

An Empirical Study on the Trust-Building Strategy of Internet Automobile Insurance : Comparison of Male and Female Customers

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Abstract

Trust is emphasized as one of the most important factors in various e-commerce related studies. It is no exaggeration to say that in the area of e-commerce, trust-building with customers determines a company's success or failure. That is why most e-commerce based companies spare no time and effort in building trust with customers. Without exception, trust is one of the most critical factors influencing a customer's decision making process of whether to purchase Internet automobile insurance. This study attempts to provide useful guidelines for the sales-enhancing strategies of Internet automobile insurers, by delving into research questions concerning 1) gender differences in Internet automobile insurance customers' recognition of trust, and 2) gender differences in the effective trust factors influencing one's intention to purchase of Internet automobile insurance. The study finds that while the shape of trust-recognition toward three types of trust factors is very similar for both gender groups, the intensity of trust for each gender group in overall is pretty different. The results indicate that there exist gender differences in the trust factors influencing one's intent to purchase Internet automobile insurance. The results of this study will provide useful guidelines for Internet automobile insurers in establishing effective and differentiated marketing strategies.

Keywords : Internet Automobile Insurance, Trust, Comparison Study, Intention, TAM

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1. Introduction

Recently, automobile insurance sales through online channels, whose premiums are in general lower than those of offline channels, have been steadily increasing in Korea. In 2001, the market share of online automobile insurance was only 0.35%. However, it increased to 16.4% in 2005 and is expected to reach 20% in 2008. With the exception of Kyowonnara, whose main customers are teachers and government employees, most online automobile insurers have been suffering net losses so far; however, most analysts and industry experts agree that earnings will soon be back in the black.

As the online automobile insurance market in Korea is very rapidly growing and the industry itself has a gloomy outlook in terms of profitability, more and more insurers are jumping into this hot market and competition among online automobile insurers is getting heated. Meanwhile, to obtain more market shares, most online automobile insurers are currently depending only on a low-price marketing strategy rather than employing various differentiated marketing strategies. The continued depending of low-price marketing strategy alone by online automobile insurers might lead to deterioration of profitability and mutual destruction among online automobile insurers in the end. Accordingly, in order to remain competitive and survive in this very highly competitive market, an online automobile insurer needs to have substantially effective and competitive marketing strategies. In addition, more

studies on systematic and subdivided marketing strategies in this industry, which would help online automobile insurers establish differentiated and effective strategies, should be conducted.

Most studies present ease and usefulness of service, convenience of purchasing, customer's cognition, trust, perceived risk, efficiency, and perceived benefits on product utilization & purchase as influencing factors of purchase intention in e-commerce. Among these, customer trust, as one of the most important factors, is emphasized in various e-commerce related studies [Kim et al., 1995].¹⁾ Without exception, trust-building with a customer for an online automobile insurer will play a very critical role in enhancing a customer's purchase intention of automobile insurance. Accordingly, mainly focusing on trust, this study analyzes the effects of trust factors on customer's purchase intention in the area of online automobile insurance. In particular, as the importance of developing and evolving differentiated marketing strategies by gender is recently becoming more emphasized in e-commerce [Dittmar et al., 2004; Reichheld and Scheffer, 2000] and also the number of female drivers is rapidly increasing, this study attempts to employ a gender approach in analyzing those effects. The study would be able to provide

1) In addition, customer trust is considered an important factor influencing customer's purchase intention in the area of business to business [Plank et al., 1999]. And it has been reported in the industrial organization related studies that customer trust plays a critical role in improving business performances [Mayer et al., 1995].

very useful guidelines for an online automobile insurer to establish effective and differentiated strategy concerning customer relationship management (CRM).

This study has the following two research objectives. First, the study analyzes whether customer trust factors are perceived differently by genders in the area of online automobile insurance and how different their perceptions are. According to previous studies, in e-commerce, female customers tend to compare and analyze various information obtained before making their purchase decisions, while male customers, mainly focusing on practicality, tend to make purchase decisions somewhat extemporaneously and sensually [Chent et al., 2006; Chang, 2006; Fischer and Dube, 2005; Hwang and Kim, 2007]. One can imagine that without exception, customer trust factors in the area of online automobile insurance would be different by gender. Therefore, developing and enhancing differentiated strategies concerning customer trust by gender would be very helpful for online automobile insurers in maximizing their sales performances. Second, this study attempts to analyze whether different customer trust factors by gender affect purchase intention in the area of online automobile insurance and how different their effects are. As mentioned above, customer trust is a very important factor influencing purchase intention in e-commerce [Kim et al., 2008; Song and Zahedi, 2007; Teo and Liu, 2007; Jarvenpaa, et al., 1998]. Likewise, in the area of online automobile insurance, customers will make repeat online pur-

chases only when customer trust is built in. Therefore, studying and managing effectively customer trust as an important influencing factor on purchase intention, in particular by gender difference, will be very meaningful and useful in helping online insurers create more loyal customers.

The next section explains conceptual framework for research and theoretical background for the hypotheses employed in this study. Section 3 explains the research model and variables used in the study. Section 4, as the empirical research part of the study, presents the basic statistical analysis, feasibility and credibility analysis, and regression analysis. It is followed by research limitations and future research directions in Section 5.

2. Theoretical Background and Hypotheses

2.1 Conceptual Framework

There have been numerous studies on factors influencing purchase intention in the area of e-commerce. Most of these previous studies agree that one of the most important factors influencing purchase intention is customer trust. Accordingly, by mainly focusing on customer trust factors out of any other factors influencing purchase intention, this study analyzes whether customer trust factors are recognized differently by gender and whether different customer trust factors by gender affect purchase intention in the area of online automobile insurance.

2.2 Previous Studies on Customer Trust and Purchase Intention

Trust has been one of the most popular research topics in various areas of study, including e-commerce. While studies have been mainly focusing on trust among salespeople in traditional off-line businesses, most studies in the area of online business have been focusing on the trust between a company, which has its own website, and its customers. In

particular, when a customer highly trusts a specific online product or service, he or she tends to have a high level of purchase intention for the product, which, in the end, may lead to his or her decision to purchase. This is why academicians and business people agree that a customer trust-building strategy is an essential tool for an e-commerce company to stay competitive [Kim et al., 2008]. In addition, it is the reason that most recent studies in e-commerce unanimously empha-

<Table 1> Previous Studies on Trust

Authors	Research Implications	Research Method
Plank et al. [1999]	Presents types of trust in business-to-business sales.	Empirical Study
Mayer et al. [1995]	Analyzes, using a dualistic model, the relationship between trustor and trustee in the area of off-line business.	Empirical Study
Ganesan [1994]	Emphasizes long-term orientation in buyer-seller relationships through trust-building.	Empirical Study
Kim et al. [2008]	Proves empirically that customer trust plays a critical role in purchase decision making.	Empirical Study
Gefen [2002]	Explains the effects of trust in e-commerce.	Empirical Study
Bhattacharjee [2002]	Emphasizes that enhancing trust is a source of competitiveness for an e-commerce company.	Empirical Study
Song and Zahedi [2007]	Explains that the user's trust in the ability of the health infomediary critically affects his or her behavior.	Empirical Study
Ba et al. [2003]	Explains trust-building in online auction markets with an economic incentive mechanism.	Empirical Study
McKnight and Chervany [2002]	Explains the role of trust on customer relationship in online business.	Empirical Study
Pavlou [2003]	Deals with consumer acceptance of electronic commerce, integrating trust and risk with the technology acceptance model.	Empirical Study
Teo and Liu [2007]	Studies, using the structural equation model, consumer trust in e-commerce in the United States, Singapore, and China.	Empirical Study
Jarvenpaa et al. [2000]	Analyzes the effects of an internet store's size and reputation on customer trust in e-commerce.	Empirical Study
Hwang and Kim [2007]	Analyzes the process of how the quality of a self-service online system for an e-commerce-based company affects trust-building as customers' reactions change.	Empirical Study

size the importance of this trust factor. The following are literature reviews on trust factor-related studies in both on and off-line business areas, which will provide the theoretical basis for this study.

Trust is variously defined as either a customer's personal norm, trust in a product, trust in a company, or trust in the convenience of the business transaction in e-commerce related studies. Plank et al. [1995] assert that both the company and salesperson play critical roles in building trust in business-to-business sales. Mayer et al. [1995] analyze, using a dualistic model, the relationship between a company as trustor and a customer as trustee in the area of off-line businesses. Ganesan [1994] finds that trust-building reduces perceived risk in business transactions and enhances mutual dependence in the long-term orientation of both retail buyers and their vendors. In other words, he emphasizes long-term orientation in buyer-seller relationships through trust-building.

Kim et al. [2008] presume trust, perceived risk, and expected performances as the factors influencing customer purchase intention in e-commerce and analyze, considering various customers' characteristics, how those factors affect differently purchase intention. They define trust as trust in the website, usefulness of the website service, and induction of customer's interest, and emphasize these trust factors as the key antecedents for a customer's purchase intention. Gefen [2002] explains both the diversity of trust types and the importance of the effects of trust in e-commerce.

Bhattacharjee [2002] emphasizes that enhancing trust is a source of competitiveness for an e-commerce company. McKnight and Chervany [2002] assert that trust plays a key role in enhancing the customer relationship in online businesses. Song and Zahedi [2007] find that the user's trust in health information of health infomediary enhances his or her use intention of the health information. Pavlou [2003] presents the model of consumer acceptance of e-commerce, which integrates trust and risk with the technology acceptance model of Davis [1999]. He also emphasizes the importance of both trust and risk management. Ba et al. [2003] explain trust-building in online auction markets through an economic incentive mechanism. Teo and Liu [2007] research on consumer trust factors in e-commerce in the United States, Singapore, and China. In particular, they analyze, using a structural equation model, both preceding and following factors of trust. Jarvenpaa et al. [2000] find that an internet store's size and reputation significantly affect customer trust-building in e-commerce. Hwang and Kim [2007] analyze the process of how the quality of a self-service online system for an e-commerce company affects trust-building as customers' reactions change. In other words, a customer accesses the self-service online system and reacts with either enjoyment or anxiety at the system. The customer then perceives how trustworthy (or untrustworthy) a company or business transaction is through repetition of this process.

As reviewed in previous studies, trust is a

key factor influencing purchase intention. In addition, most studies agree that trust-building strategies should be directed toward supporting and enhancing various dimensions of customer trust. In particular, this study, focusing on company trust, service trust, and product trust in the area of online automobile insurance, attempts to analyze the influencing relationship between those trust factors and purchase intention.

2.3 Previous Studies on Gender Difference in E-Commerce

The growing importance of online businesses has brought about numerous studies on online customer behavior. In the past, studies on customer behavior did not consider the gender factor. However, as most academicians and business people agree, the value and effectiveness of customer behavior-related studies are enhanced when customer groups are more classified and the resulting marketing strategies are also subdivided by customer characteristics such as age and gender. As a part of conforming this stream, more studies on customer behavior that do include gender difference factors have been coming out. Generally, online customers' characteristics by gender can be summarized as follows. Female customers tend to be more prudent than male customers, systematically invest time and efforts into searching and collecting information, and consider sensual value to be important. On the other hand, male customers tend to be less prudent than female customers, con-

sider practicality to be important, and make decisions to purchase very quickly [Chang, 2006; Fischer and Dube, 2005].

The following are the studies on gender differences concerning the use of information technology (IT) or customers' behaviors. In the area of IT, Gefen and Straub [1997] find that there are gender differences in the use of IT within a company, and assert that the company needs to build a strategy of maximizing IT use by gender. Stern [1988] analyzes gender differences in customers' use of financial institutions in the off-line realm and presents guidelines in establishing related marketing strategies for financial companies. Pradeep [1999] studies gender differences in online customers' purchasing behaviors. Beatty et al. [1999] analyzes gender differences in gift-giving behaviors in the United States and Japan. Venkatesh and Morris [2000] examine, using the technology acceptance model, gender differences in accepting technology. Dittmar et al. [2004] analyze gender differences in online and offline buying motivations and present guidelines for related marketing strategy building. Zang and Prybutok [2005], using the technology acceptance model of Davis [1989], research on gender differences in accepting technology at online shopping malls and present effective counter-strategies needed by online companies. Simon and Peppas [2005] find that gender differences in attitudes towards product website design are related to the company's business performances.

As reviewed above, the analysis concerning customers' behaviors by gender in the area of

e-commerce would be able to provide useful implications for e-commerce companies to build related marketing strategies in that there exist distinct gender differences in those online customers' decision making behavior. Accordingly, this study attempts to analyze gender differences in customer's recognition of trust and type of trust factors influencing purchase intention in the area of online automobile insurance.

3. Research Methodology

3.1 Research Questions

Given the assumption that customer trust most importantly affects purchase intention of online automobile insurance, this study attempts to provide useful guidelines for sales-enhancing strategies for online automobile insurers through obtaining solutions to the following research questions :

[Research Question 1] There exist gender differences in online automobile insurance customers' recognizing trust.

[Research Question 2] There exist gender differences in the trust factors influencing the purchase intention of online automobile insurance.

3.2 Research Variables

The variables used in this study consist of independent variables, control variables, and dependent variables. The independent variables

are customer trust factors influencing the purchase intention of online automobile insurance, which are classified into service trust, company trust, and product trust. In measuring each type of trust, questions based on the following previous studies are developed and used : company trust based on Plank et al. [1999], Mayer et al. [1995]; service trust based on McKnight and Chervany [2002], Hwang and Kim [2007]; product trust based on Song and Zahedi [2007]. As the dependent variable, the purchase intention of online automobile insurance is measured by three items of questions concerning purchase of insurance, continuous use of the website, and the purchase plan of insurance, based on Davis [1989]. Lastly, gender factor is used as a control variable. The <Table 2> presents more details of the variables used in the study.

3.3 Description of Empirical Survey

This study uses questions based on previous e-commerce related studies, and applies the 1 to 7 Likert scale for each survey item. The survey was conducted from the end of May 2008 to the beginning of June 2008 in cooperation with the Paxinsu Company, an online insurance agency company in Korea. The web-survey method was employed, where survey questions were sent via e-mail to customers who had purchased online auto insurance from the Paxinsu Company. In order to enhance the response rate, prizes were provided for survey respondents. This survey

〈Table 2〉 Variables and Survey Questions Used in the Study

	Variables	Survey Questions	Related Previous Studies
Independent Variables	Service Trust	<ul style="list-style-type: none"> ◦ The online insurer is trying to provide various services both before and after the sale. ◦ The online insurer is trying to cultivate trust in customer service. ◦ The online insurer is trying to maintain a good reputation by providing various customer services. 	Kim et al. [2007], Plank et al. [1999]
	Company Trust	<ul style="list-style-type: none"> ◦ The online insurer provides trustworthy information. ◦ The online insurer is honest and trustworthy. ◦ The online insurer keeps its promise to customers. 	Song and Zahedi [2007]
	Product Trust	<ul style="list-style-type: none"> ◦ The online insurer sells a market-acceptable and trustworthy product. ◦ The online insurer's product management and distribution management are trustworthy. ◦ The online insurer provides various cheap and competitive insurance products for its customers. 	Hwang and Kim [2007], McKnight and Chervany [2002]
Dependent Variables	Purchase Intention	<ul style="list-style-type: none"> ◦ I will purchase automobile insurance through an online automobile insurer's web site. ◦ I will keep using the online automobile insurer's website in future. ◦ I plan to purchase automobile insurance from the online automobile insurer again in the future. 	Davis [1989]
Control Variables	Gender	<ul style="list-style-type: none"> ◦ What is your gender? (Male or Female) 	Simona and Peppas [2005]

was sent to 11,321 person. The 1,309 survey responses were completed and returned. This represents a 11.56% response rate. A statistical analysis based on those responses, using Excel 2003 and SPSS 11.0, was conducted.

3.4 Description of Research Methodology Framework

This study sets up the following methodology framework in order to obtain solutions to the research questions above. First, the study conducts a basic statistical analysis regarding the survey results by gender. Second, it performs a feasibility and credibility analysis regarding the variables used in the study. Third, after grouping the data by gender, the

characteristics of the high-trust group and the low-trust group (regarding online automobile insurance) are discovered through the clustering analysis. Fourth, through discriminant analysis, the study analyzes the gender differences in customers' recognizing trust, and using regression analysis, examines the influencing relationship between customer trust and purchase intention by gender. Lastly, the study attempts to extract practical implications through a discussion of the empirical results.

4. Results

4.1 Basic Statistical Analysis

The sample used in this study consists of

1,124 males and 185 females. The proportion is 85.8% for male customers and 14.1% for female customers. Concerning the amount of time spent online (internet) by male customers in one day, 101 (9%) spent less than 1 hour, 250 (22.2%) spent 1~2 hours, 309 (27.5%) spent 2~3 hours, 208 (18.5%) spent 3~4 hours, 96 (8.5%) spent 4~5 hours, 46 (4.1%) spent 5~6 hours, and 114 (10.1%) spent longer than 6 hours online. For female customers, 20 (10.8%) spent less than 1 hour, 58 (31.4%) spent 1~2 hours, 38 (20.5%) spent 2~3 hours, 29 (15.7%) spent 3~4 hours, 10 (5.4%) spent 4~5 hours, 7 (3.8%) spent 5~6 hours, and 23 (12.4%) spent longer than 6 hours online. Concerning education level for male customers, 240 (21.4%) of

the respondents were either high school graduates or did not complete high school, 217 (19.3%) were junior college graduates, 521 (46.4%) possessed bachelor's degrees, and 146 (13.0%) possessed a master's degree or higher. For female customers, 44 (23.8%) of the respondents were either high school graduates or did not complete high school, 50 (27.0%) were junior college graduates, 75 (40.5%) possessed bachelor's degrees, and 16 (8.6%) possessed a master's degree or higher. Lastly, regarding the time period that each male customer has known about online automobile insurance, 25 (2.3%) were aware of online auto insurance for less than 1 year, 48 (4.3%) for 1~2 years, 121 (10.8%) for 2~3 years, 287

<Table 3> Profile of Survey Respondents

		Male	Female
Education Level	Below High School Graduate	240 (21.4%)	44 (23.8%)
	Junior College Graduate	217 (19.3%)	50 (27.0%)
	Bachelor's Degree	521 (46.4%)	75 (40.5%)
	Above Master's Degree	146 (13.0%)	16 (8.6%)
Gender	Male or Female	1124 (85.8%)	185 (14.2%)
Daily Internet Use	Less than 1 Hour	101 (9.0%)	20 (10.8%)
	1~2 Hours	250 (22.2%)	58 (31.4%)
	2~3 Hours	309 (27.5%)	38 (20.5%)
	3~4 Hours	208 (18.5%)	29 (15.7%)
	4~5 Hours	96 (8.5%)	10 (5.4%)
	5~6 Hours	46 (4.1%)	7 (3.8%)
	More than 6 Hours	114 (10.1%)	23 (12.4%)
Time Aware of Online Auto Insurance	Less than 1 Year	26 (2.3%)	3 (1.6%)
	1~2 Years	48 (4.3%)	10 (5.4%)
	2~3 Years	121 (10.8%)	29 (15.7%)
	3~4 Years	287 (25.5%)	43 (23.2%)
	4~5 Years	300 (26.7%)	57 (30.8%)
	5~6 Years	188 (16.7%)	23 (12.4%)
	6~7 Years	154 (13.7%)	20 (10.8%)

(25.5%) for 3~4 years, 300 (26.7%) for 4~5 years, 188 (16.7%) for 5~6 years, and 154 (13.7%) for 6~7 years. For female customers, 3 (1.6%) were aware of online auto insurance for less than 1 year, 10 (5.4%) for 1~2 years, 29 (15.7%) for 2~3 years, 43 (23.2%) for 3~4 years, 57 (30.8%) for 4~5 years, 23 (12.4%) for 5~6 years, and 20 (10.8%) for 6~7 years.

The results regarding gender difference in the variables of purchase intention and trust in online automobile insurance can be found in <Table 4>. Overall, male customers tend to have both higher intensities of purchase intention and higher intensities of trust in online automobile insurance than female customers.

4.2 Feasibility and Credibility Analysis

This section explains the results of the fea-

sibility and credibility analysis regarding the variables used in the study. The trust variable, which is an independent variable, consists of 9 sub-variables. The variable of purchase intention, which is a dependent variable, consists of 3 sub-variables. Overall, feasibility exists when the factor loading value is above 0.5, the communality value is above 0.4, and the Eigen value is above 1. A variable is generally credible when the Cronbach alpha is above 0.7 in the area of social science research and 0.6 in the level of exploratory study.

This study conducts separate analyses of feasibility and credibility by gender. The following are the results for male customers. As shown in <Table 5>, all of the variables are above 0.5 in the factor loading value, above 0.4 in the communality value, and above 1 in the Eigen value, which are confirmed to be feasible enough. Then, in order to test the cre-

<Table 4> Gender Difference in Purchase Intention and Trust in Online Automobile Insurance

Variables	Items	Male		Female	
		Mean	S.D.	Mean	S.D.
Purchase Intention	[B1] Purchase intention of online automobile insurance	5.66	1.365	5.54	1.504
	[B2] Continuous use of an online automobile insurer's web site	5.69	1.354	5.62	1.409
	[B3] Plan to repurchase an automobile insurance from an online automobile insurer	5.70	1.370	5.56	1.496
Trust	[T1] Provision of various services	4.88	1.334	4.80	1.410
	[T2] Trust in services	4.98	1.321	4.87	1.345
	[T3] Maintenance of good reputation	5.04	1.304	4.92	1.351
	[T4] Provision of trustworthy information	4.96	1.224	4.85	1.271
	[T5] Company's honesty and trustworthiness	4.91	1.209	4.78	1.251
	[T6] Promise to customers	5.03	1.291	4.91	1.282
	[T7] Sale of trustworthy products	5.26	1.190	5.25	1.199
	[T8] Trustworthy product management and distribution management	5.20	1.213	5.07	1.247
	[T9] Selling of various kinds of products	5.36	1.245	5.29	1.276

dibility of the variables, the Cronbach alpha test was conducted. All of the variables used in this study are confirmed to be credible enough : the Cronbach alpha is 0.959 for pur-

chase intention, 0.947 for service trust, 0.930 for company trust, and 0.924 for product trust.

The same analyses were conducted for the female group. As in the male group, all of the

<Table 5> Results of Factor Analysis and Credibility Analysis for Male Customers

	1	2	3	4	Communality	Cronbach α
Purchase Intention 1	.170	.905	.209	.189	.928	.959
Purchase Intention 2	.185	.903	.207	.187	.928	
Purchase Intention 3	.185	.903	.194	.169	.915	
Service Trust 1	.829	.195	.282	.287	.887	.947
Service Trust 2	.867	.169	.254	.294	.931	
Service Trust 3	.826	.238	.273	.288	.896	
Company Trust 1	.456	.274	.356	.670	.858	.930
Company Trust 2	.393	.248	.342	.762	.914	
Company Trust 3	.413	.273	.369	.688	.854	
Product Trust 1	.313	.264	.734	.423	.885	.924
Product Trust 2	.311	.240	.737	.443	.893	
Product Trust 3	.317	.295	.806	.186	.872	
Eigen Value	3.045	2.999	2.453	2.263		

Note) 1. Factor extraction method : Principal Component Analysis.
 Rotation method : Kaizer's Normalized Varimax.
 2. A factor rotation converged in six iterations.

<Table 6> Results of Factor Analysis and Credibility Analysis for the Female Customers

	1	2	3	4	Communality	Cronbach α
Purchase Intention 1	.180	.887	.210	.284	.944	.960
Purchase Intention 2	.222	.878	.182	.283	.933	
Purchase Intention 3	.182	.893	.245	.161	.916	
Service Trust 1	.858	.215	.299	.235	.927	.968
Service Trust 2	.882	.187	.318	.214	.959	
Service Trust 3	.873	.208	.264	.243	.934	
Company Trust 1	.506	.253	.715	.238	.887	.942
Company Trust 2	.333	.269	.807	.325	.941	
Company Trust 3	.319	.254	.797	.288	.884	
Product Trust 1	.338	.379	.414	.670	.878	.928
Product Trust 2	.379	.365	.445	.647	.893	
Product Trust 3	.280	.368	.283	.762	.874	
Eigen Value	3.195	3.092	2.645	2.039		

Note) 1. Factor extraction method : Principal Component Analysis.
 Rotation method : Kaizer's Normalized Varimax.
 2. A factor rotation converged in six iterations.

variables are above 0.5 in the factor loading value, above 0.4 in the communality value, and above 1 in the Eigen value. In addition, the Cronbach alpha is 0.960 for purchase intention, 0.968 for service trust, 0.942 for company trust, and 0.928 for product trust. These results indicate that the variables for the female group as well as for the male group are confirmed to be feasible and credible enough.

In order to examine the discriminant validity of the variables used in the study, a cor-

relation analysis was conducted [Anderson and Gerbing, 1988]. <Table 7> shows that while most variables for both the male and female groups are less than 0.8, the correlation measure between company trust and product trust are somewhat above 0.8. However, in that this study is an exploratory study and that there is a distinct difference between the concept of company trust and the concept of product trust, those two variables were determined to be used in the study.

<Table 7> Results of Correlation Analysis

		Male Group				Female Group			
		Purchase Intention	Service Trust	Company Trust	Product Trust	Purchase Intention	Service Trust	Company Trust	Product Trust
Purchase Intention	Pearson's Correlation Coefficient	1.000	.481**	.571**	.575**	1.000	.501**	.590**	.712**
	Significance Probability	.	.000	.000	.000	.	.000	.000	.000
	N	1124	1124	1124	1124	185	185	185	185
Service Trust	Pearson's Correlation Coefficient	.481**	1.000	.791**	.703**	.501**	1.000	.741**	.700**
	Significance Probability	.000	.	.000	.000	.000	.	.000	.000
	N	1124	1124	1124	1124	185	185	185	185
Company Trust	Pearson's Correlation Coefficient	.571**	.791	1.000	.820**	.590**	.741**	1.000	.804**
	Significance Probability	.000	.000	.	.000	.000	.000	.	.000
	N	1124	1124	1124	1124	185	185	185	185
Product Trust	Pearson's Correlation Coefficient	.575**	.703**	.820**	1.000	.712**	.700**	.804**	1.000
	Significance Probability	.000	.000	.000	.	.000	.000	.000	.
	N	1124	1124	1124	1124	185	185	185	185

Note) ** means that the coefficient is significant at the 1% level. 2-tailed test.

4.3 Empirical Analysis

This study conducts a discriminant analysis in order to test the research question that there exist gender differences in online automobile insurance customers' recognizing trust. Before doing so, the K-means clustering analysis is conducted in order to distinguish between a high-trust group and low-trust group. <Table 8> and <Table 9> are the results of the clustering analysis and t-test for the male customer group and female customer group, respectively. In the case of the male customer group, 706 customers out of 1,124 male customers were classified into the high-trust group

and 418 customers were put into the low-trust group. For the female group, 114 customers and 71 customers out of the total 185 female customers were classified into high-trust and low-trust groups, respectively. <Table 8> and <Table 9> also show that the differences in the intensity of trust toward all three types of trust factors (service trust, company trust, and product trust) between the two clusters (high-trust and low-trust groups) are statistically significant for both male and female customer groups.

In addition, according to the results below, the male customer group shows higher trust overall in online automobile insurance toward

<Table 8> Results of Clustering Analysis and T-Test for the Male Group

	Clustering Number	N	Mean	Standard Deviation	Standard Error	Significance Probability	t
Service Trust	1	706	5.67	.76	2.87E-02	.000	35.816
	2	418	3.77	1.00	4.87E-02		
Company Trust	1	706	5.65	.70	2.65E-02	.000	39.214
	2	418	3.82	.84	4.09E-02		
Product Trust	1	706	5.91	.66	2.49E-02	.000	36.021
	2	418	4.19	.93	4.54E-02		

Note) The clustering number is 1 for the high-trust (regarding online automobile insurance) group and 2 for the low-trust group.

<Table 9> Results of Clustering Analysis and T-Test for the Female Group

	Clustering Number	N	Mean	Standard Deviation	Standard Error	Significance Probability	t
Service Trust	2	71	3.60	.95	.11	0.00	15.459
	1	114	5.65	.82	7.72E-02		
Company Trust	2	71	4.15	.95	.11	0.00	13.789
	1	114	5.85	.72	6.71E-02		
Product Trust	2	71	3.74	.87	.10	0.00	14.437
	1	114	5.54	.79	7.41E-02		

Note) The clustering number is 1 for the high-trust (regarding online automobile insurance) group and 2 for the low-trust group.

the three types of trust factors than the female customer group. These results may have some connection with the results that Kim et al. [2007] obtained in that male customers are more active in purchasing online automobile insurance than female customers.

Next, the study conducted a discriminant analysis to figure out gender differences in online automobile insurance customers recog-

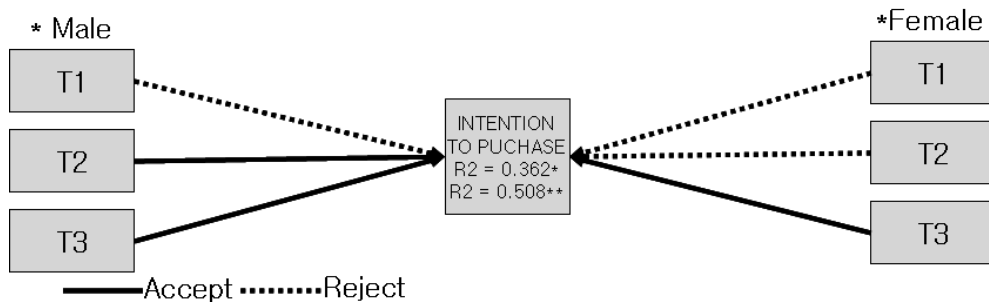
inition of trust. The independent variables are trust factors and the dependent variables are the two trust groups (high-trust and low-trust). The detailed results are as follows. The Eigen value is 1.839 for the male customer group and 1.861 for the female customer group. The measure of canonical correlation is 0.805 for the male customer group and 0.807 for the female customer group. The Wilks' lamda value

<Table 10> Eigen Values and Canonical Discriminant Function Correlations

Functions	Eigen Values	Variances' %	Cumulative %	Canonical Correlation	
Male	1.839	100.0	100.0	.805	
Female	1.861	100.0	100.0	.807	
Test of Functions	Wilks' Lamda	Chi-Square	Degree of Freedom	Significance Probability	
Male	.352	1169.331	3	.000	
Female	.349	190.809	3	.000	
* The first canonical discriminant function was used in the analysis.					
Canonical Discriminant Function Coefficient	Functions		Structure Matrix	Functions	
	Male	Female		Male	Female
T1	.434	.573	T1	.863	.838
T2	.393	.331	T2	.793	.782
T3	.402	.349	T3	.788	.747

Note) T1, T2, and T3 are service trust, company trust, and product trust, respectively.

- Discriminant function (male customer group) = 0.434*T1 + 0.393*T2, + 0.402*T3
- Discriminant function (female customer group) = 0.573*T1 + 0.331*T2, + 0.349*T3



<Figure 1> Results of Regression Analysis by Gender

is 0.352 for the male customer group and 0.349 for the female customer group. The chi-square measure is 1169.331 for the male customer group and 190.809 for the female customer group. In addition, the results show that the discriminant function is confirmed to be statistically significant (with 0.00 significance probability) for both the male and female customer group.

The measures of the canonical discriminant coefficient below indicate that both male and female customer groups regard service trust as most important in the area of online automobile insurance. Therefore, online automobile insurers need to focus more on customer service mechanisms as an evolving trust-building strategy.

Lastly, this study conducted a regression analysis in order to test whether there exist gender differences in the trust factors influencing the purchase intention of online automobile insurance. First, for the male customer group, the hypothesis that service trust sig-

nificantly affects purchase intention of online automobile insurance is rejected (t-value is 0.799 and significance probability measure is 0.425). Meanwhile, the hypothesis that company trust significantly affects purchase intention of online automobile insurance is accepted (t-value is 5.772 and significance probability measure is 0.000). The hypothesis that product trust significantly affects purchase intention of online automobile insurance is also accepted (t-value is 7.595 and significance probability measure is 0.000).

Second, in the case of the female customer group, the hypothesis that service trust significantly affects purchase intention of online automobile insurance is rejected (t-value is -0.178 and significance probability measure is 0.859). The hypothesis that service trust significantly affects purchase intention of online automobile insurance is also rejected (t-value is 0.581 and significance probability measure is 0.562). On the other hand, the hypothesis that product trust significantly affects pur-

〈Table 11〉 Regression Analysis Results

Group	R-Square		Unstandardized Coefficient		Standardized Coefficient	t	Significance Probability	Results
			1	Standard Error	Beta			
Male	= .362	(constant)	1.981	.152		13.018	.000	
		T1	3.296E-02	.041	.032	.799	.425	Reject
		T2	.319	.055	.283	5.772	.000	Accept
		T3	.371	.049	.321	7.595	.000	Accept
Female	= .508	(constant)	1.035	.345		3.001	.003	
		T1	-1.523E-02	.086	-.014	-.178	.859	Reject
		T2	6.620E-02	.114	.056	.581	.562	Reject
		T3	.825	.111	.677	7.451	.000	Accept

chase intention of online automobile insurance is accepted (t -value is 7.451 and significance probability measure is 0.000).

4.4 Discussion of Findings

Thanks to the Internet, customers are able to find various information and purchase products conveniently and cheaply, irrespective of time and place. Without exception, in the area of automobile insurance, more customers are becoming interested and preferring online automobile insurance products because of its convenience and low price. Accordingly, insurance companies are increasingly entering into and investing in this hot market.

The fundamental purpose of this study is to discover and present effective factors influencing on customer purchase intention in the very rapidly growing online automobile insurance market. Despite the fact that trust is one of the most important factors in the area of e-commerce (including online automobile insurance), no study attempted to analyze substantially the influencing relationship between trust and purchase intention. This study tests three types of trust (service trust, company trust, and product trust) as influencing factors on the purchase intention of online automobile insurance. More specifically, this study attempts to provide useful guidelines for the sales-enhancing strategies of online automobile insurers, by delving into research questions concerning 1) gender differences in online automobile insurance customers' recognition of trust, and 2) gender differences in

the effective trust factors influencing one's intention to purchase of online automobile insurance.

The practical implications of this study are as follows. First, while the shape of trust-recognition toward three types of trust factors is the same for both gender groups, the intensity of trust for each gender group overall is pretty different.²⁾ Male customers regard service trust as most important in the area of online automobile insurance, while product trust and company trust were ranked second and third. The results for female customers are the same as for male customers. These results may suggest that online automobile insurers, in evolving trust-building marketing strategies, need to focus more on a strategy based on a customer-service mechanism in particular, irrespective of gender. Meanwhile, companies may have to consider the different intensities of trust for each gender group as well. As shown in the results of the clustering analysis above, male customers tend to have higher trust in online automobile insurance overall than female customers, which indicates that male customers may have more favorable attitudes toward purchasing online automobile insurance. This may mean that online automobile insurers would need to invest more efforts and time in building trust with female customers than male customers. It also may suggest that they evolve differ-

2) The results show that the male customer group shows higher trust in online automobile insurance toward three types of trust factors overall than the female customer group.

entiated trust-building strategies appropriate for each gender.

Second, according to the results regarding the effective trust factors influencing purchase intention of online automobile insurance, for male customers, product trust and company trust significantly affect purchase intention. For female customers, only product trust significantly affects purchase intention. The results indicate that in particular, product trust among the three types of trust very significantly affects purchase intention of online automobile insurance, irrespective of gender.

The following are theoretical implications of this study. Despite that trust itself is a very important factor in the area of e-commerce, previous studies have dealt with this trust factor as simply one among other factors influencing purchase intention in the study. However, given that trust is one of the most influential factors in e-business transactions, this study, with its focus on the trust factor and considering various types of trust, attempts to analyze empirically customer's recognition of trust and type of trust factors influencing purchase intention by gender in the area of online automobile insurance. It is expected that the results of this study will provide a theoretical foundation for future studies on customer trust in the area of online auto insurance.

5. Research Limitations and Future Research Direction

Limitations of this study are as follows.

First, there is a big difference in the size of sample for each group : while the sample size for the male customer group is 1,124, the size for the female group is only 185. In order to enhance the robustness of the results, future related studies attempting to ensure similar sample sizes between the two genders would be needed.

Second, this study, as exploratory study, considered only three classes of customer trust, but there exist other types of customer trust, such as trust in e-commerce itself, which is built upon repeat online purchases. Therefore, future research would need to consider more types of customer trust and include other contextual variables as well so that more various research implications can be extracted.

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