THE IMPACT OF ONLINE SHOPPING EXPERIENCE ON RISK PERCEPTIONS AND ONLINE PURCHASE INTENTIONS: THE MODERATING ROLE OF PRODUCT CATEGORY AND GENDER

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THE IMPACT OF ONLINE SHOPPING EXPERIENCE ON RISK PERCEPTIONS AND ONLINE PURCHASE INTENTIONS: THE MODERATING ROLE OF PRODUCT CATEGORY AND GENDER

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Bo Dai, daughter of Huaifang Dai and Qinhe Mao, was born on October 19, 1977, in Changzhou, Jiangsu Province, China. She graduated from Nanjing University of Technology with a Bachelor of Arts degree in June 2000. She worked as an assistant account for PricewaterhouseCoopers Shenzhen Representative Office before she came to the United States. She began graduate study in the Department of Consumer Affairs at Auburn University in August, 2004. She married Lei Chen, son of Qingzhan Chen and Guiqin Xu in July, 2001.

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This study investigated how consumers' previous online shopping experience influences their perception of product, financial, and privacy risk associated with online shopping. Consumers' previous online shopping experience, the three types of risk perceptions were examined as antecedents of online purchase intentions. This research proposed a conceptual model that illustrates the relationships between the variables and examined the relationships among male and female online shoppers for different product categories being purchased online.

The researcher conducted a pre-test, using a convenience sample of 40 undergraduate students at a southern university, and a main test, using a convenience sample of 336 undergraduate students. Results from the pre-test were used to modify the questionnaire that was finally used for the main study. Results from the main study provided insights on the relationships among consumers' previous online shopping experience, the three types of risk perceptions, and purchase intentions, in the context of shopping for two types of products, apparel and music products (e.g. CDs, videos).

Results indicated that male online shoppers perceived higher level of privacy risks than female online shoppers in online apparel and music shopping. Overall, previous online shopping experience had a significant positive influence on consumers' online purchase intentions regardless of the product category and gender. It appeared that, in online apparel shopping, men tend to perceive higher privacy risk with increased experience in online apparel shopping, whereas such impact was insignificant for female respondents. It was also found that men perceived more product risk, whereas women perceived less product risk with increased online apparel shopping experience. A similar pattern was observed in online music shopping as well. In general, women were more likely to use purchase both products on the Internet than men.

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CHAPTER 1

INTRODUCTION

The Internet has developed into a dynamic and viable retailing channel in the US, generating $143.2 billion in retailing sales, a 22 percent increase over the $117.2 billion online retail sales of 2004 (Burns, 2005). As a virtual marketplace available to consumers who have access to the World Wide Web (WWW) 24-hour, the Internet offers consumers information, convenience, and competitive prices. According to a 2004 report by eMarketer, nearly 131 million people, or 77% of the online population, will shop online by 2007 (Shop.org, n.d.).

Nevertheless, making a successful online retailing business has proven exceptionally challenging for online retailers. For example, online retail sales comprise less than 5% of the nation's total retail sales in spite of its steady annual sales growth (eMarketer, 2005). Online retail's small contribution to total US retail sales suggests to online retailers both the great opportunity and challenge to increase sales throughbetter understating in consumers' perceptions of online shopping and their willingness to shop online.

Moreover, despite the growing population of online shoppers, more than a quarter of the Internet user population still do not shop online (Shop.org, n.d.), and high abandonment of online transactions continues to be a concern to retailers. For example,

up to 78% of online consumers abandon their online transactions prior to and/or during the checkout process (Goldwyn, 2003).

A number of prior studies have attempted to identify factors that either encourage consumers to engage in online shopping or discourage them from online shopping. The results have indicated that positive incentives to shop online (convenience, competitive prices, excitement, etc.) are common, whereas factors discouraging online shopping vary and are hard to identify (Doolin, Dillon, Thompson, & Corner, 2005). Among the most investigated factors that may have negative influence on consumers' adoption of online shopping, the perceived risk associated with online shopping had been of great interest among researchers and online retailers alike.

Not surprisingly, researchers have found that perceptions of risk associated with online shopping are negatively related to online shopping intentions (Bhatnagar & Ghose, 2004; Doolin et al, 2005; Drennan, Mort, & Previte, 2006; Forsythe & Shi 2003; Kuhlmeier & Knight, 2005; Slyke, Belanger, & Comunale, 2004). Studies of risk perceptions associated with online shopping have also shown that online consumers' risk perception is multifaceted. Among these studies, some researchers have identified certain types of risk perceptions (product risk, financial risk, etc.) (Forsythe & Shi, 2003) and investigated their impact on purchase intentions (Garbarino & Strahilevitz, 2004; Kolsaker & Payne, 2002; Miyazaki & Kernandez, 2001), while other have summarized all different types of risk into an overall risk construct and tested its impact on consumers' online purchase intentions (Pires, Stanton, & Eckford, 2004). Yet, these studies have yielded little consensus regarding the impact of specific types of risk perceptions on online purchase intentions and less than conclusive evidence regarding the

type of risk with the greatest impact on online purchase decisions. As the adoption of online shopping continues, it is important to update and extend the studies by examining specific types of perceived risk that are most often associated with online shopping and their impact on online purchase intentions.

Although considerable research has addressed perceived risk in online shopping, little research has examined the specific types of risk associated with online shopping ,the impact of each type of perceived risk on online purchase intentions or factors that may influence consumers' risk perceptions regarding online shopping. Consumers' online risk perceptions may be influenced by exogenous factors such as previous online shopping experience, gender of the shopper and product categories being purchased online.

As shopping on the Internet has become a common practice for many consumers, online shoppers are now more experienced as compared to a decade ago. It may be that online consumers now hold different perceptions of the potential risks associated with purchasing online. Researchers may extend the understanding of online consumers' perception of specific types of risks associated with online shopping by examining how previous online shopping experience impacts consumers' perception of specific types of risks associated with online shopping and their online purchase intentions. Research has shown that previous online shopping experience positively influences consumers' perceptions of online shopping (Forsythe & Shi, 2003; Kuhlmeier & Knight, 2005). Several researchers have concluded that consumers' risk perceptions associated with online shopping decreases as their online shopping experiences increase (Forsythe & Shi, 2003, Pires, Stanton, & Eckford, 2004). However, a more recent market survey on online shopping showed unprecedented high concerns over privacy, online fraud, and identity

theft (Vijayan, 2005). This may be explained by consumers' growing awareness of such types of risk and the consequences of such risks as their online shopping experience accumulates. Thus, online consumers' perceptions of certain types of risk may increase with shopping experience while perception of other types of risk may decrease with increased online shopping experience. However, there is little published research examining such issues. The current study examines the impact of previous online shopping experience on consumers' perception of product, financial, and privacy risk associated with online shopping and their purchase intentions. Findings of this study may provide up-to-date insights regarding the impact of consumers' previous online shopping experience on their risk perceptions and purchase intentions in online shopping.

Although the Internet literally is a marketplace for all kinds of goods and services, the moderating influence of product characteristics on consumers' risk perceptions has often been neglected in the research on online shopping. For example, little previous research has examined whether consumers' risk perceptions vary across online product categories (e.g. shopping for apparel products online vs. shopping for music products online). Nelson (1970) found that, in the traditional shopping environment (e.g. a brick-and-mortar store), consumers tend to rely on different information sources to make purchase decisions depending on the product category shopped. It is logical to expect that consumers' dependence on various information sources in the traditional shopping setting may also apply to the Internet shopping setting. Thus, online consumers may differ in their risk perceptions associated with purchasing different types of product depending on the availability of information required to make the purchase decision on the Internet. However, little research has provided convincing evidence as to how online consumers'

risk perceptions differ when they shop for different types of products online or how these differences in their risk perceptions may influence their online purchase intentions (c.f., Doherty & Ellis-Chadwick, 2006).

Researchers have documented significant gender differences in risk perceptions associated with online shopping (Alreck & Settle, 2002; Forsythe & Shi, 2003). Women were initially slow adopters of online shopping as they perceived higher levels of risk in online shopping (Alreck & Settle, 2002; Forsythe & Shi, 2003; Garbarino & Strahilevitz, 2004; Slyke, Comunale, & Belanger 2002). In Forsythe and Shi's study (2003), women reported more concerns regarding financial risks than men. Garbarino and Strahilevitz (2004) found that women perceived a higher level of risks than men in both likelihood and consequences of poor online purchase decisions. However, Kolsaker and Payne's study (2002) showed an overall high level of risk associated with Internet shopping regardless of gender. Women now outnumber men with respect to both online shopper population and expenditures (Shop.org, n.d.) despite their concerns regarding the risks associated with online shopping. Thus, it is important to examine whether gender differences in risk perceptions still exist among online shoppers and, if so, whether these differences significantly explain differences in their online purchase intentions.

Purpose

The purpose of this study is to develop and test a conceptual framework that explains: 1) the influence of previous online shopping experience on consumers' perception of specific types of risks associated with online shopping; 2) the influence of consumers' perception of specific types of risks associated with online shopping on their purchase intentions; 3) the influence of previous online shopping experience on consumers' purchase intentions; and 4) whether product category and gender moderate the relationships between above variables.

Objectives:

The objectives of the research are to:

1. Examine the influence of previous online shopping experience on three types of risk perception (product, financial and privacy risks) associated with online shopping;
2. Examine the influence of the three types of risk perceptions (product, financial and privacy risks) on online purchase intentions;
3. Examine the influence of previous online shopping experience on online purchase intentions;
4. Examine the how male and female online consumers differ in (a) perception of product, financial, and privacy risk associated with online shopping, (b) previous online shopping experience in terms of duration, frequency of using the Internet as a shopping channel and their online expenditure, and (c) online purchase intentions for both apparel and music shopping.

CHAPTER 2

REVIEW OF LITERATURE

This chapter reviews previous research on 1) perceived risk, 2) previous online shopping experience, 3) product category, and 4) gender as it relates to online shopping. First of all, Bauer's (1960) theory of perceived risk was adopted as the theoretic foundation of this study. Second, research related to the three types of risk perceptions associated with online shopping and their influence on purchase intentions are examined. Published studies related to the influence of previous online shopping experience, product category, and gender on online purchase intentions were also reviewed in this section to help develop a conceptual model. The conceptual model is then presented, based on the review of literature, to further guide this study.

Theory of perceived risk

The concept of perceived risk was first introduced by Bauer (1960) and has been frequently used to address various issues in consumer behavior. Shopping has long been regarded as a risk taking activity as consumers may be uncertain of a purchase decision and the consequences of poor decisions (Bauer, 1960). Cox and Rich (1964) conceptualized perceived risk as "the nature and amount of risk perceived by a consumer in contemplating a particular purchase decision (p. 33)". Mitchell (1999) defined perceived risk as "a subjectively-determined expectation of loss (p. 168)". In the online

shopping setting, the level of perceived risk may be magnified due to online consumers' limited physical access to products and sales personnel (Park & Stoel, 2005). A high level of perceived risk hinders consumers from adopting the Internet as a shopping channel (Alreck & Settle, 2002; Forsythe & Shi, 2003; Garbarino & Strahilevitz, 2004). Six components of perceived risk associated with shopping have been identified as physical, social, product, convenience, financial, and psychological risks (Jacoby & Kaplan, 1972; Peter & Tarpey, 1975).

Among the six types of risk associated with shopping, product and financial risks have been shown to have a significant negative influence on consumers' Internet purchase intentions (Bhatnagar & Ghose, 2004; Lu, Hsu, & Hsu, 2005). Privacy risk, also referred to as psychological risk, is getting more attention as both male and female online shoppers show growing concerns regarding the security of their personal information during online transactions (Shop.org, n.d.). However, results from previous studies have demonstrated little consensus with respect to the strength of each specific type of risk perception on consumers' purchase intention. For example, Bhatnagar and Ghose (2004) argued that, due to the lack of product information for certain product category on the Internet, product risk had the most significant impact on consumers' purchase intentions. However, Axel (2006) found that compared to the product risk, consumer perception of privacy risk had greater impact on their willingness to shop on the Internet. This study examined the influence of three types of risk perceptions: product risk, financial risk, and privacy risk perceptions on online consumers' purchase intentions across different product categories.

Product risk is defined as the probability of the item failing to meet the performance requirements originally intended (Peter & Tarpey, 1975). A high level of product risk in online shopping may be expected due to online consumers' inability to physically examine and test product quality and alternatives (Alreck & Settle, 2002; Garbarino & Strahilevitz, 2004). The inconsistency in infrastructures required for enabling online shopping, such as computer monitor settings and computers software, may not always display product features as precisely as they may be in a traditional setting. Therefore, consumers' uncertainty increases with regard to a particular purchase decision when it comes to online shopping. For example, Goldsmith and Goldsmith (2002) found that, in online apparel shopping, consumers perceived higher level of product risk as opposed to in a traditional store. It has also been documented that risks associated with product uncertainty could negatively affect online shopping intention (Bhatnagar, Misra, & Rao, 2000).

Financial risk is defined as the likelihood of suffering a monetary loss from a purchase (Horton, 1984; Jacoby & Kaplan, 1972; Peter & Tarpey, 1975; Sweeney, Soutar, & Johnson, 1999). Credit card fraud is a primary financial concern among many online consumers. Caterinicchia (2005) found that online consumers are reporting increased concerns regarding financial loss in online transactions. Also, consumers suffer from the monetary loss if products purchased online fail to perform as expected. Although one of the common advantages of shopping online is competitive price, many consumers are reluctant to purchase products from the Internet due to other costs, such as shipping and handling.

Privacy risk is defined as the probability of having personal information disclosed as a result of online transactions (Garbarino & Strahilevitz; 2004; Maignan & Lukas, 1997). Recent research has found that privacy risk is of growing concern among online consumers' (Drennan et al, 2006). Chapell's survey (2005) found that more than 69% of US Internet shoppers would limit their online purchases because of concerns related to the privacy and safety of their personal information. A separate survey of US consumers also found that 84% of consumers said that they thought Internet retailers had not done enough to protect consumers' privacy and that 76% would like to be better educated on how to protect themselves (TRUSTe, 2005). Online consumers may feel less control over their personal information and access to such information in the online setting, and thus hesitate to provide their personal information required for online transactions.

Online shopping experience

As consumers become more familiar with the Internet as a sales medium, it is expected that they will feel more comfortable and confident to purchase online. According to Festervand, Snyder, and Tsalikis (1986), previous purchasing experience via a certain shopping channel is negatively related to the perceived risks associated with future purchase in that channel. In other words, when a consumer gets more experiences with shopping on the Internet, he or she sees shopping online as a less risky action in all terms and is more likely to continue to shop online. For example, even though consumers are not able to touch to test the feel of the fabric or try on a denim jacket to test its fit in the online setting, those who have purchased similar products online may not have as many concerns as those have never purchased online.

Similarly, Forsythe and Shi (2003) found that those with less than one year of online experience were more likely to perceive privacy risk. However, more recent online consumer surveys reported that although the online consumer population and online expenditures have increased significantly (Caterinicchia, 2005; Shop.org, n.d.), the level of perceived privacy risk has not diminished.

Although earlier researchers believed that online consumers with more Internet related experience perceived less financial risk than those with less experiences (Miyazaki & Fernandez, 2001), a recent market survey reported that nearly thirty-nine percent of US Internet users avoid online purchases due to potential financial loss caused by online fraud (Chapell, 2006).

Nevertheless, there is a certain level of consensus regarding the impact of previous online shopping experience on online consumers' purchase intentions. Park and Stoel (2005) confirmed that the more experienced online consumers are, the more likely they will continue to use the Internet as a shopping channel. However, the potential effect of previous online shopping experience on specific types of risk perception remains unclear. Thus, there is a need to study how consumers' previous online shopping experience may influence their risk perceptions and future purchase intentions (Doherty & Ellis-Chadwick, 2006).

Product category

Consumers tend to rely on different information sources when they make purchase decisions for either search or experience products (Nelson, 1970). According to Nelson (1970), consumers can use search or experience to confirm product quality, and

thus products can be categorized into search and experience products. Search products are defined as those whose dominant product attributes can be acquired prior to purchase; experience products are those whose dominant product attributes cannot be known until the time of purchase and use of the products.

However, the Internet has altered the way consumers shop. Consumers' risk perceptions may vary when they shop for different products online depending on the availability of various product information sources on the Internet. Thus, categorizing products by search versus experience may not adequately depict the dominant traits of online products because in the online setting, certain tangible product attributes of search products become intangible. For example, consumers are not able to feel the texture or try on a garment when shopping on the Internet. This may increase the uncertainty of product performance (e.g. will it fit?) and alter the categorization of products depending on the availability of information sources. On the other hand, the Internet provides consumers with easier access to other kinds of product information (e.g. product specifications and customer reviews) for other products such as music CDs and videos, which may result in a reduced level of product risk.

More recently, online products have been categorized by whether their dominant product attributes are digital or non-digital (Biswas & Biswas, 2004; Lal & Sarvary, 1999). Digital products are defined as "all product attributes can be communicated through the Internet" (Lal & Sarvary, 1999, p. 487) while non-digital products are those "whose dominant product attributes can only be evaluated through physical inspection of the product" (Lal & Sarvary, 1999, p. 488). Consumers have reported more concerns with purchasing products with high non-digital attributes (e.g. apparel) online than in in-

store shopping (Biswas & Biswas, 2004) as it is more difficult to accurately examine non-digital products in the online environment. There is little research reporting how consumers' risk perceptions vary between digital (e.g. video, music, MP3) and non-digital (e.g. apparel) products.

The moderating role of gender

Considerable research has addressed the issue of gender differences in online shopping from various perspectives such as shopping orientations, attitudes, and purchase intentions. Alreck and Settle (2002) reported that women's rating of online shopping was significantly more negative than men. Jackson, Ervin, Gardner, and Schmitt (2001) found that men were more likely to the use the Internet for shopping while women were more likely use the Internet for browsing and communication with friends. Overall, women tend to perceive higher levels of perceived risk associated with online shopping than men do (Rodgers & Harris, 2003). However, Girard, Korgaonkar, and Silverblatt (2003) argued that consumers' online purchase intentions were influenced to a certain extent by the interaction between gender and product category. For example, women account for the majority of the purchase of clothing, personal care products, and home fashions (non-digital products) while men tended to shop products such as consumer electronics, computers and peripherals, and software (digital products) (Rodgers & Harris, 2003).

Moreover, men and women may exhibit different concerns with online shopping (Forsythe & Shi, 2003; Garbarino & Strahilevitz, 2004; Rodgers & Harris, 2003). For instance, Forsythe and Shi (2003) found that women perceived more financial risk associated with online shopping than men. Garbarino and Strahilevitz (2004) found that

recommendations from friends have significant influence on women's perception of risks while men do not seem to be influenced by recommendations form friends.

In spite of higher risks generally perceived by women, they were reported to exceed men in term of online shopping population in a more recent market survey (Shop.org, n.d.). However, little attention has been given to explain how various types of risk associated with online shopping impact women and men's online shopping intentions and how previous online purchase experiences influence women and men's perception of various types of risks of online shopping.

Conceptual model

In the proposed research model (see Figure 1), online shopping experience is the independent variable that explains online shopping intentions both directly and indirectly through its influence on risk perceptions. By examining the influence of each type of risk perception (product, financial, and privacy risks) on purchase intentions individually, this model differentiates the unique contribution of the three specific types of risk perceptions on online purchase intentions. Furthermore, given the potential moderating effects of gender and product category, relationships between the variables in the conceptual model was tested in separate groups of male and female online shoppers in two online shopping scenarios (apparel shopping vs. music shopping). Conceptual definitions and sources of the constructs examined in this research model are given in Table 1.

Figure 1. Conceptual model (developed by researcher)

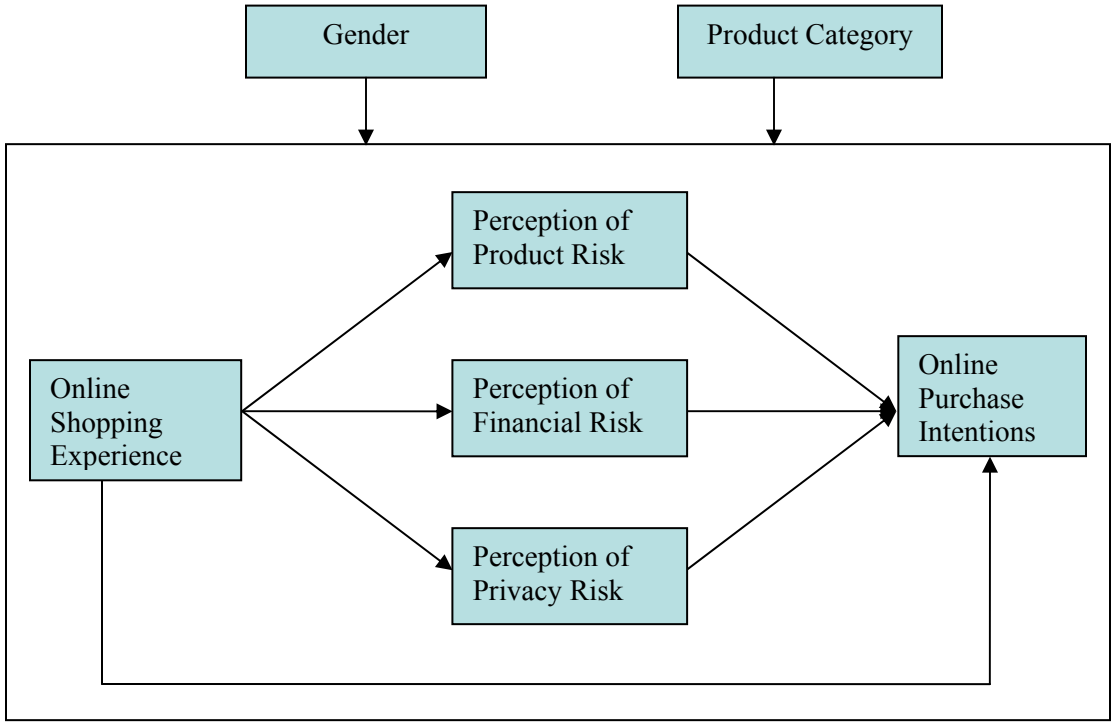


Table 1. Conceptual definitions and sources

Constructs	Conceptual definitions	Sources
Product risk	The probability of the item failing to meet the performance requirements originally intended.	Peter & Tarpey, 1975
Financial risk	The likelihood of suffering a monetary loss due to online purchase.	Horton, 19784; Jacoby & Kaplan, 1972; Peter & Tarpey, 1975
Privacy risk	The probability of having personal information disclosed as a result of online transactions	Garbarino & Strahilevitz; 2004, Jacobs, 1997; Maignan & Lukas, 1997
Online shopping experience	Online shoppers' shopping duration and frequency	Park & Stoel, 2005
Product category	Online products categorization determined by whether the dominant product attributes are digital or non-digital	Lal & Sarvary, 1999; Biswas & Biswas, 2004
Gender	Men vs. Women	N/A
Intention	The likelihood of using the Internet to make future purchase.	Bhatnagar et al. (2000)

CHAPTER 3

METHOD

This chapter describes the research design of this study. Instruments used in data collection, the research population and sample, the procedure, and the statistical method used to analyze the data are also explained in this section.

Research design

An online survey was used to measure online consumers' perception of the three types of risk, previous online shopping experience, purchase intentions, and their demographic characteristics. A survey design can provide researchers with a numeric description of demographic characteristics, attitudes, and behaviors of a population by studying a sample of this population. Quantitative data collected in the survey were analyzed using a series of simple and multiple regression analyses to reveal the relationships among the variables in the conceptual mode. Among various types of products being purchased online, apparel and music products were selected as the online shopping contexts described in the study for two reasons. First, because apparel and music products are among the most frequently purchased products online (Corcoran, 2007), participants are very familiar with them and may easily recall their most recent shopping experiences. Second, apparel products represent those products with high non-digital attributes and music products represent ones with high digital attributes in the online shopping setting.

A convenience sample of 2,500 college students at Auburn University was used to collect the data. All participants were asked to respond to questions regarding shopping online for both apparel and music products. We chose to use college students because they are active online shoppers and are frequent users of the products used as stimuli in this study. In addition, college students are the most accessible sample for the researcher.

Instrument development

A self-administered Web-based questionnaire was developed to measure participants' (1) previous online purchase experience for apparel and music products, (2) perceptions of three types of risks associated with purchasing apparel and music products, and (3) online purchase intentions for apparel and music products in the next six months. Multi-item scales were developed to measure the constructs in the conceptual model based on peer reviewed literature.

Participants' previous online purchase experience was measured by (1) how long they have been using the Internet as a shopping channel for apparel and music products, (2) online shopping frequency for apparel and music products, and (3) the approximate online expenditure for the apparel and music products in the past six months (see Table 2 for the items). Second, the risk assessment instrument was developed by adopting items from published research related to online shopping risk perceptions. The perceived risk items are presented in Table 2. Participants were asked to rate their level of agreement with statements regarding the perception of three types of risk related to online shopping using a 7-point Likert scale, where 1 stands for "strongly disagree" and 7 stands for "strongly agree". Then, online purchase intentions were measured by three items developed by the researcher asking participants to rate how likely they were to purchase

apparel and music products online in the next 6 months on a three-item (see Table 2 for the items) using seven-point Likert scales.

In addition, participants' demographic characteristics were also measured. Participants' gender was recorded in order to examine gender differences in consumers' perception of the three type of risk associated with online shopping, their previous online shopping experience, and shopping intentions. Other demographic information such participants' ethnicity, and academic status (e.g., majors or professions, school year) was also collected to examine the sample characteristics.

Table 2. Constructs, scale items and sources

Perceived product risk (The probability of the item failing to meet the performance requirements originally intended)	
1. It is DIFFICULT for me to judge apparel/music products' quality adequately on the Internet. 2. It is DIFFICULT for me to compare the quality of similar apparel/music products on the Internet. 3. The apparel/music product purchased online may NOT perform as expected.	Adopted from Alreck & Settle (2002)
Perceived financial risk (The likelihood of suffering a monetary loss from online purchase)	
4. My credit card number may NOT be secure. 5. I am concerned that I may NOT receive the item purchased. 6. I may buy the same apparel/music product at a lower price from somewhere else (e.g. store, catalog).	Adopted from Sweeney, Soutar, & Johnson (1999)

(Continue)

Perceived privacy risk (The probability of having personal information disclosed as a result of online transactions)	
7. Online retailers may disclose my personal information (e.g. email address, mailing address) to other companies.	Adopted from Garbarino & Strahilevitz (2004)
8. Online retailers may track my shopping habits and history purchases.	
9. I may be contacted by online retailers (e.g. via email, phone calls, letters) without providing consent after the completion of transaction.	
Previous online shopping experience	
10. How long have you been using the Internet to purchase apparel/music products?	Developed by researcher
11. How often have you used the Internet to purchase apparel/music products, during the past six months?	
12. What is the approximate amount you spent on online apparel/music purchases, during the past six months?	
Online purchase intention (The likelihood of using the Internet to make future purchases)	
13. It is very likely for me to use the Internet to purchase apparel/music products in next 6 month even though it is not the only means to purchase the apparel/music products I need.	Developed by researcher
14. It is very likely for me to use the Internet to purchase apparel/music products if I see an apparel/music product I like on the Internet in next 6 months.	
15. It is very likely for me to use the Internet to purchase apparel/music products if I have the need for such products in next 6 months.	

Note: For items #4, 5, 7, 8, and 9, the same items without the product variation were used for both apparel and music products online shopping

Procedures

Pretest. Prior to the actual survey, a pretest, using a convenience sample of 40 college students enrolled in the College of Human Sciences at Auburn University, was conducted for the purpose of examining the clarity of the items in the questionnaire and survey procedure. Each participant in the pretest was instructed to take the initial survey questionnaire online. They were asked to complete the questionnaire although their responses would not used for data analysis. Each respondent reported to the researcher how long it took them to finish the survey. An average of seven minutes was the approximate time needed to finish the survey in the pretest. Respondents' feedback regarding the clarity, easiness to understand the items, and item revision recommendations was used in item modification (see Table 2 for the finalized scale items). For example, to measure participants' previous online shopping experience, the researcher asked participants to rate approximately how long they have been using the Internet to purchase apparel/music product without providing a "Not at all" option for those who have never purchased apparel/music products online. As eight of the forty respondents pointed out this issue, the researcher modified this particular item by adding "Not at all" as an option for participants.

Likewise, in the initial questionnaire, when participants were asked about their online shopping experience and risk perceptions of apparel and music products, "apparel" and "music" were used as general terms referring to all kinds of apparel and music products without clear specifications. Realizing that this had lead to respondents' great confusion in the pretest, the researcher provided clear identifications for "apparel" as

general apparel products, (e.g. jackets and pants) and "music" products as CDs and musical videos in the actual survey.

Actual survey. An invitation email (see Appendix A) with a hyperlink to the survey was sent to 2,500 undergraduate students at Auburn University who were randomly selected from the university email system. The email invited them to participate in "a study to understand consumer Internet shopping behaviors". The questionnaire was in the forced-answer format, which means no participant could submit their survey answers without finishing every single question. The data were stored in the survey hosting website, retrievable only by the researcher. All data were collected anonymously and no identification (e.g. student ID, username, or actual name), were collected from participants.

Analyses

Descriptive analysis in SPSS 12.0 was used to analyze the demographic characteristics of the sample in term of frequencies. Examined demographic characteristics include gender, ethnicity, academic status (e.g., majors or professions, school year), online shopping experience in terms of the online purchase duration, frequency, and average online purchase expenditure in the past 6 months.
Different statistics strategies were utilized to analyze the data and fulfill the research objectives. First, because the scales used for this study were obtained by combining items from different studies and developing new items by the researcher, the validity of the scales was examined using Exploratory Factor Analysis (EFA). Second, for research objectives 1, 2, and 3 (see Table 3 for research objectives), a series of simple and multiple regression analyses was conducted to examine the relationships between the

variables in the proposed conceptual model (see Figure 1). Finally, a series of independent t-tests were conducted to examine whether men and women differed in their perceptions of product, financial, and privacy risk associated with online shopping, previous online shopping experience, and online purchase intentions (research objective 4).

Table 3. Independent and dependent variables tested in data analyses

	Independent variable(s)	**Dependent variable(s)**
Research objective 1	previous online shopping experience	perception of product risk perception of financial risk perception of privacy risk
Research objective 2	perception of product risk perception of financial risk perception of privacy risk	online purchase intentions
Research objective 3	previous online shopping experience	online purchase intentions
Research objective 4	gender	perception of product risk perception of financial risk perception of privacy risk previous online shopping experience online purchase intentions

CHAPTER 4

RESULTS AND DISCUSSION

This chapter presents the data analysis along with the discussion of the results.

Description of the sample

Survey participants were undergraduate students at Auburn University. From the 2500 survey invitations sent out, 336 valid and complete responses were received, yielding a 13.44% response rate. The respondents were between 19 and 25 yeas old, with a median age of 22, representing a relatively younger segment of the online shopper population. Among the 336 respondents, 60% were female students and 40% were male students. The majority of the respondents were Caucasian (63%). Other ethnicities include Africa-American (23%), Hispanic (9%), Asian (3%), and other (2%). Respondents were normally distributed in term of school year, with 16% for freshmen, 25% for sophomore, 38% for junior, and 21% for senior from various academic programs such as business (22%), education (17%), engineering (23%), science (13%), liberal arts (14%), and other (11%). Table 4 presents the detailed demographic characteristics of all respondents.

Only a few of the respondents did not have previous online shopping experience for apparel (9.2%) or music (4.2%) whereas the majority of the respondents reported varied online shopping experience, from 1 year to 5 years, for apparel and/or music products. Most respondents had purchased apparel (90.5%) and/or music (95.2%)

Table 4. Demographic characteristics of all respondents (n = 336)

Characteristics	Frequency	Percent
Age		
19	30	9%
20	71	21%
21	54	16%
22	90	27%
23	44	13%
24	27	8%
25	20	6%
Gender		
Female	200	60%
Male	136	40%
Ethnicity		
Caucasian	212	63%
African-American	77	23%
Hispanic	30	9%
Asian	10	3%
Other	7	2%
School Year		
Freshmen	54	16%
Sophomore	84	25%
Junior	128	38%
Senior	7	21%
Major		
Business	74	22%
Education	57	17%
Engineering	77	23%
Science	44	13%
Liberal Arts	47	14%
Other	37	11%

products online at least once in the past six months (see Table 5). With respect to respondents' average online shopping spending, the median fell in the category of "$101-

$200" for online apparel shopping and "$21-$30" for online music shopping. Therefore, the participants recruited for this study may be considered regular Internet buyers.

Table 5. Online shopping duration, frequency, and spending of respondents (n = 336)

Apparel			**Music**		
Online shopping duration	Frequency	Percent	Online shopping duration	Frequency	Percent
Never	31	9.2%	Never	14	4.2%
1 year	88	26.2%	1 year	79	23.5%
2 years	102	30.4%	2 years	114	33.9%
3 years	53	15.8%	3 years	70	20.8%
4 years	38	11.3%	4 years	28	8.3%
≥5 years	24	7.1%	≥5 years	31	9.2%
Online shopping frequency	Frequency	Percent	Online shopping frequency	Frequency	Percent
Never	32	9.5%	Never	16	4.8%
Once	121	36.0%	Once	95	28.3%
Twice	105	31.3%	Twice	43	12.87%
3 times	54	16.1%	3 times	102	30.4%
4 times	17	5.1%	4 times	75	22.3%
≥ 5 times	7	2.1%	≥ 5 times	5	1.5%
Online shopping Spending	Frequency	Percent	Online shopping Spending	Frequency	Percent
$0 - $100	87	25.9%	$0 - $10	56	16.7%
$101 - $200	121	36.0%	$11 - $20	77	22.9%
$201 - $300	74	22.0%	$21 - $30	110	32.7%
$301 - $400	20	6.0%	$31 - $40	57	17.0%
$401 - $500	11	3.3%	$41 - $50	22	6.5%
More than $500	23	6.8%	More than $50	14	4.2%

Construct validity and reliability

Because scale items used in this study were either adopted from other studies or developed by the researcher, the researcher conducted an Exploratory Factor Analysis (EFA) to test the validity of all scales items of the survey questionnaire. Crobanch's alphas were used to test the reliability of all scale items.

The oblique factor analysis was conducted as the variables were theoretically correlated. The results of the principle component analysis with Kaiser normalization are presented in Table 6. A standardized factor loading greater than .6 indicates relatively high factor loading (Marsh & Hau, 1999). The results indicated that all scales items for the three types of perceived risks were valid, with a factor loading higher than .6.

Previous online shopping experience, risk perceptions, and purchase intentions

Before running the regression analyses, factor scores were calculated by averaging the scores of the three items of each construct. Due to the fact that respondents' average online shopping spending was measured with a categorical ordinal scale, it was not included in calculating the factor score for previous online shopping experience. Therefore, the factor score of previous online shopping experience was calculated by averaging the *Z-scores* of online shopping frequency (times) and duration (number of years) because both were measure on different scales. A series of simple and multiple regressions were conducted to investigate the relationships of variables in the proposed model on SPSS. Simple and multiple regression were used to test 1) the direct effect of previous online shopping experience on three types of risk associated with online shopping and purchase intention, 2) the direct effect of three types of perception of risk associated with online shopping on purchase intention, and 3) the indirect effect of

Table 6. Constructs, scale items, factor loadings, and scale reliability

	Factor loadings (Apparel)			Factor loadings (Music)		
	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
Perceived financial risk						
1. It is DIFFICULT for me to judge products' quality adequately	.910			.870		
2. It is DIFFICULT for me to compare the quality of similar products.	.738			.838		
3. The product purchased may NOT perform as expected.	.893			.773		
Cronbach's *alpha* = . 91/.95 (apparel/music) Variance explained = 30.5%/37.6% (apparel/music)						
Perceived financial risk						
4. My credit card number may NOT be secure.		.766			.886	
5. I am concerned that I may NOT receive the item purchased.		.721			.951	
6. I may buy the same product at a lower price from somewhere else.		.899			.812	
Cronbach's *alpha* = . 87/.86 (apparel/music) Variance explained = 18.1%/17.5% (apparel/music)						

(Continue)

Perceived privacy risk		
7. Online retailers may disclose my personal information (e.g. email address, mailing address) to other companies.	.823	.923
8. Online retailers may track my shopping habits and history purchases.	.741	.881
9. I may be contacted by online retailers (e.g. via email, phone calls, letters) without providing consent after the completion of transaction.	.946	.746
Cronbach's *alpha* = . 89/.86 (apparel/music) Variance explained = 10.1%/12.3% (apparel/music)		

previous online shopping experience on purchase intention via risk perceptions. The relationships were tested within the combined group (men and women) and between groups (men vs. women) for each product category.

Online APPAREL shopping

Research objective 1 was to investigate the influence of online shopping experience on consumers' perceptions of the three types of risks associated with online shopping. The effect of previous online apparel shopping experience on the three types of risk perceptions was examined through three simple regressions, where previous online apparel shopping experience was treated as an independent variable and the three types of

risk perceptions as dependent variables. Data were first analyzed for all respondents, and then for separate groups of men and women.

Results from the first stage simple regression analysis for all respondents indicated that previous online shopping experience significantly explained consumers' perception of product (β = -.58, p < .001) and financial (β = -.74, p < .001) risks associated with online apparel shopping whereas its influence on consumers' perception of privacy risk was not significant (see Table 6). Overall, 35% and 55% of the variance of consumers' perception of product and financial risk, respectively, were explained by previous online shopping experience.

Table 7. Regression analysis output for online APPAREL shopping (men and women) (n = 336)

Independent variables	**Dependent variables**	**Standardized Beta**	***p***	***R^2***
Stage 1				
Previous online shopping experience	Product risk	-.582**	.000	.339
	Financial risk	-.742**	.000	.550
	Privacy risk	.021	.699	.000
Stage 2				
Product risk	Purchase intentions	-.285**	.000	.607
Financial risk		-.501**	.000	
Privacy risk		-.408**	.000	
Stage 3				
Previous online shopping experience	Purchase intentions	.794**	.000	.631

Note: *p < .05. **p < .01 (2-tailed)

In the regression analyses for men vs. women (see Tables 8 and 9), previous online shopping experience was observed to explain perception of the three types of risks differently for male and female respondents. Men tended to perceive less financial risk (β = -.41, $p < .001$) but higher product (β = .39, $p < .001$) and privacy (β = .81, $p < .001$) risks as their online shopping experience increased. Women's perceptions of product (β = -.70, $p < .001$) and financial (β = -.98, $p < .001$) risk associated with online apparel shopping tended to decrease significantly with increased online apparel shopping experience. However, previous online shopping experience did not significantly influence women's perception of privacy risk (β = .10, $p > .05$).

Table 8. Regression analysis output for online APPAREL shopping (men: n = 136)

Independent variables	**Dependent variables**	**Standardized Beta**	***p***	***R^2***
Stage 1				
Previous online shopping experience	Product risk	.387**	.000	.150
	Financial risk	-.409**	.000	.167
	Privacy risk	.808**	.000	.653
Stage 2				
Product risk	Purchase intentions	-.927**	.000	.483
Financial risk		-.175**	.008	
Privacy risk		-.576**	.000	
Stage 3				
Previous online shopping experience	Purchase intentions	.260**	.002	.068

Note: *$p < .05$. **$p < .01$ (2-tailed)

Table 9. Regression analysis output for online APPAREL shopping (women: n = 200)

Independent variables	Dependent variables	Standardized Beta	*p*	R^2
Stage 1				
Previous online shopping experience	Product risk	-.703**	.000	.495
	Financial risk	-.979**	.000	.957
	Privacy risk	.104	.143	.011
Stage 2				
Product risk	Purchase intentions	-.175**	.000	.929
Financial risk		-.159**	.000	
Privacy risk		-.279**	.000	
Stage 3				
Previous online shopping experience	Purchase intentions	.918**	.000	.844

Note: *$p < .05$. **$p < .01$ (2-tailed)

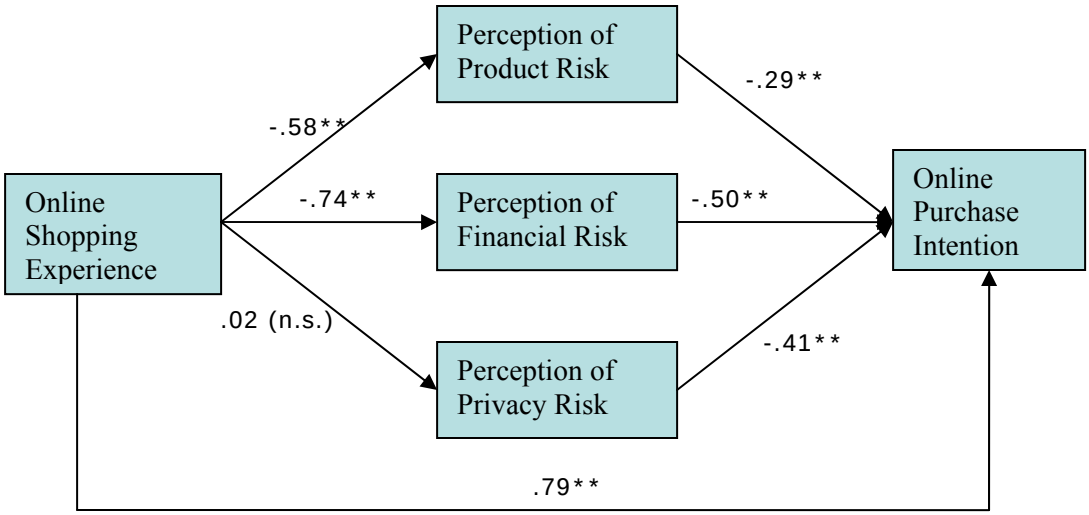
For ***research objective 2***, to examine the influence of the three types of risk perceptions on consumers' purchase intention, a multiple regression was conducted where the three types of risk perceptions were treated as independent variables and purchase intentions as the dependent variable. The results from the multiple regression analyses are presented in Tables 7, 8, and 9 for all respondents, male respondents, and women respondents, respectively.

The results indicated that consumers' perception of product, financial, and privacy risks explained the variance of their online purchase intentions significantly for all respondents (F (3, 332) = 171.07, $p < .001$), male respondents (F (3, 132) = 41.17, p

< .001), and female respondents (F (3, 196) = 858.95, p < .001). Approximately 61% of the variance of consumers' purchase intentions of all respondents can be accounted for by the three types of risk perceptions. Likewise, the explained variance of their online purchase intentions for male and female respondents was 48% and 93%, respectively. For male respondents, consumers' perception of product risk had the greatest impact (β = -.93) on their purchase intentions whereas perception of privacy risk had the greatest impact (β = -.28) on purchase intentions among female respondents in online apparel shopping (Tables 8 and 9).

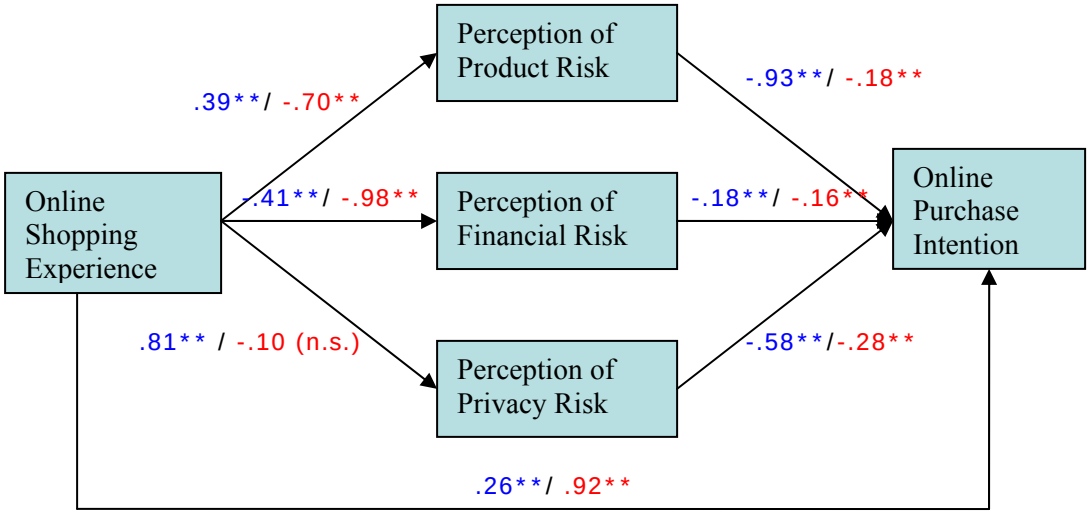
Research objective 3 was to test whether previous online shopping experience significantly explains purchase intentions. Results indicated that previous online apparel shopping experience had a significant influence on consumers' purchase intentions regardless of the gender. For all respondents, nearly 63% of the variance of consumers' online purchase intentions for apparel products were accounted for by previous online shopping experience (β = .79, p < .001). However, the explanatory power for previous online shopping experience on male respondents' purchase intentions (β = .26, R^2 = .068, p < .001) was very minimal as opposed to female respondents (β = .92, R^2 = .84, p < .001). The summary of regression coefficients and the results from all the regression analyses reported in this section is presented in Figures 2 and 3.

Figure 2. Conceptual model for online APPAREL shopping (men and women)



Note: ** Correlation is significant at the .01 level (2-tailed).

Figure 3. Conceptual model for online APPAREL shopping (men/women)



Note: Values printed in blue represent regression analysis output for male respondents; values printed in red ink represent regression analysis output for female respondents.

** Correlation is significant at the .01 level (2-tailed).

Research objective 4 was to examine the gender differences in (1) online shopping experience in term of expenditure, durations, and frequency, (2) consumers' perception of the three types of risks associated with online apparel shopping, and (3) purchase intentions. A series of t-tests were conducted to compare the sample means. Because t-tests were run on the equal variance assumption, the homogeneity of both groups was also analyzed. A follow-up of independent-sample mean comparison was conducted in case of violation of the equal variance assumption.

Results of the t-tests (see Table 10) indicated no significant gender difference in perception of financial risk for online apparel shopping. However, male respondents perceived significantly higher levels of product and privacy risks associated with online apparel shopping than women (see Table 10). Female respondents had more previous online apparel shopping experience than men with respect to online shopping duration and frequency in the past six months. In addition, female respondents (M = 5.33, $S.D.$ = 2.13) were more likely (t = - 6.87, p < .001) to purchase apparel products on the Internet in the next six-month period than male respondents (M = 3.83, $S.D.$ = 1.67) (see Table 10).

Table 10. Gender differences in online APPAREL shopping (men: n = 106; women: n = 200)

	Men	**Women**		
	M (S.D.)	***M (S.D.)***	***t***	***p***
Perception of Product Risk	4.34 (3.30)	4.09 (6.22)	1.316	.000
Perception of Financial Risk	10.18(4.27)	10.33 (3.83)	.107	.744
Perception of Privacy Risk	15.52 (3.05)	9.11 (6.25)	11.096	.000
Online Shopping Duration (years)	3.52 (.98)	3.85 (1.62)	-2.083	.000
Online Shopping Frequency (times)	2.18 (.39)	3.01 (1.45)	-6.503	.000
Purchase Intentions	3.83 (1.67)	5.33 (2.13)	-6.870	.000

Online MUSIC shopping

Research objective 1 was to investigate the influence of online shopping experience on consumers' perceptions of the three types of risks associated with online shopping. The statistical analysis strategies utilized in data for online music shopping were identical to the analyses for online apparel shopping. Results from the regression analyses for the music data are presented as follows.

The result of the first stage regression analysis (see Table 11) from all respondents indicated that previous online music shopping experience had a significant influence on consumers' perceptions of product (β = - .39, p < .001), financial (β = - .39, p < .001), and privacy (β = - .12, p = .026) risks associated with online music shopping.

With increased online music shopping experience, all respondents perceived less product, financial and privacy risks. However, it should be noted that despite the significant influence of previous online music shopping experience on the three types of risk perceptions, its effect size (R^2) was relatively small, 13% for product risk, 15% for financial risk, and 2% for privacy risk. Therefore, online shopping experience is not a strong predictor of the three types of risk perceptions in online music shopping.

Table 11. Regression analysis output for online MUSIC shopping (men and women: n = 336)

Independent variables	Dependent variables	Standardized Beta	*p*	R^2
Stage 1				
Previous online shopping experience	Product risk	-.385**	.000	.126
	Financial risk	-.391**	.000	.153
	Privacy risk	-.121*	.026	.015
Stage 2				
Product risk	Purchase intentions	-.561**	.000	.517
Financial risk		-.238**	.000	
Privacy risk		-.204**	.000	
Stage 3				
Previous online shopping experience	Purchase intentions	.711**	.000	.506

Note: *p < .05. **p < .01 (2-tailed)

Previous online shopping experience had a significant impact on consumers' perception of the three types of risks for both male and female respondents. The results (see Tables 12 and 13) indicated that both male and female respondents, with increased online music shopping experience, perceived less product risk (men: β = - .36, p < .001;

women: β = - .39, p < .001) and financial risk (men: β = - .61, p < .001; women: β = - .25, p < .001) associated with online music shopping. However, male respondents with more online music shopping experience perceived higher privacy risk (β = .24, p < .001) while female respondents with more experience perceived lower privacy risk (β = -.38, p < .001) associated with online music shopping with increased shopping experience.

Table 12. Regression analysis output for online MUSIC shopping (men: n = 136)

Independent variables	**Dependent variables**	**Standardized Beta**	***p***	***R^2***
Stage 1				
Previous online shopping experience	Product risk	-.362**	.000	.131
	Financial risk	-.612**	.000	.375
	Privacy risk	.240*	.005	.058
Stage 2				
Product risk	Purchase intentions	.013	.855	.689
Financial risk		-.849**	.000	
Privacy risk		-.040	.436	
Stage 3				
Previous online shopping experience	Purchase intentions	.716**	.000	.513

Note: *p < .05. **p < .01 (2-tailed)

Table 13. Regression analysis output for online MUSIC shopping (women: n = 200)

Independent variables	Dependent variables	Standardized Beta	*p*	R^2
Stage 1				
Previous online shopping experience	Product risk	-.385**	.000	.148
	Financial risk	-.250**	.000	.063
	Privacy risk	-.383**	.000	.147
Stage 2				
Product risk	Purchase intentions	-.840**	.000	.548
Financial risk		.055	.401	
Privacy risk		-.258**	.000	
Stage 3				
Previous online shopping experience	Purchase intentions	.783**	.000	.613

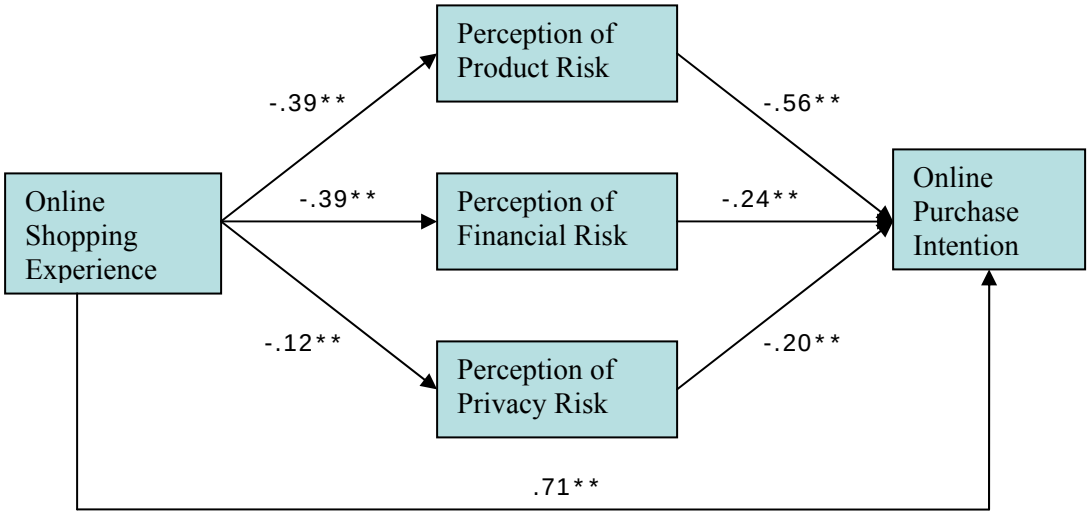
Note: *p < .05. **p < .01 (2-tailed)

Research objective 2 was to examine the impact of the three types of risk perceptions on consumers' purchase intentions. Results (see Tables 11, 12 and 13) of the multiple regression analysis indicated that the three independent variables had significant impact on consumers' online purchase intentions for all respondents (F (3, 332) = 118.327, $p < .001$), male respondents, (F (3, 132) = 97.69, $p < .001$), and female respondents, (F (3, 196) = 79.09, $p < .001$). Approximately 52% of the variance in consumers' purchase intentions for all respondents can be accounted for by the three types of risk perceptions in online music shopping. The explained variance for male and

female respondents was 69% and 55%, respectively. With regard to the unique contribution of the specific type of risk perception in predicting purchase intentions, it was found that only perceptions of financial risk had a significant impact on purchase intentions for male respondents whereas only perceptions of financial risk failed to impact online music purchase intentions for female respondents (see Tables 12 and 13).

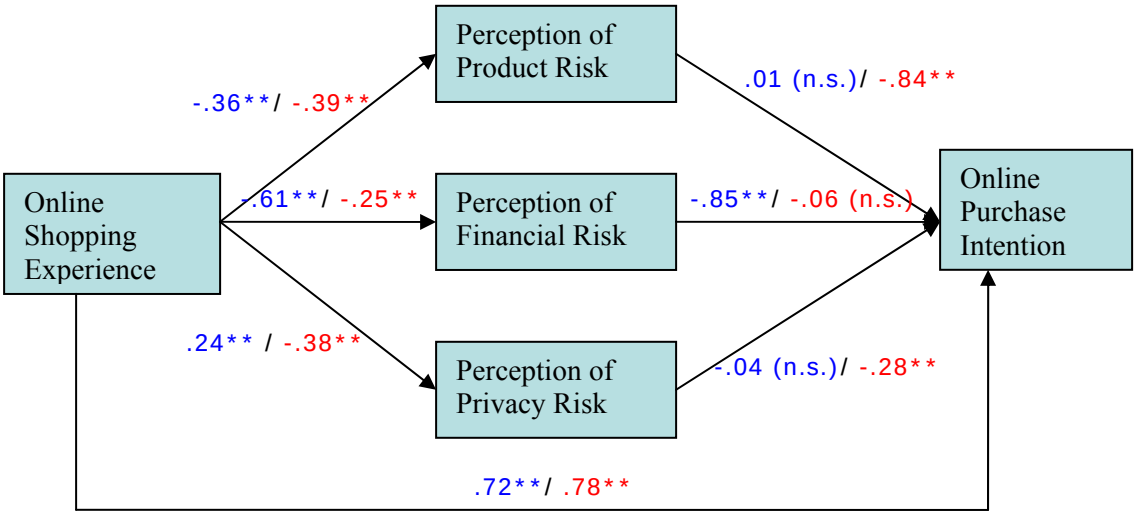
Research objective 3 was to test the influence of online shopping experience on purchase intentions. A simple regression was used to explore the relationship between these two variables. Results indicated that previous online shopping experience had a significant influence on consumers' purchase intentions regardless of the gender. For all respondents, nearly 51% of the variance of consumers' online purchase intentions for music products were accounted for by previous online shopping experience ($\beta = .71$, $R^2 = .506$, $p < .001$). The contribution of previous online shopping experience to the variance of consumers' purchase intentions was significant for both male ($\beta = .72$, $R^2 = .513$, $p < .001$) and female ($\beta = .78$, $R^2 = .613$, $p < .001$) respondents (see Tables 11, 12, and 13). Results from all of the regression analyses for online music shopping were summarized and presented in Figures 4 and 5.

Figure 4. Research model for online MUSIC shopping (men and women)



Note: ** Correlation is significant at the .01 level (2-tailed).

Figure 5. Conceptual model for online MUSIC shopping (men vs. women)



Note: Values printed in blue represent regression analysis output for male respondents; values printed in red ink represent regression analysis output for female respondents.

** Correlation is significant at the .01 level (2-tailed).

Research objective 4 was to examine the gender differences in online music shopping. There was no significant gender difference in term of consumers' perception of product risk in online music shopping. In online music shopping, male respondents perceived significantly higher privacy risk associated with purchasing music products on the Internet ($t = 11.47$, $p < .001$), but less financial risk ($t = -.52$, $p = .02$), compared to women. Although women were more active apparel shoppers, men were more active online music shoppers, with respect to shopping frequency in the past six months (see Table 14). Nevertheless, women reported greater online purchase intentions for music product in the next 6 month period than men ($t = 2.60$, $p < .001$).

Table 14. Gender differences in online MUSIC shopping (male: n = 136; female: n = 200)

	Men	**Women**		
	M (S.D.)	***M (S.D.)***	***t***	***p***
Perception of Product Risk	8.60 (4.03)	7.91 (4.89)	1.35	.177
Perception of Financial Risk	9.04 (4.16)	9.26 (3.45)	-.521	.020
Perception of Privacy Risk	15.70 (1.86)	9.24 (6.37)	11.467	.000
Online Shopping Duration (years)	3.63 (1.33)	3.37 (1.30)	3.230	.073
Online Shopping Frequency (times)	4.35 (1.64)	3.41 (3.41)	4.578	.003
Purchase Intentions	4.82 (1.82)	5.43 (2.27)	-2.599	.000

CHAPTER 5

CONCLUSIONS AND LIMITATIONS

This chapter provides a summary of findings, theoretical and practical implications. Limitations of this study are also discussed in this section.

Consumers' online shopping behavior is complex. This study explores the relationships between consumers' online shopping experience, perceptions of three types of risks associated with online shopping, and purchase intentions, using product category and gender as moderating factors. Additionally, this study seeks to examine gender differences in consumers' (1) online shopping experience, (2) perceptions of the three types of risks associated with online shopping, and (3) purchase intentions.

Conclusions

First, for online apparel shopping, all relationships between the variables in the proposed research model were significant except the influence of previous online apparel shopping experience on consumers' perception of privacy risk associated with online apparel shopping.

However, when the relationship between online shopping experience and perception of privacy risk was examined for male respondents and female respondents separately, it was found that men, but not women, perceived higher privacy risk with

increased online apparel shopping experience. It may be that men are more aware of the privacy risk and consequences of privacy risk associated with online apparel purchases as their online shopping experience increases.

Another interesting finding is that, with increased online shopping experience for apparel products, men perceived more product risk, whereas women perceived less product risk. As there are more female online shoppers and women tend to spend more and shop more frequently than men in online apparel shopping, female online shoppers may be more familiar with online shopping websites and particular apparel product brands. Thus, they perceive less product risk in online apparel shopping.

Second, for online music shopping, all relationships between the variables in the proposed research model were found to be significant. When the relationship between online shopping experience and perception of privacy risk was examined separately for male and female respondents, it was found that men perceived higher privacy risk with increased experience in online music shopping. Yet, women perceived less privacy risk with increased online music shopping experience. It may be that men are more aware of the consequences of privacy risk due to their overall increased online experiences.

Implications

The major contribution of this study is the proposed conceptual model that provides a framework to examine the relationships between the three types of risk perceptions associated with online shopping and online purchase intentions. Another contribution of this study is the examination of the impact of previous online shopping experience on consumers' perception of three types of risks associated with online shopping. While these studies (e.g., Doolin et al., 2005; Park & Stoel, 2005) have

examined such relationships, they were conducted without taking into account the moderating effect of product category and gender. Thus, testing the proposed conceptual model across different product categories and genders provided insights in applying the model to different online shopping situations. For example, as online music shopping experience increases, men perceive less product risk; however online apparel shopping experience seems to increase men's perception of product risk in online apparel shopping. Future studies may examine the impact of consumers' online shopping experience on their risk perceptions and the impact of risk perceptions on purchase intentions in various online shopping situations not included in the present study.

The findings in this study also provide practical implications for online retailers. Knowing consumers' perception of risks associated with online shopping, e- marketers may take various actions to make shopping online a less risky practice for more consumers. For example, online retailers may investigate male consumers' specific concerns regarding purchasing apparel products from their website and provide accurate product information. E-marketers may provide low-rate shipping and low-price guarantee to reduce perception of risk. Given that online shopping experience has a positive influence on consumers' purchase intentions in general; it will be wise for online retailers to seek to enhance consumers' shopping experience. Since all three types of risk perceptions are negatively related to consumers' purchase intentions in general, it is important for online retailers to take various measures (e.g. providing as much product information and up-to-date privacy security practice, improve the security of the website) to make online shopping a less risky practice for consumers.

Limitations

These findings must be interpreted with caution, particularly when drawing managerial implications for several reasons. First, only undergraduate college students were recruited for testing and data analyses. The potential limitations of using convenience samples was anticipated as they may not be representative of the online shopper population in terms of the variation of age, geographic locations, income, and education background, so generalizations about the entire population of Internet shoppers are inappropriate. It would be of value to conduct similar research with a national sample to obtain a more representative picture of online consumer behavior. However, college students are active Internet shoppers in the U.S., so this sample was deemed appropriate.

The selection of stimulus products was somewhat subjective. We acknowledge that no one set of products can adequately capture the full range of effects associated with all online product purchases. However, only two product categories were used to prevent the questionnaire from becoming too lengthy. Future studies could examine other products to determine whether the current conclusions are supported across a broad range of categories. Finally, to test our conclusions, researchers might measure the online purchase intentions of only those consumers who actually intend to purchase the product within a specified time period.

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APPENDICES

Appendix A. Survey invitation email

Dear AU students,

You are invited to participate in this online consumer behavior research by taking 5 to 10 minutes to answer a few questions about online shopping (e.g. your perceptions of risks associated with online shopping, your past experience with online shopping, and how likely you will keep/start shopping online). Just click https://fp.auburn.edu/daibo01/RISK/risk_perceptions_and_online_purc.asp.

I am conducting this study to evaluate the consumers' concerns regarding online shopping so that companies and retailers may better understand and serve their customers. All information is collected anonymously and your participation is on a voluntary base. And I do appreciate your time and cooperation. For more information about this study, please go to https://fp.auburn.edu/daibo01/RISK/info.asp

Thank you.

Appendix B. Sample survey questionnaire

Risk Perceptions and Online Purchase Intention

SECTION 1

Using a scale ranging from "Strongly Disagree" to "Strongly Agree", please indicate your level of agreement with the following statements based on your perceptions and online **APPAREL** (e.g. denim jacket) shopping experience:

	Strongly Disagree			Neutral			Strongly Agree
	1	2	3	4	5	6	7
1. It is **DIFFICULT** for me to judge **APPAREL** products' quality adequately (e.g. color, fabric texture, fit).	☐	☐	☐	☐	☐	☐	☐
2. It is **DIFFICULT** for me to compare the quality of similar **APPAREL** products.	☐	☐	☐	☐	☐	☐	☐
3. The **APPAREL** product purchased may **NOT** perform as expected.	☐	☐	☐	☐	☐	☐	☐
4. My credit card number may **NOT** be secure.	☐	☐	☐	☐	☐	☐	☐
5. I am concerned that I may **NOT** receive the item purchased.	☐	☐	☐	☐	☐	☐	☐
6. I may buy the same **APPAREL** product at a lower price from somewhere else (e.g. store, catalog).	☐	☐	☐	☐	☐	☐	☐
7. Online retailers may disclose my personal information (e.g. email address, mailing address) to other companies.	☐	☐	☐	☐	☐	☐	☐
8. Online retailers may track my shopping habits and history purchases.	☐	☐	☐	☐	☐	☐	☐
9. I may be contacted by online retailers (e.g. via email, phone calls, letters) without providing consent after the completion of transaction.	☐	☐	☐	☐	☐	☐	☐

General questions about **ONLINE APPAREL SHOPPING**:

10. How long have you been using the Internet to purchase **APPAREL** products?	☐ year(s) ☐ month(s) (e.g. 0 year 6 months , 1 year 0 month, 2 years 5 months)
11. How often have you used the Internet to purchase **APPAREL** products, during the past six months?	☐ time(s) (e.g. 0 time, 3 times)
12. What is the approximate amount you spent on **APPAREL** purchases online, during the past six months?	$ ☐ (e.g. $59, $132, $400)

	Not at all			**Neutral**			**Definitely**
	1	**2**	**3**	**4**	**5**	**6**	**7**
13. How likely are you to use the Internet to purchase an **APPAREL** product in the next six month?	☐	☐	☐	☐	☐	☐	☐

14. What is the approximate amount you will spend on **APPAREL** purchases online in the next six months?	$ ☐ (e.g. $59, $132, $400)

SECTION 2

Using a scale ranging from "Strongly Disagree" to "Strongly Agree", please indicate your level of agreement with the following statements based on your perceptions and online **MUSIC** shopping experience (e.g. purchasing music compact CDs, music videos):

	Strongly Disagree			**Neutral**			**Strongly Agree**
	1	**2**	**3**	**4**	**5**	**6**	**7**
15. It is **DIFFICULT** for me to judge **MUSIC** products' quality adequately (e.g. sound quality).	☐	☐	☐	☐	☐	☐	☐
16. It is **DIFFICULT** for me to compare the quality of similar **MUSIC** products.	☐	☐	☐	☐	☐	☐	☐
17. The **MUSIC** product purchased may **NOT** perform as expected.	☐	☐	☐	☐	☐	☐	☐
18. My credit card number may **NOT** be secure.	☐	☐	☐	☐	☐	☐	☐

19. I may **NOT** receive the item purchased.	☐	☐	☐	☐	☐	☐	☐
20. I may buy the same **MUSIC** product at a lower price from somewhere else (e.g. store, catalog).	☐	☐	☐	☐	☐	☐	☐
21. Online retailers may disclose my personal information (e.g. email address, mailing address) to other companies.	☐	☐	☐	☐	☐	☐	☐
22. Online retailers may track my shopping habits and history purchases.	☐	☐	☐	☐	☐	☐	☐
23. I may be contacted by online retailers (e.g. via email, phone calls, letters) without providing consent after the completion of transaction .	☐	☐	☐	☐	☐	☐	☐

General questions about **ONLINE MUSIC SHOPPING**:

24. How long have you been using the Internet to purchase **MUSIC** products?	☐ year(s) ☐ month(s) (e.g. 0 year 6 months , 1 year 0 month, 2 years 5 months)
25. How often have you used the Internet to purchase **MUSIC** products, during the past six months?	☐ time(s) (e.g. 0 time, 3 times)
26. What is the approximate amount you spent on **MUSIC** purchases online, during the past six months?	$ ☐ (e.g. $59, $132, $200)

	Not at all			**Neutral**			**Definitely**
	1	**2**	**3**	**4**	**5**	**6**	**7**
27. How likely are you to use the Internet to purchase a **MUSIC** product in the next six month?	☐	☐	☐	☐	☐	☐	☐

28. What is the approximate amount you will spend on **MUSIC** purchases online in the next six months?	$ ☐ (e.g. $59, $132, $400)

SECTION 3: Demographics

29. Age	I am ☐ years old.		
	Male	Female	
30. Gender	☐	☐	

	African-American	Caucasian	Asian	Hispanic	Other		
31. Ethnic Group	☐	☐	☐	☐	☐		
	Freshman	Sopho.	Junior	Senior	Graduate/Profession Student		
32.Year in School	☐	☐	☐	☐	☐		
	Business	Education	Engineering	Human Sciences	Liberal Arts	Science & Math.	Other
33. Academic Curriculum (College of)	☐	☐	☐	☐	☐	☐	☐