

## Risk Perceptions and Risk-reduction Strategies in Internet Apparel Shopping

Lee, Mi-Young

Assistant Professor, Dept of Clothing & Textiles, University of Ulsan

### Abstract

Although Internet retailing is becoming a viable channel for apparel retailing, consumers are still reluctant to use Internet for apparel purchasing because of their concerns of Internet security and the difficulties of virtual shopping in unfamiliar shopping environment. The purpose of this study is to examine the nature of perceived risk associated with Internet apparel shopping and risk-reduction strategies used by Internet apparel shoppers. The data were collected via an online survey by a online research company. A total of 4,254 Internet users participated in this survey. Among these Internet users, 1,146 respondents had previous shopping experience in Internet shopping. Within this group, 195 were Internet apparel information seekers, and 589 were Internet apparel purchasers. Descriptive statistics, analysis of variance, and t-test were used to analyze the data. The perceived risks and risk-reduction strategies used by Internet apparel no-interest shoppers, Internet apparel information seekers (browsers), moderate Internet apparel purchasers, heavy Internet apparel purchasers were examined and compared. The results indicated that these four groups were significantly different in apparel related risk, performance risk, and privacy risk. Internet purchasers tend to perceive more apparel-related, performance, and privacy risks than others. The results also indicated that these four groups were significantly different in their opinions of risk-reduction strategies.

**Key Words** : risk, risk-reduction, apparel, Internet

### I. Introduction

Sales growth in recent years has been prolific for Internet retailers. In Korea, there are more

than 3,400 Internet shopping malls and the sales reached to more than 648 billion won in 2004<sup>1)</sup>. Clothing and fashion products accounted for 11.3% of the total Internet shopping mall

sales in 2003–2004, indicating Internet is a viable channel for clothing retailing<sup>1)</sup>.

However, the number of Internet shoppers and retail sales on the Internet are still marginal compared to store retailing. Due to the characteristics of the Internet, consumers are concerned about Internet security and the difficulties of virtual shopping in unfamiliar shopping environment. They also may hesitate to shop for apparel items via Internet because they are unable to try-on and touch the apparel item. Additionally, it may also be difficult for them to find the right fit, color, and size among apparel items in a virtual environment.<sup>2)3)</sup>

US consumers' perceptions of information privacy and control affected willingness to visit or purchase from a Web site<sup>4)</sup>. Reluctance to use credits cards online due to concerns of privacy invasion and security is one of the major barriers in Internet retailing<sup>5)</sup>. Transaction security was found to be the most important antecedent of online purchase intentions, along with a mediator of trust.

In order to successfully market a new product, marketers and retailers must understand the characteristics of current users in terms of their relevant behavior. Consumers associates a higher level of risk with non-store purchasing than with the traditional store purchasing process<sup>6)</sup>. Previous research in risk has shown that the use of certain risk-reduction strategies, such as return guarantee or store reputation, are successful in reducing consumers' perceived risk<sup>7)8)9)10)</sup>. Although there has been many research dealing with perceived risk and risk-reduction strategies in traditional retailers(as well as catalog retailers), not much research has looked at perceived risk and risk-reduction

strategies in Internet apparel shopping.

Therefore, this study addresses consumers' risk perception of Internet apparel shopping and their responses to different types of risk-reduction strategies.

## II. Review of Literature

### 1. Internet Apparel Shopping

In recent years, the Internet has generated a tremendous change in modern life. The Internet provides consumers with a vast amount of information, serves as a transaction medium for certain products (e.g., software), serves as channel of product/service purchasing, and provides better perceptual experiences than catalogs<sup>11)12)</sup>. Nevertheless, the number of Internet information seekers using the Internet to obtain information about a products/services is still more than that of Internet purchasers.

Although, standardize products such as books and CDs are the best selling products on the Internet, apparel is now becoming one of the most popular items sold on the Internet<sup>1)</sup>. Selling apparel on the Internet has many advantages. For example, apparel is generally a high margin sector. In addition, apparel is relatively lightweight and can be shipped inexpensively<sup>13)</sup>.

Researchers have investigated factors affecting Internet shopping behavior. Lohse and Spiller<sup>14)</sup> identified features that influence Internet store traffic and sales, including: the number of links into the store, the hours of promotional ads, the number of products, and store navigation. Furthermore, Szymanski and Hise<sup>15)</sup> found that

convenience, site design and financial security were significant factors in consumer satisfaction regarding Internet stores.

## 2. Internet Browsing Activity

Among Internet users, there are people who purchase products/services from the Internet and people who browse Internet seeking information about products/services. The latter were called "browsers", who are basically information seekers through the Internet. Browsing is defined as "the in-store examination of a retailer's merchandise for information and/or recreational purposes without an immediate intent to buy"<sup>16)</sup>. Bellenger and Korgoankar<sup>17)</sup> found that many consumers enjoyed the "act" of shopping itself, without intending to purchase.

Retail store browsing has been found to be positively related to product interest, product knowledge, and word-of-mouth activity concerning the product<sup>18)</sup>. Bloch, Sherrell, and Ridgway<sup>16)</sup> emphasized consumers' ongoing information search activities as a form of search behavior. These ongoing information searches are conceptualized as search activities that are independent of specific purchase needs or decisions. Store browsing activities has been found to serve recreational functions and to be related to product interest, product knowledge, product expenditure, and purchase satisfaction.

Jarboe and McDaniel<sup>19)</sup> found that browsers were more likely to be employed females. They tended to have lower levels of education and income, to be younger, and to have larger families than non-browsers. With respect to shopping behavior, the most important variable

was brand awareness. Browsers were more likely to be aware of a large number of brand names of the products they intended to buy. Moreover, they often went shopping at malls, made a large number of purchases per trip while making a small number of purchases per store at which they shopped. With regard to attitude and lifestyle variables, browsers tended to have a great level of confidence in their general abilities, social status, and ability as shoppers. Browsers also had high purchase satisfaction and low levels of dissonance. In this research apparel browsers risk perception and use of risk-reduction strategies were compared with apparel purchasers.

## 3. Perceived Risk

Consumers cannot always certain that they will achieve their purchasing goals. Bauer's<sup>20)</sup> introduction of the concept of "perceived risk" in consumer behavior suggests that consumer behavior can be viewed as a case of risk taking. He stated, "consumer behavior involves risk in the sense that any action of a consumer will produce consequences which he cannot anticipate with approximate certainty, and some of which at least are likely to be unpleasant" (p. 24). Bauer presented perceived risk as a hypothetical construct to explain a consumer's information seeking, brand loyalty, and reliance on other factors in purchase decisions. In life, almost every consumer decision involves a certain degree of risk. Perceived risk may result from various factors<sup>21)</sup>, such as the factors inherent in the product, the particular brand; the place of purchase; or the mode of purchase.

Research found that non-store shopping is

considered a high-risk way of purchasing products/services because of the following shortcomings: the lack of opportunity to examine products prior to a purchase, difficulty in returning and exchanging items, and the lack of reliability of non-store retailers<sup>21)22)</sup>. Therefore, as a form of non-store shopping, consumers may perceive Internet shopping also to be riskier than traditional in-store shopping<sup>23)24)</sup>.

In addition, there are several barriers to commercial Internet growth. These are: (a) consumer concerns related to a merchant's legitimacy; (b) limited consumer experience with using the Internet; (c) consumer concerns related to invasion of their privacy; and (d) consumers' security concerns with using credit cards over the Internet<sup>11)25)26)</sup>. Although both of these concerns are also relevant to other forms of non-store retailing, consumers perceived Internet shopping as riskier with respect to credit card security, merchants' legitimacy, and privacy of purchase records. These concerns are some major reasons why consumers do not use the Internet as a shopping tool<sup>11)25)26)</sup>. Identifying the different perceived risk types is essential for Internet marketers. Understanding the barriers inhibiting potential buyers from shopping on the Internet enables providers to employ suitable means that are intended to help consumers reduce their perceived and actual risk levels<sup>27)</sup>.

Recent research on Internet shopping indicated that Internet shoppers major concerns were privacy and security. Although Internet businesses implement various measures in order to protect Internet shoppers and their information<sup>28)</sup>, many consumers are still concerned about the privacy and security of the process<sup>29)</sup>.

There is still little empirical research suggesting which types of risks are perceived by Internet shoppers, or what potential impact of these risk perceptions may have on Internet patronage behaviors. Therefore, apparel shoppers, including apparel no-interst shoppers, browsers, and purchasers, risk-perceptions were investigated and compared with each other.

#### 4. Types of Perceived Risk

From the previous research, several types of perceived risk have been identified: financial, performance, social, psychological, physical, time loss, convenience loss<sup>30)31)32)33)</sup>. Financial risk, also referred as economic risk, is defined as a loss of money to a customer<sup>7)30)34)</sup>. This type of risk includes the possibility that one's credit card information may be misused, and the possibility that the unreliable vendors deliver unsatisfactory products or may fail to deliver the products at all to consumers shopping via the Internet. Performance risk refers to the possibility that the purchased products do not work as properly as expected<sup>7)34)</sup>. Especially for the apparel items, limited information due to the inability to inspect (e.g., touch, see, feel, try on) apparel items increases the performance risk. Physical risk includes the possibility that products may be harmful to an individual's health<sup>7)</sup>. Psychological risk concerns the possibility that individuals suffer mental stress because of their shopping behavior<sup>7)</sup>. In Internet shopping, individuals may worry about the access that Internet marketers (or others) may have to their personal and shopping information, both during and after the Internet shopping process<sup>35)</sup>. Social risk is the possibility that

consumers' shopping behavior is not accepted by the other members of the society. Additionally, social risk is concerned with individual's perception of other people regarding their shopping behavior<sup>7)</sup>. Time/convenience loss risk is the possibility that individuals lose time and convenience because of their shopping behavior<sup>30)</sup>. This type of risk includes the waiting time needed to find the appropriate Internet shop, making the transaction, receiving ordered products or returning unsatisfactory products by mail.

There are certain risks that have recently been identified and associated with the Internet media. Perceived privacy risk is the possibility that Internet marketers collect their customers' data and use them inappropriately, especially without customers' permission<sup>27)36)</sup>. In this study, apparel shoppers (including apparel no-interest shoppers, browsers, and purchasers), perceived risks were analyzed and compared by different types of risks.

## 5. Risk-reduction Strategies

In order to minimize perceived risk, consumers use various risk-reduction strategies. Rogelius<sup>7)</sup> identified risk relievers as any action used as a strategy for resolving risk. He identified 11 risk-relievers: endorsements, brand loyalty, major brand image, private testing, store image, free sample, money-back guarantee, government testing, shopping, expensive model, and word-of-mouth.

Many research on risk-reduction strategies examined the risk-relievers proposed by Roselius. Among these risk-reduction strategies, Hawes and Lumpkin<sup>37)</sup> found money-back

guarantee to be the most important risk-reduction strategies. Most of the research concerning risk-reduction strategies has focused on traditional retail stores; only a few studies have examined risk-reduction strategies in non-store context. Akaah and Kogaonkar<sup>6)</sup> used a conjoint analysis to examine the relative importance of risk-reduction strategies in direct-mail shopping. They found that money-back guarantee was rated the most important risk relievers in direct marketing, followed by manufacturer's name, cost, distributor's reputation, free trial, endorsement by a trusted person, brand experience, and product newness.

In the field of Internet shopping, Tan<sup>23)</sup>, and Vanden Poel and Leunis<sup>38)</sup> examined risk-reduction strategies preference using Roselius<sup>7)</sup> risk-relievers. Tan<sup>23)</sup> found that Singaporean consumers with higher degree of risk aversion than others tended to perceive Internet shopping to be a risky activity. These consumers used reference group, particularly by getting expert endorsement, as a most preferred risk-reduction strategy for Internet shopping. However, for potential Internet shoppers, the marketer's reputation, the brand image, and warranties are also effective risk-reduction strategies.

Through interviews with Internet shopping consumers, Cases<sup>39)</sup> proposed risk-reduction strategies in an electronic shopping context: Information of product and price, past experience, product comparison, and brand loyalty were found to be risk-relievers for the product related risks. Money-back guarantee, exchange service, and availability of speaking to a sales associates by phone were found to be risk-reduction strategies for transaction-related

risks. Payment security, word-of-mouth in chat rooms, contact availability of by e-mail or webcam were found to be risk-relievers for Internet-related risks. For the ebsite-related risks, website reputation and familiarity with website were found to be successful risk-relievers. In this study, risk-reduction strategies used by Internet apparel shoppers were identified.

### III. Methods

#### 1. Research Objectives

The detailed research objectives are as follows:

- 1) To compare Internet apparel no-interest shoppers, Internet apparel information seekers (browsers), and Internet purchasers (heavy, moderate) in terms of perceived risks;
- 2) To compare Internet apparel no-interest shoppers', Internet apparel information seekers' (browsers), and Internet purchasers' (heavy, moderate) risk-reduction strategies used when shopping for apparel items on the Internet;
- 3) To investigate the relationship between Internet apparel perceived risk and selected demographic characteristics;
- 4) To investigate the relationship between Internet apparel buyers' risk-reduction strategies and selected demographic characteristics.

#### 2. Measurement

A questionnaire was developed using scales from previous research<sup>7(27)(30)(34)(36)</sup>. The survey

instrument included perceived risk, risk-reduction strategies, Internet skills, Internet apparel shopping behavior, and demographic characteristics.

Based on the previous research in perceived risk question, 12 items were developed to measure Internet users' perceived risks associated with Internet apparel shopping. Apparel-related, economic, performance, social, privacy, and customer service-related risks were measured by 2 statements each. Respondents were asked to indicate their answers on a five-point scale, with 1=strongly disagree, and 5=strongly agree. Twenty items were developed to measure Internet purchasers' risk-reduction strategies when they shop apparel items from the Internet retailers based on the previous research<sup>6(7)(23)(38)(39)</sup>.

Three items for Internet shopping skills were developed, based on the previous research in Internet shopping. Respondents were also asked to indicate their answers on a five-point scale, with 1=strongly disagree, and 5=strongly agree. With regard to Internet apparel shopping behavior, respondents were asked to indicate their frequency of Internet apparel purchasing or browsing within the previous six months, and their intention to purchase apparel items from the Internet retailers within the following six months. Age, sex, household income, education, employment, marital status were included in demographic characteristics section of the questionnaire.

A pilot test was conducted with students at a major university to test the survey questionnaire. Based on the results of this pilot test, the questionnaire was refined. Then the Internet survey questionnaire was developed and

administered to the Internet users.

### **3. Sampling**

The data were collected via an online survey. Internet users who agreed to participate in this research could access to the survey site. A total of 4,254 Internet users participated in this survey, and among these Internet users, 1,146 respondents had previous shopping experience in Internet shopping. Based on the responses of questions concerning their apparel browsing and purchasing experience, Internet apparel browser group and purchaser group were identified. Within this group, 195 indicated that they had browsed in order to seek information in Internet apparel stores, but had not purchased apparel items from the Internet. A total of 589 participants indicated that they had purchased apparel. The characteristics of the sample are shown in (Table 1).

### **4. Data Analysis**

The Statistical Package for the Social Sciences (SPSS) was used to analyze the data. Descriptive statistics were used to determine the characteristics of the sample. Differences among the Internet shopper groups were examined relative to frequency of perceived risks, risk-reduction strategies, Internet skills, purchasing behavior, and demographic characteristics using an analysis of variance and t-tests.

## **IV. Results and Discussion**

### **1. Risks Perceived by Internet Apparel Shopper Groups**

The first research question identified the types of risk perceived by Internet shoppers. For the analysis, the sample (Internet users who have purchased merchandise via the Internet) was grouped into four categories based on their information searching and purchasing experiences of apparel: 1) apparel no-interest shoppers (Internet users who have not searched for information on apparel or who have not purchased apparel items via the Internet); 2) apparel information seekers (Internet users who have searched for apparel information on the Internet, but who have never purchased apparel items via the Internet); 3) moderate apparel purchasers (Internet users who have searched for apparel information on the Internet and who have purchased apparel items via the Internet less than three times in the previous six months); and 4) and heavy apparel purchasers (Internet users who have searched for apparel information on the Internet and who have purchased apparel items via the Internet three times or more in the previous six months).

〈Table 1〉 Characteristics of respondents

Characteristics		Apparel purchasers (n=589)	Apparel information seekers (n=195)	Apparel no-interest shoppers (n=362)
Sex	male	393 (66.7)	131(67.2)	276 (76.2)
	female	296 (33.3)	64 (32.8)	86 (23.8)
Age	20–25	87 (14.8)	28 (14.4)	44 (10.5)
	26–30	128 (21.7)	40 (20.5)	76 (21.0))
	31–35	180 (30.6)	59 (30.3)	113 (31.2)
	36–40	104 (17.7)	44 (22.6)	73 (20.2)
	above 41	86 (15.3)	24 (12.3)	62 (17.1)
Income/ allowance (10,000won)	less than 21	61 (10.4)	20 (10.4)	30 (8.5)
	21–50	63 (10.7)	17 (8.7)	42 (11.6)
	51–100	75 (12.7)	24 (12.3)	29 (8.0)
	101–150	78 (13.2)	30 (15.4)	50 (13.8)
	151–200	109 (18.5)	38 (19.5)	78 (21.5)
	201–300	123 (21.1)	41 (21.0)	75 (20.7)
	301 and over	88 (14.9)	23 (11.8)	47 (13.0)
education	high school or less	166 (29.2)	49 (25.1)	96 (26.5)
	2-year college degree	103 (17.5)	38 (19.5)	51 (14.1)
	college degree	295 (50.1)	89 (45.6)	192 (53.0)
	graduate degree	25 (4.2)	19 (9.7)	23 (6.4)
occupation	student	59 (10.0)	21 (10.8)	33 (9.1)
	white collar	238 (40.4)	76 (39.0)	157 (43.4)
	professional	84 (14.3)	31 (15.9)	62 (17.1)
	housewife	67 (11.4)	26 (13.3)	35 (9.7)
	service	49 (8.3)	17 (8.7)	19 (5.2)
	etc.	92 (15.6)	24 (12.3)	56 (15.5)



**〈Table 2〉 Perceived risk by different Internet apparel shopper type**

Types of risk	Group means				
	No-interest shoppers (n=362)	Information seekers (n=195)	Moderate purchasers (n=395)	Heavy purchasers (n=194)	F
Apparel related	7.09a	7.43ab	7.50b	7.39ab	5.17**
Financial	6.68	6.86	6.82	6.90	1.356
Performance	7.20a	7.52ab	7.65b	7.71b	16.56**
Social	6.20	6.11	6.12	6.05	0.74
Privacy	7.09a	7.34ab	7.46ab	7.48b	4.39*
Customer service	6.81	6.91	6.96	6.91	0.61

\* $p < .05$ , \*\*  $p < .001$

As shown in the 〈table 2〉, Internet purchasers tend to perceive more apparel-related, performance, and privacy risks than others. The results indicate that these four groups were significantly different in perceived apparel related, performance, and privacy risks.

F value for apparel-related risk was significant at the  $p < .001$  level, and Scheffe's tests revealed that compared to no-interest shoppers, moderate apparel purchasers tended to perceive higher apparel-related risk. Unlike Forsythe & Shi<sup>(40)</sup> research, which had found that Internet apparel information seekers perceived more financial, time/convenience, and psychological risks than did Internet shoppers, moderate Internet apparel purchasers perceived higher apparel-related risk than apparel no-interest shoppers in this study.

The F value for performance risk was significant at the  $p < .001$  level. Scheffe's tests purchasers perceived higher performance risk. These findings do not support previous research<sup>(40)</sup>.

For apparel items, Internet users with experience in purchasing items via the Internet tend to know what the actual problems are in buying over the Internet, while others do not know the actual problems, nor do they pay much attention to them.

## **2. Risk-reduction Strategies Used by Internet Apparel Shopper Groups**

The second research question identified and compared Internet users' opinions of risk-reduction strategies used when they shop for apparel items via the Internet. Internet users prefer to buy items with detailed product information and tend to check the return policy in order to reduce risks when they shop for apparel online. For apparel no-interest shoppers, checking return policies was the most preferred risk-reduction strategy, followed by using a well-known online shop, buying items with detailed product information (e.g., size),

using authorized Internet shops, checking Internet shops' privacy and security policies. For apparel information seekers, using a well-known online shop was the most preferred risk-reduction strategy, followed by buying items with detailed product information, checking the return policy, using other sites to compare prices and merchandise, and buying items which do not need to be tried on. For moderate apparel purchasers, checking the return policy was also the most preferred risk-reduction strategy, followed by using well-known online shops, buying items with detailed product information (e.g., size), using other sites to compare prices and the merchandise, and using authorized Internet shops. For heavy apparel purchasers, buying items with detailed product information (e.g., size) was the most preferred risk-reduction strategy, followed by using other sites to compare prices and merchandise, checking the return policy, buying free delivery items, and checking the Internet shop's privacy and security policies.

The results indicate that these four groups were significantly different in their opinions of risk-reduction strategies (see Table 3). In general, the non-buyer apparel group was significantly different from the heavy apparel purchasers. The F value for the "buy items with detailed product information" strategy was significant at the  $p < .001$  level. Scheffe's tests revealed that compared to no-interest shoppers, the Internet apparel information seekers, moderate Internet apparel purchasers and heavy Internet apparel purchasers were more likely to prefer buying items with detailed product information. This detailed information is presented in (Table 3).

### 3. Perceived Risk and Consumers' Characteristics

The third research question investigated the relationship between perceived Internet apparel risk and selected demographic characteristics. In this part, the purpose was to determine whether or not the perceived risk concept was relevant for all consumer groups, especially with respect to age and gender. Based on the respondents' ages, they were grouped into five categories: 20–25 years; 26–30 years; 31–35 years; 35–45 years; and a 46+ year category.

The indicate that these five groups were significantly different in terms of perceived performance and customer service risks. The older age group (46+) perceived considerably more performance and customer service risks than did the other age groups. The results also indicate that these five groups were significantly different with respect to their opinions of risk-reduction strategies. For detailed information, see (Table 4).

The results also indicate that there were significant differences in the respondents' risk perceptions with respect to sex. Female respondents perceived considerably more apparel-related, financial, performance, privacy, and customer service-related risks than did male respondents. Detailed information is presented in (Table 5).

〈Table 3〉 Risk–reduction strategies by different internet apparel shopper types

Risk–reduction strategies	Group means				
	No–interest shoppers (n=362)	Information seekers (n=195)	Moderate purchasers (n=395)	Heavy purchasers (n=194)	F
Buy the item from the brand I bought before	3.12	3.16	3.15	3.15	0.21
Get information online; purchase product offline	3.10a	3.13a	3.03ab	2.88b	4.26**
Buy well–known brand item	2.93	3.00	2.91	2.92	.516
Buy low–price item	3.25	3.30	3.29	3.36	0.99
Use a well–known online shop	3.46a	3.61ab	3.67b	3.57ab	4.767**
Use shopping mall with express delivery service	3.35a	3.45ab	3.54b	3.56b	5.55***
Buy items which I do not need to try on	3.30a	3.51b	3.55b	3.53b	8.61***
Use Internet shops which my friends have used before	3.28	3.44	3.45	3.38	3.71**
Use safer transaction methods (e–ticker, e–cash)	3.14ab	3.04a	3.13ab	3.31b	3.21*
Use Internet shops recommended by the press	3.08	3.10	3.13	3.09	0.32
Buy sale items	3.19a	3.28ab	3.29ab	3.46b	5.35**
Provide the minimum personal information to Internet stores	3.38a	3.47ab	3.55ab	3.62b	5.91***
Buy items with detailed product information (e.g., size)	3.44a	3.59ab	3.66bc	3.77c	11.57***
Use other sites to compare the price and merchandise	3.36a	3.55ab	3.60b	3.72b	10.40***
Use authorized Internet shops	3.43a	3.52ab	3.61b	3.66b	5.70***
Buy items after reading other shopper' comments on that merchandise	3.26a	3.41ab	3.48b	3.61b	8.27***
Check the return policy	3.48a	3.56ab	3.67b	3.72b	5.83***
Buy free delivery items	3.32a	3.36a	3.47ab	3.66b	8.34***
Check information about the company and customer service number	3.33a	3.42ab	3.43ab	3.59b	4.37**
Check the Internet shop's privacy and security policies	3.40a	3.53ab	3.49ab	3.63b	3.73**

\* p&lt;.05, \*\* p&lt;.01, \*\*\* p&lt;.001

〈Table 4〉 Perceived risks and risk-reduction strategies by age groups

	Age(Group Means)					
	20-25 (n=153)	26-30 (n=244)	31-35 (n=352)	36-45 (n=318)	46+ (n=79)	F
<i>Types of risk</i>						
Apparel related	7.25	7.30	7.39	7.41	7.51	1.02
Financial	6.70	6.75	6.78	6.83	6.97	0.99
Performance	7.38a	7.41a	7.46a	7.55a	7.88b	3.49**
Social	6.03	6.07	6.11	6.21	6.30	1.13
Privacy	7.22	7.31	7.34	7.37	7.42	0.43
Customer service	6.71a	6.90ab	6.92ab	6.97ab	7.15b	2.46*
<i>Risk-reduction strategies</i>						
Use safer transaction methods	3.05a	3.12a	3.18ab	3.22ab	3.34b	3.17*
Buy sale items	3.50a	3.50a	3.54a	3.56a	3.73b	2.53*
Buy items after reading other shoppers' comments on that merchandise	3.22a	3.33ab	3.42bc	3.57cd	3.65d	9.77***
Check information about the company and customer service number	3.27a	3.38ab	3.40ab	3.43ab	3.52b	2.54*

\*p&lt;.05, \*\* p&lt;.01, \*\*\*p&lt;.001

〈Table 5〉 Perceived risk and risk-reduction strategies by sex

	Age(Group Means)		
	Male (n=800)	Female (n=346)	t-value
<i>Types of risk</i>			
Apparel related	7.24	7.59	-3.65*
Financial	6.71	7.00	-3.34*
Performance	7.38	7.77	-4.07*
Social	6.11	6.19	-0.93
Privacy	7.22	7.57	-3.52*
Customer service	6.81	7.12	-3.28*
<i>Risk-reduction strategies</i>			
Buy the item from the brand I bought before	3.17	3.05	2.48*
Buy well-known brand item	2.97	2.84	2.48*
Buy items which I do not need to try on	3.42	3.54	-2.50*
Use Internet shops which my friends have used before	3.36	3.45	-2.00*
Buy items with detailed product information	3.56	3.68	-2.55*
Buy items after reading other shoppers' comments on that merchandise	3.34	3.61	-5.02***
Buy free delivery items	3.39	3.54	-2.97**

\*p&lt;.05, \*\* p&lt;.01, \*\*\*p&lt;.001

## V. Conclusion

It is evident that the Internet provides a different shopping environment to shoppers, compared to traditional retail stores. This study contributes to the understanding of Internet apparel shoppers and their shopping behavior by providing information regarding various types of Internet shoppers' risk perceptions and their risk-reduction strategies.

Internet purchasers tend to perceive more apparel-related, performance, and privacy risks than others, which is consistent with the results of a previous study<sup>2)</sup>. Cho and colleagues<sup>2)</sup> found that Internet users tend to perceive more privacy and fit-related risks when they shop for apparel items from Internet retailers. However, while Hong<sup>3)</sup> found that consumers with more shopping experience were less likely to perceive risk, heavy Internet apparel purchasers were more likely to perceive risk than were the other groups. Consumers who had purchased apparel items perceived considerably more risks in Internet apparel shopping than did Internet apparel information seekers or no-interest shoppers of apparel.

It appears that Internet apparel purchasers know the risks associated with buying apparel merchandise; since they are interested in buying apparel online, they may pay more attention to the actual risks involved in buying over the Internet. On the other hand, Internet users who had not purchased apparel items before did not have much interest in purchasing apparel items over the Internet. The findings of this research suggest that Internet apparel shoppers were significantly different in their opinions of risk-reduction strategies, based on their Internet

shopping experiences. Checking the return policy was the most preferred risk-reduction strategy for apparel no-interest shoppers. On the other hand, heavy Internet apparel purchasers preferred to buy items with detailed product information, such as color, size, and fiber content.

In terms of demographics, the older age group (46+) perceived considerably more performance and customer service risks than did the other age groups of consumers. Additionally, the results show that the female respondents perceived greater apparel-related, financial, performance, privacy, and customer service-related risks than did the male respondents. This result also supports previous research<sup>2)3)41)</sup> findings that females tend to perceive more risks than do males in purchasing merchandise over the Internet. Compared to males, "having a site recommended by a friend" led to greater risk-reduction and more willingness to buy online among females<sup>41)</sup>.

It is important for Internet retailers to understand their consumers' characteristics and their behavior in order to meet their customers' needs and wants. The information presented in this study provides Internet retailers with a clearer and more detailed idea of their target consumers: what their perceived risks are in using Internet apparel shops, and how they deal with those risks. Based on the above information, Internet retailers may want to develop marketing strategies in order to address consumers' perceived risks better.

In this study, more than 74% of the respondents were male. Although the sizes of male and female respondents in this study are large enough for the statistical analyses, the

results of this research need to be interpreted with caution. Additional research is needed in order to identify additional influencing factors on Internet apparel consumer behaviors. Cross-cultural studies investigating perceived risks and risk-reduction strategies for buying online are also recommended.

## References

- 1) National Statistics (2004). *Cyber Shopping Mall Survey*. Retrieved June, 15, 2005, from [www.nso.go.kr](http://www.nso.go.kr)
- 2) Cho, Y., Lim, S., & Lee, S. (2001). Journal of the Korean Society of Clothing and Textiles. *Journal of the Korean Society of Clothing and Textiles*, 25(7), 1247-1257.
- 3) Hong, K. (2004). The influence of consumers: purchase experience and technology readiness on risk perception and satisfaction in Internet clothing shopping. *Journal of Korea Society of Clothing Industry*, 6(1), 93-101.
- 4) Han, P. & Maclaurin, A. (2002). Do consumers really care about online privacy? *Marketing Management*, 11(1), 35-38.
- 5) Cohen, F. (2000). Revisiting risk. *Network security*, 10, 17-18.
- 6) Akaah, J., & Korgaonkar, P. A. (1998). A conjoint investigation of the relative importance of risk reliever in direct marketing. *Journal of Advertising Research*, 28(4), 38-44.
- 7) Roselius, T. (1971). consumer rankings of risk-reduction methods. *Journal of Marketing*, 35, 56-61.
- 8) Shimp, T. A. & Bearden, W. O. (1982). Warranty and other extrinsic cue effects on consumers' risk perceptions. *Journal of Consumer Research*, 9, 38-46.
- 9) Innis, D. E. & Unnava, H. R. (1991). The usefulness of product warranties for reputable and new brands. *Advances in Consumer Research*, 18, 317-322.
- 10) Boulding, W. & Kirmani, A. (1993). A consumer-side experimental examination of signalling theory: do consumers perceive warranties as signals of quality? *Journal of Consumer Research*, 10, 111-123.
- 11) Maigan, I. & Lukas, B. A. (1997). The nature and social uses of the Internet: A qualitative investigation. *Journal of Consumer Affairs*, 31(2), 346-71.
- 12) Peterson, R. A. (1997). Electronic marketing: Visions, definitions, and implications. In R. A. Peterson (Ed). *Electronic Marketing and the Consumer*. CA: Sage, p.1-16.
- 13) Rosen, K. T., & Howard, A. L. (2000). E-retail: Gold rush or fool's gold? *California Management Review*, 42(3), 72-100.
- 14) Lohse, G., & Spiller, P. (1999). Internet retail store design: how the user interface influences traffic and sales. *Journal of Computer-Mediated Communications*, 5(2). Retrieved June 1, 2005, from <http://www.ascusc.org/jcmc/vol5/issue2/lohse.htm>
- 15) Szymanski, D. M. & Hise, R. T. (2000). E-satisfaction: and initial examination. *Journal of Retailing*, 76(3), 309-322.
- 16) Bloch, P. H., Sherrell, D. L., Ridgway, N. M. (1986). Consumer search: an extended framework. *Journal of Consumer Research*, 13, 119-126.
- 17) Bellenger, D. N. & Korgaonkar, P. K. (1980). Profiling the recreational shopper. *Journal of*

- Retailing*, 56(3), 77–92.
- 18) Bloch, P. H., & Richins, M. L. (1983). Shopping without purchase: An investigation of consumer browsing behavior. In R. Bagozzi & A. Tybout (Eds.), *Advances in Consumer Research* (pp.389–393). Ann Arbor, MI: Association for Consumer Research.
  - 19) Jarboe, G. R., & Mcdaniel, C. D. (1987). A profile of browsers in regional shopping mall. *Journal of the Academy of Marketing Science*, 15(1), 46–53.
  - 20) Bauer, R. A. (1960). Consumer behavior as risk taking. In Cox, D. F. (Ed.) *Risk Taking and Information Handling in Consumer Behavior*, Boston: Harvard University Press.
  - 21) Cox, D. F., & Rich, S. J.(1967). Perceived risk and consumer decision making. *Journal of Marketing Research*, 1, 32–39.
  - 22) Engel J. F. & Blackwell, R. D. (1970). Perceived risk in mail–order and retail store buying. *Journal of Marketing Research*, 364–369.
  - 23) Tan, S. J. (1999). Strategies for reducing consumers' risk aversion in Internet shopping. *Journal of Consumer Marketing*, 16(2), 163–80.
  - 24) Donthu, N. & Garcia, A. (1999). The Internet shopper. *Journal of Advertising Research*, 39(3), 52–58.
  - 25) Maney, K., & Dugas, C. (1997). On–line shopping is hard to sell. *USA today*, B–2B.
  - 26) Murphy, P. A. (1997, July). New security standard protects on–line credit purchases. *Stores*, 81–82.
  - 27) Jarvenpaa, S. L. & Todd, P. A. (1996). Consumer reactions to electronic shopping on the World Wide Web. *International Journal of Electronic Commerce*, 1(2), 59–88.
  - 28) Salkin, S. (1999). Fear of buying. *Logistics Management and Distribution Report*, 38(5), 101.
  - 29) Jones, J. M. & Carlson, D. K. (2001). Majority of e–mail users express concern about Internet privacy. Gallup Poll, available at: [www.gallup.com/poll/releases/pr010628.asp](http://www.gallup.com/poll/releases/pr010628.asp)
  - 30) Jacoby, J., & Kaplan, L.B. (1972). The components of perceived risk. *Annual Conference of the Association for Consumer Research*, 382–393.
  - 31) Peter, J. P. & Tarpey, L. A. (1975). A comparative analysis of three consumers decision strategies. *Journal of Consumer Research*, 2, 29–37.
  - 32) Garner, S. J. (1986) Perceived risk and information sources in services purchasing. *Mid–Atlantic Journal of Business*, 24, 49–58.
  - 33) Mitchell, V. W. (1992). Understanding consumers: behavior: can perceived risk theory help? *Management Decision*, 30, 26–31.
  - 34) Simpson, L., & Laker, H. B. (1993). Perceived risk and mail order shopping phenomenon? *Journal of Consumer Studies and Home Economics*, 17, 377–98.
  - 35) Hoffman, D. L., Novak, T. P., & Peralta, M. (1999). Building consumer trust online. *Communications of the ACM*, 42(4), 80–85.
  - 36) Nyshadham, E. A. (2000). Privacy policies of air travel web sites: a survey and analysis. *Journal of Air transport Management*, 67, 143–152.
  - 37) Hawes, J. M. & Lumpkin, J. R. (1986). Perceived risk and the selection of a retail patronage mode. *Journal of the Academy of Marketing Science*, 14 (Winter), 37–42.

- 38) Van den Poel, D. & Leunis, J. (1999). Perceived risk and risk-reduction strategies in mail-order versus retail store buying. *The International Review of Retail, Distribution, and Consumer Behavior*, 6(4), 351-71.
- 39) Cases, A. (2002). Perceived risk and risk reduction strategies in Internet shopping. *International Review of Retail, Distribution, and Consumer Research*, 12(4), 375-394.
- 40) Forsythe, S. M. & Shi, B. (2003). Consumer patronage and risk perceptions in Internet shopping. *Journal of Business Research*, 56, 867-875.
- 41) Garbarino, E., & Strahilevitz (2004). Gender differences in the perceived risk of buying online and the effects of receiving a site recommendation. *Journal of Business Research*, 57, 768-775.

---

Received 19 April 2005, Accepted 24 June 2005.