust-building.* FOPA is short in familiarity, similarity, and recourse. Therefore the risk of FOPA (3.7) is much higher than that of COS (3.4), as shown in 〈Table 4〉. Prior researches show that risk-perception influences the information search [Murray, 1991], and that more useful information influences a sense of relief [Anderson and Narus, 1990; Morgan and Hunt, 1994]. The result of this study is consistent with prior researches. To reduce high risk involved in buying in FOPA, consumers use

much more communication media. As shown in <Table 7>, when purchasing in FOPA, usage of communication media is much higher than that of COS. Especially the usage of instant messenger in FOPA was the highest while mean value of instant messenger usage is 4.17 in Likert 5 point scale. E-commerce manager who runs shopping sites of high risk such as FOPA has to actively and speedily support communication media such as instant messenger, telephone, online bulletin board, short message service, and e-mail.

Sixth, *in FOPA than COS, risk-perception more strongly influenced online assurance mark, which influenced trust-building.* FOPA sells relatively expensive brand products and thus economic loss can be heavy in case of transaction problems. Thus a consumer who would like to use FOPA prefers online assurance mark.

Seventh, *in COS than FOPA, risk-perception more strongly influenced check of seller record, which influenced trust-building.* On the contrary to FOPA, COS sells unstandardized and un-familiar products and thus a customer would like to check seller records by identifying how much the products are selling and how many people prefer the products.

Eighth, *in FOPA than COS, time loss risk more strongly influenced risk-reliever.* In this study, risk-perception was composed of functional risk, financial risk, social risk, time loss risk, privacy risk, and delivery risk. As a result of data analysis, time loss risk of FOPA (0.873) more strongly influenced risk-reliever such as usage of com-munication media than that of COS (0.397). This result was from oversea long distance and com-plicated process of exchange and refund.

5.2 Implication and Future Research Agenda

This study helps explain why, despite the inherent high risk of FOPA of which buyers and sellers are separated in time and space and of which buyers and sellers have different social and cultural backgrounds, FOPA are proliferating. This study also helps managers of E-commerce to relieve consumer's risk-perception and to build trust.

Despite of these contributions, this study has two limitations. First, this study focused on Chinese consumers in twenties, because Chinese FOPA market is fast growing, and because young people in twenties are more using online shopping site than older people. Thus results of this study cannot be generalized to all generations involving younger and older people. Second, this study analyzed just only Chinese data and has the limitation of generalization. We hope that the further research for Western people could be carried out.

References

[1] Ajzen, I., "The theory of planned behavior", *Organizational Behavior and Human Decision Processes*, Vol. 50, No. 2, December 1991, pp. 179-211.

[2] Anderson, J. C. and Narus, J. A., "A Model of Distributor Firm and Manufacturer Firm Working Partnerships", *Journal of Market-ing*, Vol. 54, No. 1, 1990, pp. 42-58.

[3] Ba, S. and Pavlou, P., "Evidence of the effect of trust building technology in electronic markets : Price premiums and buyer behavior",

Management Information Systems Quarterly, Vol. 26, No. 3, 2002, pp. 243-268.

[4] Bhattacherjee, A. and Sanford, C., "Influence Strategies for Information Technology Usage : An Elaboration-Likelihood Model", MIS Quarterly, Vol. 30, No. 4, December 2006, pp. 805-825.

[5] Cases, A. S., "Perceived risk and risk reduction strategies in Internet shopping", The International Review of Retail, Distribution and Consumer Research, Vol. 12, No. 4, 2002, pp. 375-394.

[6] CERCR(China E-Commerce Research Center), 2012~2013 China E-Commerce Report, 2014. 3.

[7] Chang, M. H., "The Effects of Trust and Perceived Risk on Attitude and Purchase Intension in Internet Shopping Malls", The Journal of Information Systems, Vol. 14, No. 1, 2005, pp. 227-249.

[8] Chin, W. W., "Issues and Opinion on Structural Equation Modeling", MIS Quarterly, Vol. 22, No. 1, 1998, pp. 7-16.

[9] Conchar, M. P., Zinkhan, G. M., Peters, C., and Olavarrieta, S., "An Integrated Framework for the Conceptualization of Consumers' Perceived-Risk Processing", Journal of the Academy of Marketing Science, Vol. 32, No. 4, October 2004, pp. 418-436.

[10] Cunningham, S. M., The Majors Dimensions of Perceived Risk, in Risk Taking and Informations Handling in Consumer Behavior, D. F. Cox ed, Boston : Harvard University Press, 1967.

[11] Dellarocas, C., "The digitization of word of mouth: Promise and challenges of online

feedback mechanisms", Management Science, Vol. 49, No. 10, 2003, pp. 1407-1424.

[12] Doney, P. M. and Cannon, J. P., "An Examination of the Nature of Trust in Buyer-Seller Relationships", Journal of Marketing, Vol. 61, No. 2, April 1997, pp. 35-51.

[13] Dowling, G. R. and Staelin, R., "A Model of Perceived Risk and Intended Risk-Handling Activity", Journal of Consumer Research, Vol. 21, No. 1, June 1994, pp. 119-134.

[14] Fay, S. and Xie, J., "Probabilistic goods: a creative way of selling products and services", Marketing Science, Vol. 27, No. 4, 2008, pp. 674-690.

[15] Fornell, C. and Larcker, D., "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error", Journal of Marketing Research, Vol. 18, No. 1, 1981, pp. 39-50.

[16] Garbarino, E. and Sreahilevitz, M., "Gender Differences in the Perceived Risk of Buying online and the Effects of Receiving a Site Recommendation", Journal of Business Research, Vol. 57, No. 7, July 2002, pp. 1-8.

[17] Gefen, D. and Silver, M., Lessons learned from the successful adoption of an ERP system, Proceedings of Fifth International Conference of the Decision Sciences Institute (DSI), Athens, Greece, 1999, pp. 1054-1057.

[18] Gefen, D. and Straub, D., "A Practical Guide to Factorial Validity Using PLS-Graph : Tutorial and Annotated Example", Communications of the Association for Information Systems, Vol. 16, 2005, pp. 91-109.

[19] Gefen, D., Building Users' Trust in Freeware Providers and the Effects of this Trust

on Users' Perceptions of Usefulness, Ease of Use and Intended Use of freeware, Doctoral Dissertation, Georgia State University, 1997.

[20] Gefen, D., "E-commerce : the role of familiarity and trust", *Omega : The International Journal of Management Science*, Vol. 28, No. 6, December 2000, pp. 725-737.

[21] Gefen, D., Karahanna, E., and Straub, D. W., "Trust and TAM in Online Shopping : An Integrated Model", *MIS Quarterly*, Vol. 27, No. 1, March 2003, pp. 51-90.

[22] Greatorex, M. and Mitchell, V. W., "Modelling Consumer Risk Reduction Preferences from Perceived Loss Data", *Journal of Economic Psychology*, Vol. 15, No. 4, December 1994, pp. 669-685.

[23] Henthorne, T. L., LaTour, M. S., and Williams, A. J., "Risk reduction and informal interpersonal influence : Industrial marketing management perspectives", *Akron Business and Economic Review*, Vol. 21, No. 3, 1990, pp. 46-59.

[24] Jacoby, J. and Kaplan, L., "The Components of Perceived Risk", *Proceedings of 3rd Annual Conference, Association for Consumer Research*, 1972, pp. 382-395.

[25] Jarvenpaa, S. L. and Staples, D. S., "The use of collaborative electronic media for information sharing : an exploratory study of determinants", *The Journal of Strategic Information Systems*, Vol. 9, September 2000, pp. 129-154.

[26] Jarvenpaa, S. L. and Todd, P. A., "Consumer reactions to electronic shopping on the World Wide Web", *Journal of Electronic Commerce*,

Vol. 1, No. 2, Winter 1997, pp. 59-88.

[27] Jarvenpaa, S. L., Tractinsky, N., and Vitale, M., "Consumer Trust in an Internet Store", *Information Technology and Management*, Vol. 1, No. 1, 2000, pp. 45-71.

[28] Jarvis, C. B., MacKenzie, S. B., and Podsakoff, P. M., "A critical review of construct indicators and measurement model misspecification in marketing and consumer research", *Journal of Consumer Research*, Vol. 30, No. 2, September 2003 , pp. 199-218.

[29] Keil, M., Tan, B. C. Y., Wei, K. K., Saarinen, T., Tuunainen, V., and Wassenaar, A., "A cross-cultural study on escalation of commitment behavior in software projects", *Management Information Systems Quarterly*, Vol. 24, No. 2, June 2000, pp. 299-325.

[30] Kim, D. J., Ferrin, D. L., and Rao, H. R., "A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents", *Decision Support Systems*, Vol. 44, No. 2, January 2008, pp. 544-564.

[31] Kim, Y. H., *An Empirical Study on the effect of combining of the on-line shopping mall and the off-line shopping mall*, Graduate School of Ewha Womans University, 2001.

[32] Kim, Y. H., Bae, J. H., Park, J. O., and Lee, K. H., "Influence of Perceived Risks and Information Search on Satisfaction with Surrogate Internet Shopping Malls", *Journal of the Korean Society of Clothing and Textiles*, Vol. 31 No. 5, 2007, pp. 670-679.

[33] Kwon, S. D., Chun, D. Y., and Kim Y. Y., "Reexamination of Effect of Perceived Risk on Purchasing Intention", *Journal of In-*

formation Technology Applications and Management, Vol. 19, No. 2, 2012, pp. 233-247.

[34] Luo, X., "Trust production and privacy concerns on the Internet a framework based on relationships marketing and social exchange theory", Industrial Marketing Management, Vol. 31, No. 2, February 2002, pp. 111-118.

[35] Mayer, R. C., Davis, J. H., and Schoorman, F. D., "An integrative model of organizational trust", Academy of Management Review, Vol. 20, No. 3, July 1995, pp. 709-734.

[36] McAllister, D. J., "Affect-and cognition-based trust as foundations for interpersonal cooperation in organizations", Academy of Management Journal, Vol. 38, No. 1, 1995, pp. 24-59.

[37] McKnight, D. H., Cummings, L. L., and Chervany, N. L., "Initial trust formation in new organizational relationships", Academy of Management Review, Vol. 23, No. 3, July 1998, pp. 473-490.

[38] Mitra, K., Reiss, M. C., and Capella, R. M., "An examination of perceived risk, information search and behavioral intentions in search, experience and credence services", Journal of Services Marketing, Vol. 13, No. 3, 1999, pp. 208-228.

[39] Miyazaki, A. D. and Krishnamurthy, S., "Internet seals of approval : Effects on online privacy policies and consumer perceptions", The Journal of Consumer Affairs, Vol. 36, No. 1, Summer 2002, pp. 28-49.

[40] Moorman, R. H., Niehoff, B. P., and Organ, D. W., "Treating employees fairly and organi-zational citizenship behaviors: Sorting the effects of job satisfaction, organizational commitment, and procedural justice", Employee Responsibilities and Rights Journal, Vol. 6, No. 3, September 1993, pp. 209-225.

[41] Morgan, R. M. and Hunt, S. D., "The Commitment-Trust Theory of Relationship Marketing", Journal of Marketing, Vol. 58, No. 3, July 1994, pp. 20-38.

[42] Mukherjee, A. and Nath, P., "Role of electronic trust in online retailing : a re-examination of the commitment-trust theory", European Journal of Marketing, Vol. 41, No. 9/10, 2007, pp. 1173-1202.

[43] Murray, K. B., "A Test of Services Marketing Theory : Consumer Information Acquisition Activities", Journal of Marketing, Vol. 55, No. 1, January 1991, pp. 10-25.

[44] Nunnally, J. C., Psychometric Theory, McGraw-Hill, New York, 1967.

[45] Pavlou, P. A., "Consumer acceptance of electronic commerce : integrating trust and risk with the technology acceptance model", International Journal of Electronic Commerce, Vol. 7, No. 3, Spring 2003, pp. 101-134.

[46] Pavlou, P. A. and Gefen, D., "Building Effective Online Marketplaces with Institution-Based Trust", Information Systems Research, Vol. 15, No. 1, March 2004, pp. 37-59.

[47] Rao, S. and Farley, J. U., "Effects of environmental perceptions and cognitive complexity on search and information processing", Psychology and Marketing, Vol. 4, No. 4, Winter 1987, pp. 287-302.

[48] Roselius, T., "Consumer Rankings of Risk

Reduction Methods", *Journal of Marketing*, Vol. 35, No. 1, January 1971, pp. 56-61.

[49] Rossiter, J. R., "The C-OAR-SE Procedure for Scale Development in Marketing", *International Journal of Research in Marketing*, Vol. 19, No. 4, December 2002, pp. 305-335.

[50] Saparito, P. A., Chen, C. C., and Sapienza, H. J., "The role of relational trust in bank-small firm relationships", *The Academy of Management Journal*, Vol. 47, No. 3, June 2004, pp. 400-410.

[51] Schiffman, L. G. and Kanuk, L. L., *Consumer Behavior(5th ed)*, Prentice Hall, 1994.

[52] Sitkin, S. B. and Weingart, L. R., "Determinants of risky of decision-making behavior : A test of the mediating role of risk perception and propensity", *Academy of Management Journal*, Vol. 38, No. 6, December 1995, pp. 1573-1592.

[53] Srinivasan, N. and Ratchford, B. T., "An Empirical Test of a Model of External Search for Automobiles", *Journal of Consumer Research*, Vol. 18, No. 2, September 1991, pp. 233-242.

[54] Srite, M. and Karahanna, E., "The Role of Espoused National Cultural Values in Technology Acceptance", *MIS Quarterly*, Vol. 30, No. 3, 2006, pp. 679-704.

[55] Stewart, K. L., "Trust transfer on the World Wide Web", *Organization Science*, Vol. 14, No. 1, January 2003, pp. 5-17.

[56] Swaminathan, V., Lepkowska-white, E., and Rao, B. P., "Browsers or Buyers in cyberspace? An Investigation of Factors Influencing Electronic Exchange", *Journal of Computer Mediated Communication*, Vol. 5, No. 2, December 1999.

[57] Tan, S. J., "Strategies for reducing consumers' risk aversion in Internet shopping", *Journal of Consumer Marketing*, Vol. 16, No. 2, 1999, pp. 163-180.

[58] Taylor, J. W., "The Role of Risk in Consumer Behavior", *Journal of Marketing*, Vol. 38, No. 2, 1974, pp. 54-60.

[59] Teo, H. H., Wei, K. K., and Benbasat, I., "Predicting Intention to Adopt Interorganizational Linkages : An Institutional Perspective", *MIS Quarterly*, Vol. 27, No. 1, March 2003, pp. 19-49.

[60] Thompson, R., Barclay, D. W., and Higgins, C. A., "The Partial Least Squares Approach to Causal Modeling : Personal Computer Adoption and Use as an Illustration", *Technology Studies : Special Issue on Research Methodology*, Vol. 2, No. 2, 1995, pp. 284-324.

[61] Werts, C. E., Linn, R. L., and Joreskog, K. G., "Intraclass Reliability Estimates; Testing Structural Assumptions", *Educational and Psychological Measurement*, Vol. 24, No. 1, 1974, pp. 25-33.

[62] Zucker, L. G., "Production of trust: Institutional sources of economic structure, 1840-1920", *Research in Organizational Behavior*, Vol. 8, 1986, pp. 53-111.

\<Appendix 1\> Reliability and Validity Test of FOPA

	Indicators	Loading values	t-values	Composite reliability	AVE	UoCM	SP	OAM	SR	Risk	Trust
Usage of Communication Media	UoCM 1	0.620	8.421	N/A	N/A	N/A					
	UoCM 2	0.685	10.190								
	UoCM 3	0.590	6.694								
	UoCM 4	0.503	6.424								
	UoCM 5	0.715	9.672								
Secure Payment	SP1	0.561	6.381	N/A	N/A	0.475	N/A				
	SP2	0.836	13.708								
	SP3	0.565	5.356								
Online Assurance Mark	OAM 1	0.920	104.913	0.957	0.849	0.380	0.398	0.922			
	OAM 2	0.913	82.063								
	OAM 3	0.906	47.716								
	OAM 4	0.946	118.976								
Seller Record	SR 1	0.925	100.924	0.940	0.796	0.321	0.307	0.496	0.892		
	SR 2	0.920	86.414								
	SR 3	0.914	79.631								
	SR 4	0.804	33.469								
Risk-Perception	Risk 1	0.656	7.030	N/A	N/A	0.308	0.289	0.301	0.166	N/A	
	Risk 2	0.637	6.231								
	Risk 3	0.699	7.104								
	Risk 4	0.873	11.093								
	Risk 5	0.653	6.551								
	Risk 6	0.631	6.555								
	Risk 7	0.534	4.693								
Trust-Building	Trust 1	0.816	19.419	N/A	N/A	0.580	0.469	0.483	0.429	0.250	N/A
	Trust 2	0.622	10.928								
	Trust 3	0.871	28.145								
	Trust 4	0.850	32.761								
	Trust 5	0.813	22.318								

<Appendix 2> Reliability and Validity Test of COS

	Indicators	Loading values	t-values	Composite reliability	AVE	UoCM	SP	OAM	SR	Risk	Trust
Usage of Communication Media	UoCM 1	0.612	5.486	N/A	N/A	N/A					
	UoCM 2	0.027	0.132								
	UoCM 3	−0.005	0.025								
	UoCM 4	0.821	10.417								
	UoCM 5	0.181	0.927								
Secure Payment	SP1	0.977	21.585	N/A	N/A	0.434	N/A				
	SP2	0.115	0.751								
	SP3	−0.108	0.578								
Online Assurance Mark	OAM 1	0.806	26.711	0.889	0.668	0.308	0.266	0.817			
	OAM 2	0.746	19.764								
	OAM 3	0.842	37.294								
	OAM 4	0.870	51.328								
Seller Record	SR 1	0.833	44.293	0.897	0.687	0.350	0.295	0.444	0.829		
	SR 2	0.882	60.966								
	SR 3	0.870	59.580								
	SR 4	0.722	23.171								
Risk-Perception	Risk 1	0.661	6.775	N/A	N/A	0.252	0.227	0.201	0.330	N/A	
	Risk 2	0.643	6.010								
	Risk 3	0.551	4.833								
	Risk 4	0.397	2.605								
	Risk 5	0.881	11.235								
	Risk 6	0.599	5.432								
	Risk 7	0.567	4.626								
Trust-Building	Trust 1	0.799	14.072	N/A	N/A	0.331	0.314	0.407	0.460	0.237	N/A
	Trust 2	0.754	12.260								
	Trust 3	0.720	11.034								
	Trust 4	0.558	5.934								
	Trust 5	0.698	8.795								

■ Author Profile

Hua-Long Fang

Hualong Fang is a Professor of Department of Chinese Language and Literature, Cheongju University. He had the degree of Ph.D in MIS from Chungbuk National University. His research interests include comparative study of Internet community and e-Commerce between China and Korea, moderating effect of national culture, supply chain management, and business process innovation. His papers have appeared in Korean Management Review and Journal of Information Technology Applications and Management and have been presented at many leading conferences held by KMIS, KITA, KASBA, and KITS.

Sun-Dong Kwon

Sun-Dong Kwon is a Professor of Department of MIS at College of Business Administration, Chungbuk National University. He has the degree of Ph.D in MIS from Seoul National University. His research interests include governance structure, user participation on social networking service, national culture, supply chain management, and e-Business. His papers have appeared in British Journal of Management, Journal of MIS Research, Journal of Information Technology Applications and Management, Journal of the Korean Operations Research and Management Science Society, Information Systems Review, Korean Management Review, and International Journal of Business Studies.

Kee-Su Bae

He received the B.S., M.S in Business Management from Chungbuk National University and Hanyang University, Korea in 1997, 1999 respectively and also received M.S., Ph.D. in Business Management from Hanyang University, Korea in 2004. Since then, he has been with the School of business, Chungbuk National University. His main research interests include financial accounting contents and accounting information systems.