THE IMPACT OF ONLINE SHOPPING EXPERIENCE ON RISK PERCEPTIONS AND ONLINE PURCHASE INTENTIONS: DOES PRODUCT CATEGORY MATTER?

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ABSTRACT

The purpose of this study is to examine the influence of online shopping experience on perception of specific types of risks associated with online shopping and how each type of risk perceptions influences online purchase intentions. A conceptual model was proposed to illustrate the relationships between online shopping experience and perceptions of product, financial, and privacy risks associated with online shopping, and how both experience and risk perceptions impact online purchase intentions. The results indicate that online shopping experience is a strong positive predictor of online shoppers' purchase intentions for the two product categories (i.e. non-digital and digital products) examined. Online shopping experience is negatively related to perceptions of product and financial risks associated with online shopping regardless of product category; but only reduce privacy risk associated with shopping non-digital products online. Interestingly, although both product and financial risks are negatively related to online purchase intentions for non-digital and marginally for digital product, privacy risk perception is not related to online shopping intentions for either of the product categories. Findings are discussed with theoretical and managerial implications.

Keywords: Online Purchase Intentions; Perceived Risk; Experience; Product Category

1. Introduction

Despite the growing population of online shoppers, fifty-eight percent of Internet users describe online shopping as a frustrating, confusing, and overwhelming activity [Horrigan 2008]. In addition, high abandonment rate of online transactions continues to be a concern. Past research has found that a major inhibitor of online shopping is the uncertainty [Liang and Huang 1998], or perceived risk associated with online purchasing [Egeln and Joseph 2012; Eggert 2006; Miyazaki and Fernandez 2001]. We argue that the uncertainty associated with online shopping represents not only a challenge but also an opportunity to online retailers if a better understanding of the relationship between risk perceptions and online purchase intentions is warranted.

Perceived risk is defined as the degree to which a person expresses uncertainty about a service or good and particularly, the consequence [Bauer 1960]. Perceived risks associated with online shopping negatively influence online purchase intention and behavior [Bhatnagar and Ghose 2004; Doolin et al. 2005; Drennan et al. 2006; Forsythe and Shi 2003; Kuhlmeier and Knight 2005; Slyke et al. 2004]. Some researchers examine the impact of various risks associated with online shopping on online shoppers' decision-making by treating perceived risk as one unidimensional construct [e.g., Pires et al. 2004]. In contrast, others argue that perceived risk associated with online shopping is multifaceted with one of its components (i.e., uncertainty and consequences) having several subdimensions (product or performance, financial, social, psychological, physical or convenience) [Zheng et al. 2012]. Past research has identified these sub-dimensions and provided empirical evidence of their influences on online purchase intentions and behaviors [Forsythe and Shi 2003; Garbarino and Strahilevitz 2004]. Yet, there is

little consensus regarding the impact of specific types of risk perceptions on online purchase intentions. A survey of extant literature on perceived risk influence on online shopping indicates that conclusive evidence is lacking with respect to the type of risk exerting varied impact on online purchase decisions. For example, Forsythe and Shi [2003] found that while perceived financial risk is a strong predictor of online searching and purchasing frequencies, perceived product risk impacts only the online purchasing frequency. While some researchers argue that privacy concerns do not significantly influence shoppers' Internet shopping intentions [e.g., Forsythe and Shi 2003] and thus, do not serve as an important predictor of intentions to purchase online and the amount of money spent online [e.g., Bellman et al. 1999], others have found that privacy risk (as a dimension of composite risk associated with online shopping) frequently deters shoppers from shopping online and spending significant amounts online [e.g., Doolin et al. 2005].

Moreover, other factors such as online shopping experience and product category have yet to be examined as they may also impact specific dimensions of perceived risk and thus influence online purchase intentions [Zhou et al. 2007]. First, shoppers have accumulated more online experience over the past decade, and thus may hold different holistic views of online shopping including risk perceptions. Examining how online shopping experience impacts risk perceptions associated with online shopping not only expands the understanding of the role of risk perceptions on online shopping but also provides meaningful implications for marketers to develop corresponding strategies to counter the impact of risk perceptions that are adversely associated online shopping.

In addition, we postulate that the dependence on different information sources (e.g., search vs. experience) for different product categories in traditional shopping channels also exists in the online shopping context. Past research has established that, depending on the product category being purchased, shoppers tend to rely on different information sources to make purchase decisions in traditional shopping environment (e.g. brick-and-mortar stores) [Nelson 1970]. However, extant research on online shopping has overlooked the differentiating effect of product category on shoppers' risk perceptions. More importantly, valid product categorization scheme (e.g., search vs. experience) in traditional retail setting may not readily apply to the online setting. Although some products (e.g., apparel) have inherent risks when purchased online, published research has failed to, with the exception of Biswas and Biswas [2004], provide convincing evidence as to how online shoppers' risk perceptions vary by product category or how specific risk perceptions influence online purchase intentions for various product types [c.f., Doherty and Ellis-Chadwick 2006].

Therefore, the purpose of this study is to: (1) examine the influence of online shopping experience on perceptions of three types of risks (i.e., product, financial and privacy risks) associated with online shopping, which in turn affect online purchase intentions; (2) investigate whether online shopping experience exerts a direct influence on online purchase intentions, circumventing the mediation of the three specific types of perceived risks; and (3) explore whether the above relationships differ between two product categories: digital vs. non-digital products. The findings extend our knowledge of the specific risk perceptions that impact online purchase intentions for different product categories and the role of online shopping experience in mitigating the formation of those risk perceptions. More importantly, findings from this study provide insights regarding how online shopping experience impacts online purchase intentions for different product categories (e.g., reducing perceptions of specific risks or directly enhancing online shopping experience).

2. Theoretical Background

2.1. Perceived risks

Shopping has long been regarded as a risky activity as shoppers may be uncertain of a purchase decision and the consequences of a poor decision [Bauer 1960]. In the online shopping context, the level of perceived risk may be magnified due to limited physical access to products and sales personnel [Forsythe and Shi 2003; Park and Stoel 2005], thereby discouraging shoppers from purchasing via the Internet [Alreck and Settle 2002; Forsythe & Shi 2003; Garbarino and Strahilevitz 2004]. Yet, there is a lack of consensus regarding the identification of and relative impact of dimensions of perceived risk among studies regarding online shopping. Although there are different views regarding the conceptualization of perceived risk (i.e., two components with subdimensions vs. unidimensional concept), the present study follows Bauer's [1960] perspective by recognizing multiple dimensions of perceived risk associated with online shopping.

Results of previous studies demonstrate little consensus with respect to the relative strength of the various types of risk on purchase intentions. Bhatnagar and Ghose [2004] argued that product risk has the most significant negative impact on shoppers' online purchase intentions. However, Eggert [2006] found that compared to product risk, perceptions of privacy risk have greater impact on willingness to purchase on the Internet. To identify the most relevant risk dimension(s) that affects online shopping, researchers have turned to perceived risk dimensions identified in the traditional brick-and-mortar context. Among all relevant risk dimensions associated with shopping

in general identified in traditional channels [Jacoby and Kaplan 1972; Peter and Tarpey 1975], product and financial risks have shown significant negative influences on shoppers' Internet purchase intentions [Bhatnagar and Ghose 2004; Lu et al. 2005]. In addition, although not one of the risk sub-dimensions identified in traditional channels, privacy risk has received growing attention as market research shows that 75 percent online shoppers report considerable concerns regarding the security of their personal and credit card information they have to provide in order to complete online transactions [Horrigan 2008]. Thus, this study examines the influence of product risk, financial risk, and privacy risk on shoppers' online purchase intentions for two product categories: digital products such as music CDs and downloadable MP3 files and non-digital products such as apparel.

Product risk, or performance risk is defined as the probability of the item failing to meet the performance requirements originally intended [Peter and Tarpey 1975]. Product risk has been reported as the most frequently cited reason for not shopping online. For example, product risk was found to have significant impact on the frequency of purchasing online [Forsythe and Shi 2003]. A relatively high level of product risk is expected when being purchased online, particularly for some product categories, due to shoppers' inability to physically examine and test product attributes online [Alreck and Settle 2002; Garbarino and Strahilevitz 2004], suggesting that risks associated with product uncertainty are likely to negatively affect online purchase intentions – at least for some products [c.f., Bhatnagar et al. 2000]. For instance, shoppers perceive a higher level of product risk for apparel when purchasing online as opposed to when purchasing in traditional stores [Goldsmith and Goldsmith 2002].

H1: Product risk is negatively associated with online shopping intentions.

Financial risk is defined as the likelihood of suffering a monetary loss from a purchase [Horton 1984; Jacoby and Kaplan 1972; Peter and Tarpey 1975; Sweeney et al. 1999]. There are different reasons why online shoppers may suffer monetary loss when shopping online. First, it is hard for online shoppers to determine whether the price of the item purchased at a particular online retailer is the lowest available compared to others. Perception of such financial risk explains why online shoppers abandon carts [Egeln and Joseph 2012]. Second, financial losses may occur due to credit card fraud, which is a primary financial concern among online shoppers. In addition, Caterinicchia [2005] reports shoppers' concerns regarding financial loss if products purchased online fail to perform as expected. Furthermore, shoppers may be reluctant to purchase products online due to other costs such as shipping. Overall, financial risk has been negatively associated with online shopping [Bhatnager et al. 2000; Chang et al. 2005; Forsythe et al. 2006] and is found to be a strong predictor of shoppers' online shopping intentions [Bhatnager et al. 2000] and behaviors such as tendency to abandon online shopping carts, purchase frequency, amount spent online, and frequency of searching with intent to buy [Egeln and Joseph 2012; Forsythe and Shi 2003].

H2: Financial risk is negatively associated with online shopping intentions.

Privacy risk is defined as the probability of having personal information disclosed as a result of online transactions [Garbarino and Strahilevitz 2004; Maignan and Lukas 1997]. Despite the growing online sales volume, concerns regarding privacy remain high among many online shoppers [e.g., Drennan et al. 2006; Miyazaki and Fernandez 2001; Noort et al. 2008]. Chapell [2005] finds that more than 69 percent of US Internet shoppers limit their online purchases because of concerns related to the privacy and safety of their personal information. However, Forsythe and Shi [2003] find that although privacy concern was a frequently cited reason for not purchasing online, it does not significantly impact the frequency of purchasing online and searching with intent to buy. Thus, the effect of perceived privacy risk on purchase intention remains rather unclear. In this study, we postulate that online shoppers' perception of privacy risk will deter them from shopping online:

H3: Privacy risk is negatively associated with online shopping intentions.

2.2. Product category, online shopping experience, and perceived risks

Consumers tend to rely on different information sources to confirm product quality and enhance the likelihood of satisfaction when purchasing different types of products. They differ in their preferences for online and traditional outlets based on the varied importance associated with different product attributes [Levin et al. 2003 and 2005]. Thus, researchers propose that online products can be categorized by whether their dominant product attributes are digital or non-digital [Biswas and Biswas 2004; Lal and Sarvary 1999]. Digital products, defined as "all product attributes can be communicated through the Internet" [Lal and Sarvary 1999, p. 487], have less inherent product risk in the online channel than non-digital products that may require physical inspection of the product [Lal and Sarvary 1999]. Levin et al. [2003 and 2005] find that consumers place greater value on the ability to touch and inspect apparel products and thus prefer traditional stores for apparel shopping. In contrast, consumers place greater value on immediate access to product related information when purchasing product such as computer software and therefore, prefer shopping online for digital products. In sum, shoppers may perceive a relatively high level of product risk associated with purchasing non-digital products (e.g., apparel), as opposed to digital products (e.g., MP3 files) online. Shoppers feel greater product risk for buying apparel products online due to: (1) the inability to fully examine apparel products' attributes online, and (2) substantial variations in the characteristics of apparel

products (e.g., sizing, color, style, fabric). Biswas and Biswas [2004] also find that consumers report more concerns with purchasing products abundant with non-digital attributes online than in a store. The inconclusive findings regarding impact of specific perceived risk dimensions on online purchase intentions and behaviors may be explained by previous research failure to account for the effect of product category. In sum, there are limited empirical findings regarding whether online shoppers' risk perceptions vary between digital and non-digital products.

Festervand et al. [1986] found that previous experience via a given shopping channel is negatively related to perceived risks associated with future purchase in that channel. If extending this finding to the online shopping context, online shopping experience should lead to a reduction in perceived risks associated with purchasing online and hence, greater online purchase intentions. Research shows that online shopping experience positively influences shoppers' perceptions of online shopping and intention to purchase online [Forsythe and Shi 2003; Kuhlmeier and Knight 2005] and that risk perceptions associated with online shopping decrease as online shopping experiences increase [Forsythe and Shi 2003, Pires et al. 2004]. However, unprecedentedly high concerns among current online shoppers over providing personal information to online retailers remain [Vijayan 2005]. Thus, a question exists as to whether it is possible that some types of risks, such as privacy risk, may increase as online shopping experience accumulates, whereas perceptions of other types of risk, such as product and financial risks decrease with online shopping experience.

H4a: Online shopping experience is negatively associated with perceived product risk.

H4b: Online shopping experience is negatively associated with perceived financial risk.

H4c: Online shopping experience is positively associated with perceived privacy risk.

H5: Overall, online shopping experience is positively associated with online shopping intentions.

We argue that the reduction in risk perceptions with increased online shopping experience is likely to be greater for non-digital products than digital products that have less risk initially. For example, although apparel products are inherently more difficult for shoppers to inspect online due to the substantial variation in products attributes, online apparel shopping experience is found to reduce perceptions of product risks associated with purchasing apparel online [Park and Stoel 2005]. Online shoppers with online apparel shopping experience may perceive purchasing apparel products online to be less risky than those with limited experience as they have become familiar with the online channel for apparel purchases and thus feel more confident about their ability to choose the right product online. On the other hand, more standardized digital products can be sufficiently evaluated online prior to purchase, and thus, online shoppers are likely to perceive a relatively lower level of product risk to begin with. For example, because digital products such as MP3 files can be assessed by examining technical specifications or through online trial, shoppers do not have to rely heavily on their past online shopping experience to gain confidence to buy the right product as they do when purchasing apparel products online. Even though previous experience may gradually reduce shoppers' perception of risks associated with online digital product shopping, it may not have an impact on product risk perception for digital products as it would for non-digital products.

Past research has found that online shoppers with more Internet related experience perceive less financial risk than those with less online experience [Miyazaki and Fernandez 2001]. Yet, more recent findings report that nearly 39 percent of US Internet users avoid online purchases due to potential financial loss [Chapell 2005]. Thus, the effect of online shopping experience on perceptions of financial risk remains unclear. Furthermore, it is not clear whether the relationship between online shopping experience and perceptions of financial risk varies by product category.

Forsythe and Shi [2003] found that shoppers with more online experience were less likely to perceive privacy risk; however, more recent online shopper surveys report that despite increased online expenditures, the level of perceived privacy risk has not diminished [Caterinicchia 2005; Horrigan 2008]. Increased media attention on issues such as the security of personal information provided due to online transactions may stir and contribute to sustained concerns over privacy among online shoppers. Furthermore, shoppers' perceptions of privacy risk may differ by product category, depending on the depth and sensitivity of the personal information required to complete an online purchase. For example, shoppers are typically required to provide more personal information such as home/delivery address, size, and personal preferences for styles and prices when purchasing apparel items than when purchasing MP3 files.

2.3. Conceptual model and research questions

In the conceptual model (see Figure 1), online shopping experience acts as the independent variable and influences online purchase intentions both directly and indirectly through its impact on perceptions of product, financial, and privacy risks associated with online shopping. The model identifies the unique contribution of each type of risk perception to online purchase intention and suggests a potential moderating effect of product category (apparel vs. music) on the relationships among the variables. By examining this model, we aim to answer the following three research questions:

1) What is the impact of online shopping experience on product, financial, and privacy risk perceptions associated with shopping non-digital vs. digital products?
2) How do all three types of risk perceptions influence online purchase intentions for non-digital vs. digital products?
3) Does previous online shopping experience exert a direct influence on consumers' online purchase intentions for non-digital vs. digital products without the mediation effect of perceived risks?

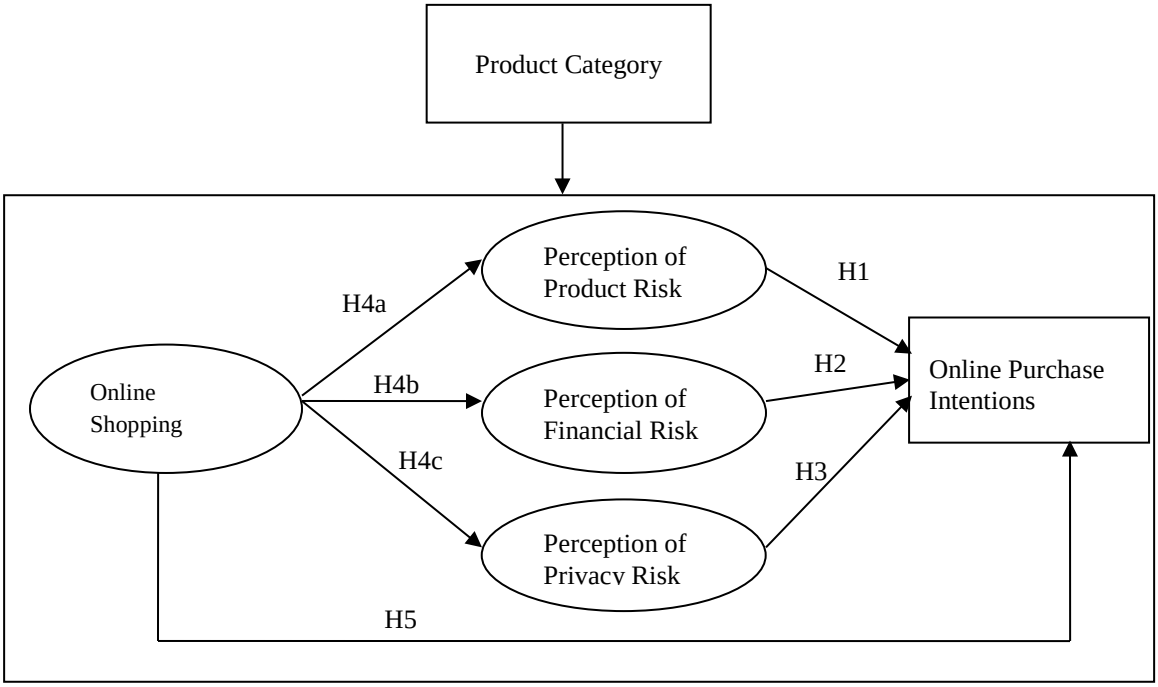

Figure 1: Conceptual Model

3. Method

An online survey was used to assess participants' online shopping experience, three types of risk perceptions, and online purchase intentions for non-digital (e.g. a denim jacket) and digital products (e.g. MP3 files).

3.1. Design and Instrument

A self-administered Web-based questionnaire was developed to measure participants' (1) online purchase experience, (2) perceptions of the three types of risks associated with online purchasing, (3) online purchase intention in the next six months, and (4) demographic characteristics. All items except for the demographic items were asked separately for apparel and music products. Previous online purchase experience was first measured by asking participants "How long have you been using the Internet to purchase apparel/music products?" Responses to both questions were later transformed to an interval scale for data analyses (1 = never, 2 = less than 1 year, 3 = 1-2 years, 4 = 3-4 years, 5 = 5-6 years, 6 = more than 6 years). Previous online shopping experience was also measured by asking participants how often they shop online for apparel and music products in the past six months on an interval scale where "1" stood for "Never", "2" for "1-2 time", "3" for "3-4 times", "4" for "5-6 times", "5" for "6-7 times" and "6" "more than 7 times" for both product categories. Finally, previous online shopping experience was measured by asking participants the approximate amount of money spent on Internet shopping for apparel and music products in the past six months on an interval scale where "1" stood for "$0-$100", "2" for "$101-$200", "3" for "$201-$300", "4" for "$301-$400", "5" for "$401-$500" and "6" stands for "more than $500" for apparel products; while "1" stands for "$0-$10", "2" for "$11-$20", "3" for "$21-$30", "4" for "$31-$40", "5" for "$41-$50" and "6" stands for "more than $50" for music files.

Scales used by Forsythe et al. [2006], Garbarino and Strahilevitz [2004], and Sweeney et al. [1999] were adapted to measure perceptions of product, financial, and privacy risks. Items were compiled to generate a pool of 17 items. The scale was reduced by first deleting repetitive items, and then further reduced to keep only items that are pertinent to both product categories for the purpose of product category comparison (see Table 1). All retained items reported a factor loading of .80 or greater. Participants were asked to rate their level of agreement with the nine statements reflecting three types of risk related to online shopping for apparel and music, using a 7-point Likert

scale (1 = strongly disagree, 7 = strongly agree). Online purchase intentions were measured by asking participants to rate how likely they were to use the Internet to purchase the focal product in the next six months using a 7-point Liker scale (1 = not at all, 7 = definitely). Demographic characteristics such as age, gender, ethnicity, school year, and academic curriculum were also collected.

3.2. Sample and procedures

A convenience sample of 2,500 college students at a Southeastern university was selected to solicit participation in the survey. College students are deemed as an appropriate target for sampling purpose because they are active online shoppers and are frequent buyers of the products used in this study.

Prior to the main survey, a pilot test of the questionnaire was conducted using a convenience sample of 40 college students. The pilot test respondents were instructed to complete the initial survey questionnaire online, record the time required spent on the survey, and provide feedback regarding the clarity of items and recommendations for revision. Minor revisions were made to the survey based on the feedback from pilot test. Finally, an invitation email with a hyperlink to the online questionnaire was sent to 2,500 randomly selected undergraduate students, asking them to participate in "a study to understand consumers' online shopping behaviors."

After the initial invitation and three follow-up reminder emails, a total of 336 students participated, resulting in a 13.4% response rate. The respondents were between 19 and 25 years old, with a median age of 22, representing the typical age of traditional college student population, but a relatively younger segment of the online shopper population. Among the 336 respondents, 60% were female. The majority of the respondents were Caucasian (63%), followed by African-American (23%), Hispanic (9%), and Asian (3%). Respondents' class standings were diverse including 16% freshmen, 25% sophomores, 38% juniors, and 21% seniors. They were from various academic programs across campus including business (22%), education (17%), engineering (23%), science (13%), liberal arts (14%), and other (11%). Only five of the respondents did not have previous online shopping experience for apparel (9.2%) and/or music (4.2%) products.

4. Results

4.1. Scale validity and reliability

The scale items for types of perceived risk were adapted from previous empirical studies and modified as a result of the pilot test. To examine the construct validity of the instrument, a principle components analysis with a varimax rotation was run on the nine items of risk perceptions for both apparel and music (see Table 1). A standardized factor loading greater than .6 was considered as an acceptable factor loading [Marsh and Hau 1999]. All items except for PFR1 (i.e., My credit card number may not be secure.) for the three types of perceived risks had a factor loading higher than .7 for the respective factor and did not have a factor loading greater than .4 on any other factors, illustrating acceptable levels of discriminant and convergent validity. The inter-item correlation matrix indicates that this particular item has a moderate correlation with an item measuring perceived privacy risk (i.e., PVR1. Online retailers may disclose my personal information (e.g. email address, mailing address) to other companies.). After comparing the output of factor analysis, we dropped item PFR1 which has a lower factor loading. Further, Cronbach's alphas for all three risk perception factors were higher than .80, indicating a high level of internal consistency of the scale items.

4.2. Results

To test the proposed conceptual model , we choose structural equation modeling because constructs examined in this study is conceptually correlated and a structural model defines variance covariance relations among latent constructs that can be evaluated with standardized path coefficients. Therefore, the hypothesized relationships were tested using the SEM procedure [Anderson and Gerbing 1988; Bagozzi and Yi 1988; Bentler and Chou 1987; Bollen 1989] with the maximum likelihood method. The results of the SEM analysis are presented in Figure 2 (music) and Figure 3 (apparel).

With respect to the measurement of the model, the global fit indices of the model [Bagozzi and Yi 1988; Hair et al., 2010] are at the boundaries of acceptable limits for both digital ($\chi 2$ (48) = 411.4, $p<.001$; $\chi 2$/df ration = 1.571; CFI = .964; NFI = .943; PCFI = .826, RMSEA = .077) and non-digital products ($\chi 2$ (48) = 465.892, $p<.001$; $\chi 2$/df ration = 1.939; CFI = .955; NFI = .913; PCFI = .749, RMSEA = .067) .

Table 1: Perceived risk dimensions reliability and validity tests

	Factor loadings (Apparel)			Factor loadings (Music)		
	Product risk	Financial risk	Privacy risk	Product risk	Financial risk	Privacy risk
PPR1. It is DIFFICULT for me to judge products' quality adequately	.903			.913		
PPR2. It is DIFFICULT for me to compare the quality of similar products.	.926			.925		
PPR3. The product purchased may NOT perform as expected.	.792			.879		
Cronbach's *alpha* = . 83/.91 (Apparel/Music); Variance explained = 38.0%/30.1% (Apparel/Music); Eigenvalue = 3.42/3.39 (Apparel/Music)						
PFR1. *My credit card number may NOT be secure.		.696			.654	
PFR2. I am concerned that I may NOT receive the item purchased.		.812			.797	
PFR3. I may buy the same product at a lower price from somewhere else.		.790			.854	
Cronbach's *alpha* = . 80/.86 (Apparel/Music); Variance explained = 24.1%/19.5% (Apparel/Music); Eigenvalue = 2.16/2.68 (Apparel/Music)						
PVR1. Online retailers may disclose my personal information (e.g. email address, mailing address) to other companies.			.792			.828
PVR 2. Online retailers may track my shopping habits and history purchases.			.954			.959
PVR 3. I may be contacted by online retailers (e.g. via email, phone calls, letters) without providing consent after the completion of transaction.			.936			.942
Cronbach's *alpha* = . 90/.92 (Apparel/Music); Variance explained = 14.1%/29.7% (Apparel/Music); Eigenvalue = 1.28/1.05 (Apparel/Music)						

* item dropped due to high correlation with items pertaining to other risk dimensions

Research question one addresses how previous online shopping experience influences the three types of risks associated with online shopping for digital vs. non-digital products. The results of SEM indicates that when shopping for non-digital products online, shoppers' previous online shopping experience with apparel products significantly reduces their perception of product (Υ = -.402, p < .001), financial (Υ = -.387, p < .001) risks associated with online apparel shopping, supporting hypotheses 4a and 4b. Hypothesis 4c postulates that with increase online shopping experience, shoppers will become more aware of the privacy concerns and thus perceive a higher level of privacy risk associate with shopping online. Interestingly, the SEM results indicates a significant relationship but in an opposite direction. Specifically, the influence of experience on shoppers' perception of privacy risk is also negative (Υ = -.150, p = 015), rejecting H4c. In other words, with increased online shopping experience, shoppers tend to perceive a lower level of privacy risk. With respect to online digital-product shopping, the results indicate a similar pattern: previous online shopping experience with music products has a significant negative influence on shoppers' perceptions of product (Υ = -.307, p < .001) and financial (Υ = -.269, p < .001) risks associated with online music shopping, supporting H4a and H4b. However, the impact of experience on privacy risk was not significant, rejecting H4c.

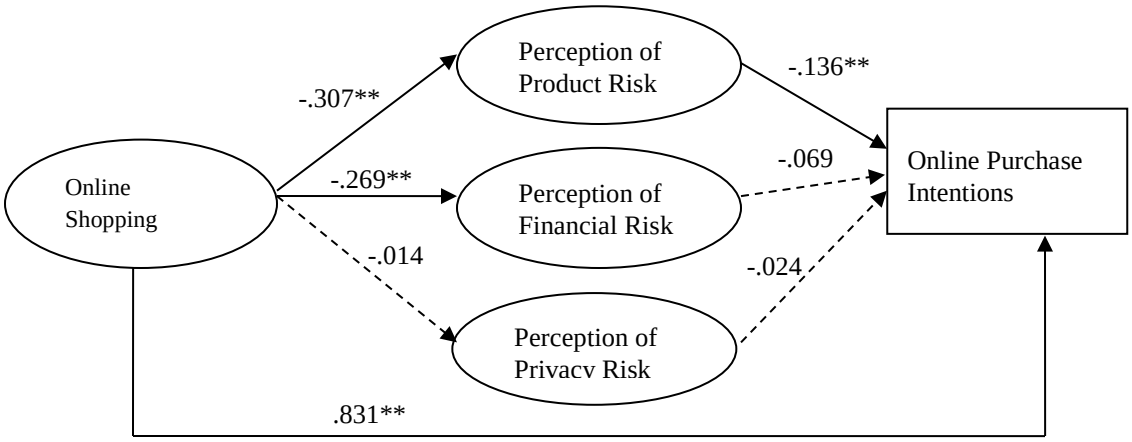

Figure 2. Results of Hypothesis Testing for MP3 files (Digital Products)
Note: ** relationship significant at p< .001; *relationship significant at p <.05

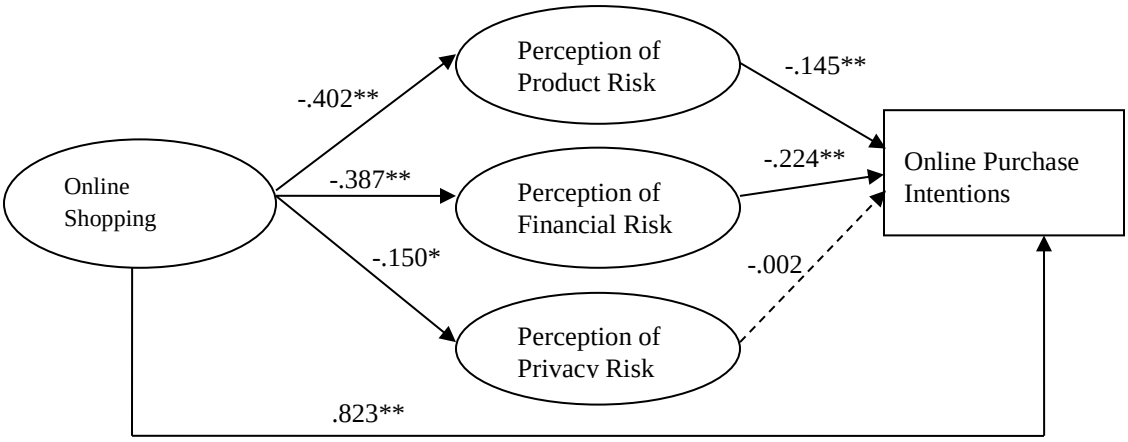

Figure 3. Results of Hypothesis Testing for Apparel (Non-digital Products)
Note: ** relationship significant at p< .001; *relationship significant at p <.05

Research question two addresses the influence of the three types of risk perceptions on consumers' purchase intentions. The results of SEM indicate that, for online non-digital products shopping, perceptions of product risk (ϒ = -.145, p < .001) and financial risk (ϒ = -.224, p < .001) negatively influenced respondents' online purchase intentions, supporting H1 and H2. However, perceived privacy risk does not impact shoppers' online purchase intention, rejecting H3. These findings provide support for the propositions of perceived risk theory that increased risk associated with a purchase will lead to decreased intention to engage in purchase activities.

For digital products, only product risk (ϒ = -.136, p < .001) has a significant negative influence on online purchase intentions, whereas financial risk (ϒ = -.069, *p=057*) has a marginal impact on online purchase intentions for digital products, supporting both H1 and H2. Similar to online non-digital products shopping, perceptions of privacy risk do not impact shoppers' intentions to purchase digital products online, rejecting H3.

Research question three addresses whether previous online shopping experience exerts a direct influence on online purchase intentions regardless of the presence of the three perceived risk dimensions examined in this study. Because the preceding analysis with respect to the impact of perceived privacy risk on online purchase intention fails to show significant relationship between these two construct, the subsequent mediation test only examines the perceived product and financial risks as mediators. The three-regression model approach recommended by [Baron and Kenny 1986] was used. First, a path between previous online shopping experience and purchase intentions is

modeled to test the former's direct impact on online purchase intentions. The second path model takes online shopping experience and the two risk perceptions as independent variables and online purchase intentions as the dependent variable.

Results of the first model analysis indicate a strong, significant relationship between previous online shopping experience and intentions to purchase online for both non-digital (Υ = .89, p < .001) and digital (Υ = .86, p < .001) products. Results of the second path model for apparel show that when the impact of perceived product and financial risks are added to the model, the strength of the impact of experience on purchase intentions is reduced but still remains significant for both non-digital (Υ = .823, p < .001) products and digital products (Υ = .831, p < .001) for the relationships between experience, product risk and purchase intentions. Similar pattern is observed for the relationships between experience, product risk and purchase intentions (See Table 2). Bootstrapping in AMOS for both models indicates neither of the mediation effects is significant with a p-value greater than .05. Therefore, adding the two risk dimensions to the model does not reduce or alter the direct effect of experience on purchase intention. In other words, experience with shopping online for both non-digital and digital products alone explains online shoppers' intention to purchase. These findings are consistent with those of previous studies that revealed that the most important factor for predicting online shopping habits are measures of past behavior [Bellman et al. 1999].

Table 2: Results of Mediation Test

Relationship	Direct (No Mediator)	Indirect (With Mediator)	Indirect Effect (Bootstrapping)
Experience→Product Risk→Intentions	.891**/.863**	.823**/.809**	n.s. (No mediation)
Experience→Financial Risk→Intentions	.891**/.863**	.831**/.806**	n.s. (No mediation)

5. Discussion

This study investigates the relationships among previous online shopping experience, perceived product, financial, and privacy risk associated with online shopping, and shoppers' purchase intentions. Risk perceptions are among the most critical variables in the study of online shopping. However, previous studies have produced inconsistent findings with respect to the impact of perceived risk on online purchase intention for two reasons. First, there is inconsistency in terms of conceptualization of the term – perceived risk. Instead of treating it as a uni-dimensional construct, this study examines perceived risk as a multidimensional factor as suggested by Bauer [1960]. Second, most studies fail to recognize the fact that the impact of perceived risk may differ for different categories and a number of empirical studies measured this construct without accounting for the effect of product category, contributing to the lack of consensus among findings of these studies. Therefore, this study is undertaken as an attempt to address these two concerns.

The findings of this study confirm the conjecture that risk associated with online shopping is multifaceted. Moreover, due to the multifaceted nature of risk perceptions associated with online shopping, the impact of previous online shopping experience differs by specific type of risk perceived. Although risk perceptions and their impact on online purchase intentions are rarely examined by product type with only a few exceptions such as Biswas and Biswas [2004], the findings of this study call for attention to the idea that the impact of risk perceptions on purchase intentions is not universal across all types of risk or product categories. Depending on the category of product being purchased online, certain types of risk perceptions are more salient to shoppers than are other types.

This study shows that with increased online shopping experience, shoppers perceive reduced product, financial, and privacy risks when shopping online for non-digital products, providing support for Festervand et al.'s [1986]conjecture that previous purchase experience via a given shopping channel is negatively related to perceived risks associated with future purchase in that channel. From previous experience, shoppers develop a knowledge base regarding online retailers' capability of fulfilling online orders and meeting shoppers' expectations for product performance. However, perceived privacy risk is not affected by online shopping experience for digital products. Result of a t-test on perceived privacy risk between digital and non-digital products indicates that shoppers tend to perceive a higher level of privacy risk when shopping apparel products (M=3.75) than music products (M=2.92, p=.032). It may be that shoppers are required to provide more personal information such as sizes and home addresses for delivery to complete a transaction when buying apparel products online whereas buying downloadable MP3 or MP4 files requires less information. Therefore, shoppers' perception of privacy risk does not seem to be influenced by previous shopping experience for digital products as for non-digital products. Moreover, it should be noted that although the influence of previous online shopping experience on product and financial risk perceptions are significant for both product categories, its relative strength is greater for apparel products than for music products. Therefore, online shopping experience may explain, but not serve as a universal predictor of, the variance

in the three types of risk perceptions in online shopping. The results also show that previous online shopping experience is a strong positive predictor of online shoppers' purchase intention for both apparel and music products, independent of the impact of perceived product and financial risks. Interestingly, although market research has reported growing concerns over privacy risk associated with shopping online, the findings in this study indicate that perceived privacy risk does not affect shoppers' intention to purchase digital or non-digital products online. A further examination of the conceptualization of the three constructs may provide insights. Both perceived product and financial risks may bring immediate consequences to buyers of these products if they fail to performance or are priced higher than other retailers. In both scenarios, buyers will experience instant dissonance and regret their purchase decision. In contrast, privacy risk does not necessarily bring about immediate losses or consequences to buyers and thus may not be a construct as relevant as the other two types of perceived risks. In other words, even though shoppers are becoming more aware of the privacy concerns pertaining to shopping online, it does not influence their purchase decisions for specific transactions.

A major contribution of this study is the development of the conceptual model – based on empirical findings and the theory of perceived risk -- which depicts the relationships among previous online shopping experience, three types of risk perceptions associated with online shopping, and online purchase intentions. Another contribution of this study is the insight gained by examining the impact of previous online shopping experience on consumers' perceptions of three specific types of risks associated with online shopping and by comparing the effect for two different product categories. Although a few studies [e.g., Doolin et al. 2005; Park and Stoel 2005] have examined relationships between risk perceptions associated with online shopping and purchase intentions, they were conducted without taking into account the role of product category. Based on the findings of the present study, it is clear that the product category plays a significant role in explaining online purchase intentions.

These findings also provide practical implications for online retailers. By better understanding the relationships among previous online shopping experience, types of risk perceptions, and purchase intentions, e-marketers may be able to take more appropriate actions to make shopping online a less risky experience, especially for their apparel consumers. For example, knowing that shoppers' previous shopping experience will positively impact their purchase intentions suggests that online retailers need to direct their promotional offers toward encouraging first time purchases. This tactic may be effective in broadening their customer base and generating an experience with the channel or website, which may function to reduce perceived risks and increase future purchase intentions. In addition, because of the strong positive effect of experience on purchase intention, it is beneficial for online retailers to launch customer loyalty programs such as frequent buyer programs to encourage re-visits and re-purchases, which eventually contribution to greater purchase intentions and actual purchases. Because all three specific types of risk perception associated with online apparel shopping significantly predict shoppers' purchase intention, online apparel retailers should consider using technology (e.g. virtual try-on, 3D product view) and other reliable resources (e.g. customer reviews) to enhance the information provided on their website to reduce the risks associated with online apparel shopping.

One limitation of this study is the use of student sample, which is a homogeneous group in terms of gender, age, and education level. In addition, student population is known for their tendency to shop frequently online and spending more time to shop online than the general population. This limits the generalizability of the findings reported in this study. Future studies may consider using a national sample which more accurately reflects the population of current and potential online shoppers. Furthermore, due to the nature of a self-administered online survey, only two products (apparel and music) were used in this study. Although these two products were selected because they are among the most purchased products online, they do not fully represent all non-digital and digital products being purchased online. The use of different products may raise concerns over the validity of the results due to variations in their prices and other intrinsic and extrinsic product attributes that may moderate the relationships investigated in this study. In addition, online shoppers tend to shop across different online retailers' websites and different distribution channels for apparel product whereas only specific websites (e.g., Amazon and iTune store) offer shoppers to purchase and download music files. Such a lack of offline alternative pertaining to MP3 files may have actually affected shoppers' purchase decisions. However, such a problem may not apply to other digital products such as cameras and laptops. Therefore, the findings of this study may not be fully generalized to other products and the relationship proposed in this study should be re-tested with other products in the digital product category. Finally, online purchase intentions are measured in a general sense without asking participants to respond to the question pertaining to the same online retailer with which they report their rating on experience and risk perceptions. Typically, retailers' websites offer different security features and thus participants may hold varying perceptions and have different purchase intentions across different shopping websites even within the same product category. Future studies should examine the effect of experience and risk perceptions on purchase intention pertaining to consistent operationalization of the context to provide more generalizable results.

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