THE ROLE OF PRODUCT BRAND IMAGE AND ONLINE STORE IMAGE ON

PERCEIVED RISKS AND ONLINE PURCHASE INTENTIONS

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THE ROLE OF PRODUCT BRAND IMAGE AND ONLINE STORE IMAGE ON PERCEIVED RISKS AND ONLINE PURCHASE INTENTIONS

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DISSERTATION ABSTRACT

THE ROLE OF PRODUCT BRAND IMAGE AND ONLINE STORE IMAGE ON PERCEIVED RISKS AND ONLINE PURCHASE INTENTIONS

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Purchase intentions for fashion apparel and accessories involve both hedonic and aesthetic considerations that result higher requirements for triability and tangibility prior to purchase, suggesting that product brand image may be a particularly important factor in shaping consumers online purchase intentions for fashion apparel and accessories. In addition, consumer research literature suggests that consumers use brand name and store name to refine their purchase choices and reduce risk when shopping in a physical store. This study examines the role of product brand image and online store image on consumers' perceptions of specific types of perceived risks and their online purchase intentions for fashion apparel and accessories. A conceptual model, built on the theory of perceived risk and information integration theory, is developed to examine the relative

impact of product brand image and online store image on perceived risks and subsequent purchase intentions in the online shopping environment. A pretest was first conducted to select the less favorable and the more favorable product brands for shirts, dresses, and athletic shoes, and online stores where participants would like to shop for these products. A pilot test was conducted to examine the scales. A Web-survey of 875 female college students was used for the main study to investigate the relative impact of product brand image and online store image on perceived risks and online purchase intentions. Structural Equation Modeling statistical analysis was conducted to test hypotheses. The current study found that product brand image has significant impact on college students' online purchase intentions for fashion apparel and accessory products. It was also found that product brand image has greater importance weight in influencing online purchase intentions than online store image does. The results of this study showed that although online store image and product brand image significantly impact perceptions of financial/time risks perception of financial/time risk does not significantly influence purchase intentions. In contrast, product risk was found to be the major hindrance to online purchase intentions. Perceived product risks fully mediated the impact of online store image on purchase intentions and partially mediated the impact of product brand image on purchase intentions. This research will provide insights concerning risk perceptions in online shopping and how those risks impact consumers' online purchase intentions as well as understanding the relevant impact of product brand image and online store image on perceived risks and purchase intentions for fashion apparel and accessory products.

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CHAPTER I: INTRODUCTION

While online retail sales and the number of online stores are constantly growing ($146.5 billion, 25% increase from 2006, Internet Retailer™, 2007; Mui, 2007) and expectations of online sales increases are highly positive ($204 billion for 2008, Grannis, Davis, Sullivan, 2008), there are still questions about how to effectively encourage online purchases (Burkley & Carlton, 2000). Despite rapid growth, online retailing still provides relatively low sales volume compared to traditional retailing (Shang, Chen, & Shen, 2005). However, uncertainty about the increasing unemployment rate caused by the current economy considerably impacts consumers' decisions to spend online. Recent research showed that consumers invest more time in shopping online because it provides confidence about their purchases (Rodrigues, 2009). Consequently, it is important to understand the factors that stimulate and/or inhibit consumers' online purchase intentions.

Online shopping: The role of product brand image and store image

Despite the fact that the online shopping phenomenon is growing (Freeman, 2000; Hoffman & Novak, 2000; Internet Retailer™, 2007), it also provides a paradoxical situation for both consumers and retailers. Online shopping is very convenient for and attractive to consumers, but it is also associated with numerous uncertainties. Many

consumers have difficulty making online purchase decisions due to the potential risks associated with online shopping. Consumers often rely on both store image (Heijden & Verhagen, 2004) and product brand image (Porter & Claycomb, 1997) to acquire information for decision making in both traditional and online shopping environments. Brands are known to simplify consumer decision-making process (Bergstrom, 2000). In addition, brands play a key role in assisting consumers to understand the consumption benefits related to a specific product in online and traditional shopping environments. Depending on their image (i.e., favorable vs. not favorable), brands have divergent effects on consumers' responses to various marketing activities (Keller, 1993). A strong and favorable brand image is known to be one of the most valuable assets of a company (Porter et al., 1997) because a well-known and favorable brand image positively influences purchase intentions of consumers, while less well-known and less favorable images do not.

Product brand image may be defined as the overall product meaning conveyed to consumers. Keller (1993) defined brand image as overall perceptions about a brand as reflected by brand associations. These associations refer to any aspect of the brand held in consumers' memory (Aaker, 1996) and formed through the experiences with the brand in previous encounters (Keller, 1993).

Research has shown that product brand image has a halo effect on consumers' perceptions of product attributes (Chattopadhyay & Basu, 1990; Tse & Lee, 2001). The halo effect is described in psychology as a subjective bias that causes an individual's evaluation of one characteristic to impact his or her evaluation of other characteristics. Based on the halo effect, then, consumers' evaluation of particular attributes of a branded

product can be influenced by their general impression of the overall brand image (Beckwith, Kassarjian, & Lehmann, 1978). For instance, a favorable (or non-favorable) brand image can have a positive (or negative) influence on the evaluation of all other attributes of a branded product. As a result of this halo effect, a strong and favorable brand image will positively bias consumers' impression of other attributes of the branded product. This phenomenon makes product brand image one of the key elements leading to increase consumers' purchase intentions, particularly in online retailing, where consumers typically cannot examine the product directly. Thus, in the online environment, consumers may use brand image as a surrogate for a variety of product attributes, particularly when the product cannot be examined directly.

Martineau (1958) first described retail store image as the way in which consumers perceive the store based on its functional qualities and environmental attributes. Store image is also defined as the conceptualized or expected reinforcement that consumers associate with shopping at a particular store (Kunkel & Berry, 1968, p. 22). The physical retail store image and its relationship with consumers' purchase intentions has been studied for the last 50 years (Agarwal & Teas, 2001; Dodds, Monroe, & Grewal, 1991; Wilde, Kelly, & Scott, 2004). However, online store image is still in the early stages of interest among researchers, and its impact on consumers' online purchase intentions has not been widely examined. Therefore, understanding relative roles of product brand image and online store image on consumers' risk perceptions and purchase intentions is important for both theoretical and pragmatic reasons.

Perceived risks in online shopping

It is widely recognized that consumers face uncertain outcomes when deciding to purchase a product or service (Gratorex & Mitchell, 1994) and these outcomes may characterize a loss to consumers. This phenomenon is the basis of the theory of perceived risks introduced by Bauer in 1960 (Bauer, 1960). According to the theory of perceived risk, consumers may experience different types of loss depending on their purchase goals. For instance, consumers may feel some level of financial, physical, or psychological risk when deciding to purchase a product or service. Consumers often use various risk-reducing strategies, such as gathering more information and/or depending on a well-known brand to decrease the amount of risk (Gratorex & Mitchell, 1994) and increase the likelihood of making a satisfactory purchase. Because consumers perceive more risks in the online shopping environment than in traditional retail settings, they are often hesitant to make purchases online (Hoffman et al., 1999; Jarvenpaa et al., 1999; Pavlou, 2001). Consequently, perceived risk is often a major barrier to consumers' online shopping intentions (Featherman & Pavlou, 2003).

Both economics and consumer research literature (e.g., Bolton & Drew, 1991; Teas & Agarwal, 2000) suggest that consumers use brand name and store name to refine their purchase choices by reducing risk when shopping in a physical store. This phenomenon is also found to be significant across cultures (Dawar & Parker, 1994). However, less is known about the impact of product brand image in reducing risks in online shopping environments. In other words, do product brand image and store image have similar influences on reducing risk in online shopping environments as they do for physical shopping environments? Recent studies focused on the effects of product brand

image and online store image on perceived risk have examined the role of general risk (e.g., Kwon & Lennon, 2009). Specific types of risk were not examined. In addition, the research focused on the image of a specialty store with regard to its distribution channel; online versus offline image of the same specialty retailer store was considered by Kwon and Lennon (2009). The proposed study extends the work of Kwon and Lennon (2009) and others (Agarwal et al., 2001; Agarwal & Teas, 2004) to examine the role of product brand image and online store image on specific types of perceived risk associated with online shopping and online purchase intentions. In addition, the present study aims to focus on the relative impact of the image of the online store that carries national product brands and the image of the product brand.

Online shopping introduces additional types of perceived risk (Huang, Schrank, & Dubinsky, 2004) that may prevent consumers from purchasing online. Research conducted by Forsythe and Shi (2003) examined types of perceived risk associated with online shopping and identified financial, product performance and time/convenience risks to be widely associated with online shopping.

Financial risk that includes transaction security and security regarding the use of credit cards online is one of the most frequent concerns among online consumers (e.g., Keeney, 1999; Maignan & Lukas, 1997). Since consumers tend to trust stores that have a good reputation and a strong image more than stores that have a poor reputation (Hendrix, 1999), one may expect that perceived financial risk will be lower when consumers purchase in online stores that have a favorable image.

Online consumers also perceive risk with regard to their expectations about product performance in the traditional store environment (Horton, 1976). That is, the

product they purchase may not perform as it was expected to perform. Product risk is relevant in the online shopping environment (Forsythe et al., 2004) and results largely from the inability to evaluate the product physically. Product risk may be specifically prevalent for certain product categories such as apparel because fashion apparel and accessories entail hedonic and aesthetic considerations, which require a high level of triability and tangibility prior to purchase (Cooper-Martin, 1991; Rosa & Malter, 2003). For apparel products, touch, feel, and fit are necessary to evaluate product performance fully (Gaal & Burns, 2001; Lim, 2001). Favorable store image and product brand image can be expected to reduce the product risk associated with purchasing apparel online due to the halo effect. As discussed earlier, because of the halo effect, a strong and favorable brand image will positively bias consumers' impressions of other attributes of the branded product. Similarly, a strong and favorable online store image may positively bias perceptions of other store attributes such as the merchandise the store carries.

Consumers may also perceive time risk during online transactions due to the difficulty of navigation, submitting orders, or delays in receiving products (Forsythe et al., 2004; GVU, 1998). Research showed that when an online store name is positively perceived and is well known, consumers' perceptions of security risk are lower (Grewal, Munger, Iyer, & Levy, 2003). Since consumers perceive an online store based on its functional qualities, the strong image of an online store can be expected to reduce perceived time risk. This research aims to examine the relative role of product brand image and online store image in purchase intentions and the mediating role of specific types of risks between product brand image, online store image, and online purchase intentions.

Problem Statement

Most studies attempting to understand the role of brand and store images in consumers' purchase intentions have focused on the traditional physical store environment. Few studies have examined the relative role of product brand image and store image on perceived risk and purchase intentions, and even fewer published studies have examined the relative role of product brand image and online store image on perceived risk and purchase intentions or the mediating roles of specific types of perceived risk associated with online shopping and purchase intentions.

There is a need to understand the role of product brand image and online store image on consumers' perceptions of financial, product, and time risks, as well as the direct and indirect influences of product brand image and store image on consumers' online purchase intentions. Understanding the unique roles of product brand image and online store image on specific types of perceived risk may be used to suggest strategies to reduce consumers' perceptions of each type of perceived risk associated with online shopping. Particularly, it is important to understand the influence of these factors on consumers' online purchase intentions for fashion apparel and accessory products.

Fashion apparel and accessories represent profitable and highly competitive product categories. Fashion apparel and accessories continues to be the best selling online product category (Beck, 2004; DesMarteau, 2004; Mui, 2007; Rush, 2004; U.S. Department of Commerce, 2005). The U.S. Department of Commerce reported that the 2004 to 2005 sales increase for apparel and accessories was 23.7%. According to a study conducted by Forrester Research, "consumers spent $18.3 billion on clothes and

accessories in 2006, up 61% from the previous year" (Mui, 2007). Purchase intentions for fashion apparel and accessories involve hedonic and aesthetic considerations that result in higher requirements for triability and tangibility prior to purchase (Cooper-Martin, 1991; Rosa & Malter, 2003). In addition, apparel conveys social status, self-image, and other personality characteristics of the wearer (Kaiser, 1996). Given that product brand can be understood as an entity that has a personality (Aaker, 1997), it can be expected that brand image is an important factor in shaping consumers' purchase intentions for fashion apparel and accessories. Consequently, it is very important to understand how product brand image and online store image influence consumers' online purchase intentions for fashion apparel and accessory products.

Purpose of Study

This study examines the role of product brand image and online store image on consumers' perceptions of specific types of perceived risks and their online purchase intentions for fashion apparel and accessories. A conceptual model, built on the theory of perceived risk and information integration, is developed to describe the impact of product brand image and online store image on perceived risks and subsequent purchase intentions in the online shopping environment.

The purposes of this study are:

1. To examine the direct and indirect influence of product brand image and online store image on consumers' online purchase intentions for fashion apparel and accessory products.

2. To examine the relative strength of product brand image versus online store image in predicting online purchase intentions for fashion apparel and accessory products.
3. To examine the impact of product brand image and online store image on perceptions of three types of risks (financial, product performance, time) associated with online purchase for fashion apparel and accessory products.
4. To examine the mediating role of three types of perceived risks (financial, product performance, time) on the impact of product brand image and online store image on purchase intentions for fashion apparel and accessory products.

Significance of the Study

Though the importance of product brand image, store image, and perceived risks are widely recognized, there is a lack of attention in the literature to the mechanism by which product brand image, online store image, and specific types of perceived risk impact consumers' purchase intentions. Understanding the process by which product brand image and online store image impact consumers' purchase intentions in the online shopping environment may provide a foundation to understand better the formation of consumers' purchase intentions and how to use product brand image and store image to influence those purchase intentions favorably. The present study will contribute to the

literature in online branding in several ways. First, this study may provide a better understanding of the interaction of product brand image and online store image with their relative influence on consumers' purchase intentions in an online shopping environment. Built on Information Integration Theory, this study may extend the limited theoretical and empirical work in the domains of product brand image and online store image and their roles in online purchase intentions.

Since consumers perceive more risk in the online shopping environment, particularly for fashion apparel and accessory products where prior physical product evaluation is critical, it is important to examine the risk-reducing roles of product brand image and online store image in consumers' online purchase intentions. This study may provide a better understanding of the theory of perceived risk in the framework of online shopping as it broadens knowledge about the risk-reducing roles of product brand image and store image on purchase intentions for fashion apparel and accessory products. More specifically, this study may provide fresh insight into understanding the roles of product brand image and online store image in each type of perceived risk associated with online shopping. Examination of the risk-reducing roles of product brand image and online store image on specific types of perceived risks specifically associated with fashion apparel and accessory products, as well as the relative roles of product brand image and online store image on purchase intentions, may also help practitioners design better strategies to reduce these risks.

Terms used in this study are defined as follows:

Product Brand: In the present study, product brand is defined as symbolic representation of all the information connected to a product that serves to create various associations and expectations regarding the product.

Product Brand Image: Reasoned or emotional perceptions about a product brand as reflected by the brand's functional and symbolic associations held in consumers' memory (Vazquez, del Rio, & Iglesias, 2002).

Online store: In the present study, online store is defined as a Website that sells goods virtually. Consumers receive the purchased merchandise from the vendor delivered via mail once the payment has been processed virtually (i.e., by using a credit card or online check).

Online store image: The overall impression of an online store including the mental pictures and feelings it evokes in consumers' mind with regard to merchandise, service, and Web site atmosphere.

Perceived risk: The consumer's perception of uncertainty and subjective expectation of a loss associated with online purchase of fashion apparel and accessory products (Bhatnagar & Ghose, 2004).

Financial risk: A net loss of money perceived by consumers (Horton, 1976; Derbaix, 1983) that includes product repair, refund, and maintenance cost (Grewal et al., 1994) as well as the possibility that one's credit card information may be misused (Forsythe & Shi, 2003).

Product performance risk: The loss experienced by consumers when their

expectations of a product's performance do not actualize after the purchase (Horton, 1976).

Time/convenience risk: An inconvenience and time loss experienced by a consumer due to difficulties in Web site navigation, submitting a product order, or waiting for product delivery (Forsythe et al., 2003).

Purchase Intentions: Consumers' aim and willingness to purchase the specific branded product (Dodds et al., 1991).

CHAPTER II: LITERATURE REVIEW

This chapter provides a review of empirical literature related to the present study and discusses theories and conceptual frameworks on which the study is developed. The first part of this chapter covers a review of background literature and the second part presents a theoretical background and proposed conceptual model and hypotheses.

Review of Background Literature

Brands

The concept of a brand and its attributes has received much attention from researchers in the last few decades (Keller, 1993; Leuthesser, 1988; Maltz, 1991). Kotler (1991) defined a brand as "a name, term, sign, symbol, or design, or a combination of them which is intended to identify the goods and services of one seller of group of sellers and to differentiate them from those of competitors" (p. 442). There are two perspectives in the marketing literature that define the brand: classical approach and holistic view (Vasquez, del Rio, & Iglesias, 2002).

To understand each perspective, Vasquez et al. (2002) suggest considering whether consumers make a distinction between attributes related to the product and those

associated with the brand. Authors that advocate the classic definition of a brand support this distinction since they perceive brand as an additional attribute to the product that enables its identification (Vasquez et al., 2002). Kotler's (1991) definition of a brand as stated above is a good example of a classic view of a brand. On the other hand, followers of the holistic view of brand (e.g., Keller, 1993; Vasquez et al., 2002) claim that consumers tend to perceive products from an overall standpoint and associate a product with the brand attributes. In other words, the holistic view maintains the idea that consumers perceive product attributes as an integrated association with brand attributes. This approach has been considered in brand image research (Keller, 1993) and trade publications since it is believed that separation of product attributes from those of a brand is very difficult due to existing strong interrelations between the two. Vasquez et al. (2002) justify the holistic view, suggesting that consumers' perceptions of a brand are most likely bonded with their experiences with the product.

This study follows the holistic view of the brand that suggests that consumers do not separate product attributes from brand attributes. Based on this view, consumers' perceptions of the product attributes (e.g., performance, quality) will be closely interrelated to their perceptions of the brand. Consequently, the more positive their perceptions of the brand, the more positive will be their perceptions of the branded product's attributes. As a result, consumers' purchase intentions for a branded product will be based largely on their attitude toward the brand.

Product Brand Image

Brand image has been a subject of great importance not only to the academic community but also to marketers and retailers due to its enormous implications for

strategic management activities. In spite of the importance of the brand image concept in the marketing field, there are disagreements on how it should be defined (Dobni & Zinkhan, 1990).

Like any other abstract concepts, brand image has multiple meanings and interpretations depending on the various viewpoints of research. In the literature, there are a number of conceptualizations of brand image applicable in consumer psychology, general psychology, as well as marketing (e.g., Arons, 1961; Keller, 1993; Lindquist, 1974; Martineau, 1958; Poiesz, 1989). However, a widely accepted definition of brand image introduced by Keller (1993) suggesting brand image and brand awareness as the two dimensions of brand knowledge is consistent with the purpose of this study. Brand knowledge is defined as the mental representation of the brand that is translated into personal meanings in consumers' memory. Brand awareness, as the first dimension distinguishing brand knowledge, relates to the strength of the brand node and is measured by the consumers' ability to identify and recall the brand. Here, nodes are stored information in consumers' memory. Keller (1993) defined brand image, the second dimension of brand knowledge, as "perceptions about a brand as reflected by the brand associations held in consumer memory" (p. 3). According to Keller (1993), brand associations can be obtained through direct experience with a brand, information communicated by various sources (i.e., the firm itself, commercial sources, and word-of-mouth), and by inferences based on preexisting associations with the brand. Brand associations make up the brand image and hold the meaning of the brand in consumers' minds. The associations can refer to tangible and intangible, intrinsic, or extrinsic aspects of a brand and, depending on personal experience, the associations can be caused by

internal or external stimuli (Martinez & Pina, 2003). The favorability, strength, and uniqueness of brand associations are suggested as determinants of brand image (Keller, 1993). Favorability of brand associations is explained as how favorably they are evaluated, which positively or negatively influences brand image. Uniqueness refers to those brand associations that are not shared with other brands and that help a brand become more noticeable and different in the consumer's mind.

The different types of brand associations include product-related and non-product-related attributes (intrinsic and extrinsic); functional, experiential, or symbolic, as well as overall brand attitudes (Vasquez et al., 2002; Keller, 1993, 2003). Product-related (intrinsic) attributes relate to the physical composition of a product. Keller (1993) suggested four types of non-product-related (extrinsic) attributes—price information, packaging or product appearance information, user imagery, and usage imagery. Non-product-related attributes are not part of the physical product itself but are influential in the purchase intentions of consumers (Aaker, 1997; Keller, 1993).

In addition to disagreement among researchers regarding the brand image definition, there is also little consensus on how to empirically measure the concept (Martinez & de Chernatony, 2004). Lassar, Mittal, and Sharma (1995) developed a scale to measure consumer-based brand equity where the brand image dimension referred to social image. Aaker (1997) suggested measuring brand image through association/differentiation measures regarding value, personality, organizational associations, and differentiations. This approach to measuring brand image has been used for different product categories (Martinez et al., 2003; Martinez et al., 2004).

Some studies regard brand image to be product specific. Low and Lamb (2000) noted that brand image, brand attitude, and perceived quality have been used separately to measure brand associations for many years. Low et al. (2002) empirically tested a conceptualization of brand associations in relation to brand image, brand attitude, and perceived quality. Their research consisted of three studies: (1) testing a protocol for developing category-specific measures of brand image; (2) exploring the dimensionality of the brand associations construct by testing brand image, brand attitude, and perceived quality in the same model; and (3) investigating whether there is a relationship between the degree of dimensionality between brand associations and brand familiarity. The researchers developed a brand image scale consisting of multiple semantic differential items for a specific product category (calculators), and later tested the scale for different product categories. The research by Low et al. (2002) supported the effectiveness of the brand image scale in measuring brand associations and suggested that brand associations tend to vary across brands and product categories. Hence, depending on the product category, brand image should be measured using different scales. The present study follows this recommendation to use a product specific brand image measure because brand image associations for fashion apparel and accessory products are more strongly derived from symbolic benefits than functional benefits of the product. Vasquez et al. (2002) developed a scale to measure brand image for athletic shoes. Similar to the study conducted by Vasquez et al. (2002), functional and symbolic attributes of brand image were measured in the proposed study.

Retail store image

Retail store image is believed to be one of the major conceptual topics in academic research (Mayer, 1989). The concept of store image has evolved since its introduction by Pierre Martineau in 1958. Martineau's definition of store image was attached to retail store personality. One decade later, Kunkel and Berry (1968) defined retail store image as the total expected reinforcement that consumers associate with shopping at a particular store. Lindquist (1975) conceptualized retail store image as a summation of a number of perceptions of store attributes (e.g., functional qualities, psychological attributes) and suggested that store image is also a function of the importance weights of store attributes. Lindquist (1974) summarized the results of previous studies in the domain of retail store image and identified 35 different attributes of store image that were grouped into nine independent components. Following Lindquist's conceptualization of a retail store image, a large number of researchers tried to refine the construct of retail store image; however, there were few consistent results. Some of the results suggested that product, price, assortment, styling, and location comprise store image (e.g., Doyle & Fenwick, 1974), while others thought that quality of merchandise, parking facilities, and friendly personnel are additional components of store image (e.g., Bearden, 1977), or that merchandise, service, and physical facilities/atmosphere are the only store image attributes (Zimmer & Golden, 1988). Recent studies have identified fashion, service, and atmosphere as store image attributes (e.g., Porter & Claycomb, 1997) and added global perceptions, reputation, and environment to the previously identified store image attributes (Erdem, Oumil, & Tunclab, 1999).

The attribute-based approach of store image conceptualization has been criticized due to its inability to capture the richness of the concept (Keaveney & Hunt, 1992). A number of researchers support the alternative gestalt perspective of store image (e.g., Lindquist, 1974; Zimmer et al., 1988) and believe that consumer interpretation simplifies the complex information (Mitchell, 1999). Mitchell examined the results of 16 previous store image perceived-risk studies and suggested a new concept of store image comprised of four risk dimensions (time, psychological, financial, physical) that are strongly linked to retail store image.

Even though there are several approaches to conceptualizing and measuring the retail store image construct, there is little agreement among researchers that these measures are satisfactory. A number of issues remain unclear because of inconsistencies between conceptualization and operationalization of the retail store image concept (Yun & Good, 2007). Given the difficulty of conceptualizing and measuring retail store image despite intense research in the topic area in the past four decades, it is easy to see that the newer concept of online store image may not be easy to define or measure.

Online retail store image

Online retail store image is a relevantly new phenomenon. Consequently, there is little literature that systematically focuses on conceptualization and measurement of online store image. Researchers recognize that both traditional retail store image and online store image have many common characteristics (Spiller & Lohse, 1997–1998) and they base their research on online store conceptualization of traditional retail store image literature (e.g., van der Heijden, 2003; Page & Lepkowska-White, 2002). A study conducted by van der Heijden et al. (2003) is among the few research studies that have

examined online store image and its relation to consumers' purchase intentions. These authors developed a 27-item scale of online store image that consisted of seven components: (1) online store usefulness, (2) enjoyment, (3) ease of use, (4) store style, (5) familiarity, (6) trustworthiness, and (7) settlement performance. Van der Heujden et al. (2003) showed that four of the seven pre-proposed components of online store image scale (online store usefulness, enjoyment, trustworthiness, and settlement performance) significantly influence consumers' attitudes towards purchasing and intentions of purchasing online books.

Page and Lepkowska-White (2002) also applied traditional branding literature to the online retail environment and defined web image as consumers' perceptions of the online retailer through site-related and non-site-related (e.g. vendor, product/service) associations. It was suggested that online store image could be determined by two sources of communication (marketer and non-marketer), web design features, vendor characteristics, and product/service characteristics. Wilde, Kelly, and Scott (2003) found that despite similarities, some of the dimensions of traditional store image might not be applicable to online store image. Wilde et al. (2003) developed an e-tail image instrument consisting of 22 items to assess three e-tail image dimensions (core demands, institutional factors, and information) of an online grocery store. As suggested by Wilde et al. (2003), the dimensions of online store image identified in their study can be viewed from the perspective of Mitchell's (2001) reinterpretation of the traditional store image concept within the theory of perceived risk. Mitchell's (2001) concept of store image consisted of four risk dimensions (time, psychological, financial, and physical). Three of these dimensions —psychological, time, and financial risks—were found to be relevant to

online store risk dimensions identified in Wilde et al.'s (2003) study.

Oh, Fiorito, Cho, and Hofacker (2008) investigated store atmosphere in relation to store image. Oh et al. (2008) followed the theoretical perspective proposed by Baker, Grewal, and Parasuraman (1994) identifying store image as a consequence of store atmosphere and suggested that store atmosphere provides cues for consumers' perceptions of store image. Three atmospheric factors—(1) safety, (2) convenience, and (3) entertainment—were identified to comprise online store image.

Yun et al. (2007) examined physical store image literature to investigate online store attributes that lead to perceptions of online store image. Yun et al. (2007) applied three key store image attributes—merchandise, service, and store atmosphere—consistently used to measure traditional retail store image to develop a scale to measure online store image. E-merchandise attributes included four items (dependable products, high quality products, high value products, fair/competitive prices); e-service attributes included four items (customized service, descriptive information/application, ease of contact, delivery/shipping/tracking); and e-shopping atmosphere included four items (privacy and security, convenience/time saving, search/navigation, design/layout).

In summary, online store image has been investigated from a variety of conceptual frameworks, but there has been little agreement regarding what constitutes online store image. As a result, there is no universally accepted scale to measure all the dimensions of online store image. The present research will adopt an online store image scale from the Yun et al. (2007) study, because their scale is relevant to online store image defined in the present study and has a good reliability.

Internet shopping

The Internet has become a fascinating dynamic virtual channel for selling and buying products, services, and information. The increasing popularity of the Internet as a shopping medium is believed to be due to convenience, time effectiveness, and opportunity to compare product features and prices (Chen & Dubinsky, 2003). For retailers, attractiveness of the Internet as an alternative channel of communication, transaction, and distribution is due to the relatively low cost of establishing an Internet store (Geyskens, Gielens, & Dekimpe, 2002). The Internet, as an alternative shopping medium, is also intriguing for researchers. The rapid growth of attention to online shopping brings forward several questions for academic research. For instance, several studies that tried to understand factors that influence consumers' adoption of online shopping (e.g., Koyuncy & Bhattacharya, 2004; Smith & Sivakumar, 2004); others (e.g., Hoffman, Novak, & Chatterjee, 1995; Forsythe et al., 2003) focused on benefits of online shopping from consumers' perspectives.

Quite a few studies have examined the factors that influence consumers' decisions while shopping online. Perhaps one of the earliest studies in this field was one conducted by Jarvenpaa and Todd in 1997 to validate a model of Internet shopping attitudes and intentions. The model used in the study included several perceptual indicators belonging to four core categories—the product value sought by consumers, shopping experience, service quality of the site, and risk perceptions of online shopping.

Another study conducted by Swaminathan, Lepkowska-White, and Rao (1999) investigated Internet users' attitudes toward online shopping, finding that security and

privacy had only a minor influence on the participants' online shopping behavior. However, another study by Vellido, Lisboa, and Meehan (2000) showed that risk perception was a major factor affecting online shopping behavior. Jarvenpaa, Tractinsky, and Vitale (2000) cross-culturally tested a model of consumer attitudes toward specific web-based stores and found that attitude and risk perception significantly affected consumers' purchase intentions.

A study conducted by Chang, Cheung, and Lai (2005) summarized the previous literature on the subject of online shopping in order to provide a better understanding of the dynamics of consumers' online decisions. The factors used in 45 reviewed studies were classified according to their similarity. According to Chang et al. (2005), the risk factor is one of the most extensively investigated constructs. Fourteen studies explored the issue of perceived risks in online shopping (e.g., Bellman, Lohse, & Johnson, 1999; Burroughs & Sabherwal, 2001; Jarvenpaa & Todd, 1997; Jarvenpaa, Tractinsky, Saarinen, & Vitale, 1999; Jarvenpaa, Tractinsky, & Vitale, 2000; Kimery & McCord, 2002; Liang & Huang, 1988; Liao & Cheung, 2001; McKnight, Choudhury, & Kacmar, 2002; Miyazaki & Fernandez, 2001; Sin & Tse, 2002; Vijayasarathy & Jones, 2000; and Limayem, Khalifa, & Frini, 2000). The majority of those studies only examined general perceptions of risks, and few of them analyzed specific aspects of types of perceived risks. Chang et al. (2005) determined that specific risks are those concerned with privacy infringement, system security, fraudulent merchant behavior, credit and fault, and product risk. General risk was measured by simply asking respondents if buying online is risky. The results of the 14 studies of perceived risk reported quite inconsistent findings. Some of the studies reported a negative relationship between perceived risks and online

shopping intentions (e.g., Jarvenpaa & Todd, 1997; Jarvenpaa, Tractinsky, Saarinen, & Vitale, 1999; Jarvenpaa & Todd, 1997; Kimery & McCord, 2002; Limayem, Khalifa, & Frini, 2000)whereas others reported no such connection (e.g., Liao & Cheung, 2001; McKnight, Choudhury, & Kacmar, 2002; Miyazaki & Fernandez, 2001; Vijayasarathy & Jones, 2000). Although the impact of perceived risks on the intention to purchase online was found to be inconsistent in some of the examined studies, six studies similarly found a negative relationship between perceived risks and online purchase intentions. In review, Chang et al. (2005) noted that all 14 studies either examined highly general concepts of risk or focused only on one very specific aspect of risk. Chang et al. (2005) recommended a careful investigation of perceived risks for future studies and emphasized the need to have a better conceptualization of risk itself.

In summary, perceived risk has been found to be a major factor impacting purchase intentions among online shoppers. Though perceived risk has been extensively investigated in online shopping literature, the relationship between perceived risk and purchase intentions is not consistent. This inconsistency is due to use of either highly general (e.g., overall risk) or very limited (e.g., transaction security) conceptualization of the risk in the majority of studies (Chang et al., 2005). To investigate the relationship between perceived risk and purchase intentions, therefore, it is important to focus on specific types of perceived risk associated with online shopping.

Perceived risks: A case of online shopping

Studies have shown that consumers perceive higher levels of risk when shopping in non-store settings including telephone shopping (Cox & Rich, 1964); mail order

shopping (Akaah & Korgaunkar, 1988); and catalog shopping (Reynolds, 1974). Not surprisingly, consumers also perceive a high level of risk when they shop online (Bhatnagar et al., 2004).

Perceived risk is a multidimensional phenomenon (Cunningham, 1967). Each risk dimension can be described as an expectation of a future cost contributing to the product's perceived value (Sweeney & Soutar, 1999; Sweeney, Soutar, & Johnoson, 2001). Forsythe and Shi (2003) conducted a study examining the nature of perceived risk associated with general online shopping and found that four types of perceived risk are most relevant to online shopping: financial, product performance, psychological, and time/convenience loss risks.

Financial risk is generally described as a net loss of money perceived by consumers and includes possible repair, replacement, and/or refund need (Horton, 1976; Sweeney et al., 1999). This risk is common across product categories (Bhatnagar & Ghose, 2004). Perceived financial risk may come from a consumer's feelings of insecurity in terms of credit card usage in the Internet. This is due to the consumer belief that stealing credit card information online is very easy and common (Caswell, 2000).

Product performance risk is generally described as the loss experienced by consumers when their expectations of a product or brand do not actualize after the purchase (Horton, 1976). This risk occurs due to a consumer's inability to examine products physically before buying (Bhatnagar, Mishra, & Rao, 2000). Product performance risk may result when there is limited information about the product, when there is poor product choice/selection, when the price is high, or when the consumer is not confident enough to evaluate the product or its brand (Horton, 1976; Forsythe et al.,

2003). This type of risk varies across product categories. In an online environment, product performance risk is very high for apparel products due to a consumers' inability to touch or try on a product.

Time/convenience risk was described as inconvenience and time loss experienced by a consumer due to difficulties in website navigation and/or difficulties submitting a product order (Forsythe et al., 2003). Time/convenience risk also increases when a consumer has a hard time finding appropriate websites and faces possible delays or difficulties when receiving ordered products. Slow-downloading websites and confusing web design are also classified as time/convenience risks (Forsythe et al., 2003).

Bhatnagar and Ghose (2004) developed an analytical model of the role of the perceived risks and perceived benefits of online shopping. In their study, the authors considered only two dimensions of perceived risk—product risk and security risk. Bhatnagar and Ghose describe security risk similarly to the way financial risk is described in the Forsythe and Shi study (2003). Sweeney et al. (1999) examined the role of perceived risk within a model of perceived quality and value in a retail environment. Although only two types of perceived risk were considered in the Sweeney et al. (1999) study—product and financial risks—the authors did not specify each risk type and did not test the potentially different roles of each dimension. In other words, both types of risk (product and financial) were combined as one construct. In addition, the model was tested in a traditional store environment. Research conducted by Agarwal et al. (2001, 2004) specified two types of perceived risk—performance and financial—and examined the unique roles of the two risk dimensions in mediating the relationship between perceived quality, sacrifice, and value. However, this model was also tested in a traditional store

environment. Since the vast majority of the studies focused on perceived risk in a traditional store environment, they used a perceived risk scale suitable for offline shopping. Forsythe, Liu, Shannon, and Gardner (2006) developed a scale to measure perceived risk associated with apparel online shopping and tested it in an online shopping environment. A three-factor scale of perceived risk was developed based on extensive qualitative inquiry and quantitative assessment. The three dimensions of perceived risk included financial, product, and time/convenience risks. The perceived risk scale developed by Forsythe et al. (2006) was used in the proposed study since it is the only scale that considered risk associations with regard to online shopping and reported construct, nomological, convergent, and discriminant validity supported by two national samples.

Theoretical Background

Theory of perceived risk

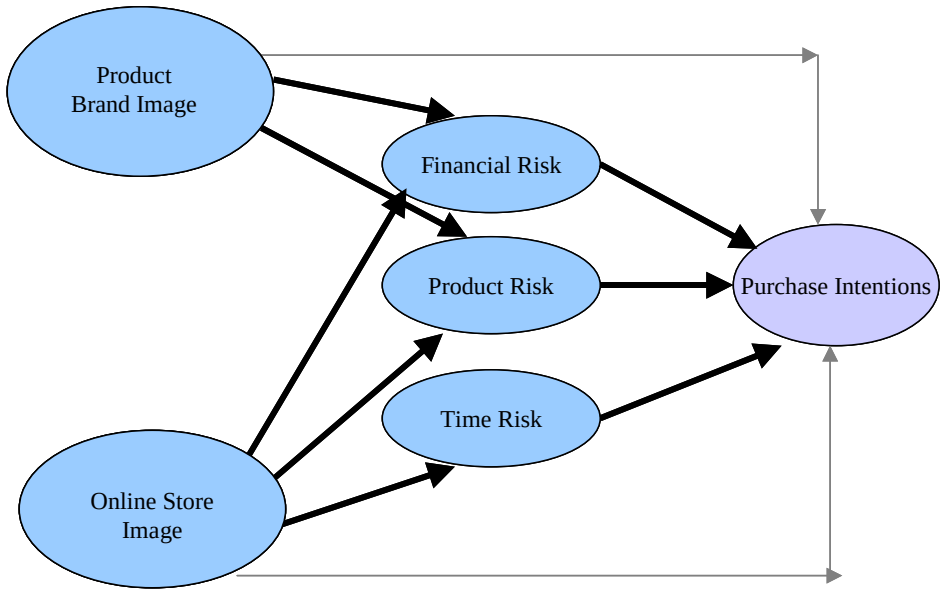
Bauer first introduced the theory of perceived risk (Bauer, 1960) proposing that every consumer action will create consequences, which cannot be predicted with anything approximating certainty. He suggested thinking of perceived risk as an increasing function of uncertainty about the possible results of consumer behavior and potential unpleasantness of some of these results. Later, perceived risk was defined as a combination of uncertainty together with seriousness of outcome involved (Bauer, 1967) and consumers' expectations of loss connected with purchase that works as a barrier to purchase behavior (Peter & Ryan, 1976). There are several conceptualizations of

perceived risk (Dowling & Staelin 1994; Gemunden, 1985; Ross, 1975). Perhaps one of the most commonly used definitions describes risk as the consumer's perception of uncertainty and subjective expectation of a loss (Bhatnagar & Ghose, 2004; Sweeney et al., 1999).

The basic argument of the theory of perceived risk is that consumers feel a certain level of risk in their buying behavior and tend to act to reduce this risk (Bauer, 1960). In other words, to make a best possible decision, consumers will rely on risk relievers. For instance, consumers may rely on the brands that they are loyal to, or stores that have a good reputation or a money back guarantee, as means to lessen the uncertainty and expected loss by obtaining higher probability of a successful purchase (Derbaix, 1983). Logically, retailers desire to find the best ways to reduce consumers' perceived risk, resulting in scholarly research on "risk-reducing strategy" or "risk relievers" (e.g., Mitchell & Boustani, 1994).

Depending on their purchase goals, consumers may perceive different types of risks. Brand image has been reported to minimize four types of perceived risk: time, physical, psychological, and financial (Roselius, 1971). Recent studies found that brand name, store name, and country name reduce perceived product performance risk (Agarwal et al., 2001; Agarwal et al., 2004) in traditional shopping environments.

In the present study, it is expected that product brand image and online store image are strong risk relievers for three types of perceived risk associated with online shopping (financial, product performance, and time). (See Figure 1.)



Note: *Bold lines indicate the relationship of constructs in the framework of theory of perceived risk.*

Figure 1. Conceptual model of the risk-reducing role of product brand image and online store image

Information Integration Theory

Information Integration Theory (used to develop Hypothesis 3) may be applied to explain the joint roles of product brand image and online store image in consumers' purchase intention formation. Information Integration Theory suggests a specific mechanism that describes the ways that individuals integrate separate portions of information into an overall preference (Anderson, 1971, 1981). Scale values and weight values represent each piece of information. The weight represents psychological

significance of the information, and value is the location of the informational stimulus along the dimension of evaluation. The theoretical model is presented as a weighted sum:

$$R = C + \sum w_i s_i$$

Where R is a response or an attitude toward the stimulus, C is a constant that allows for an arbitrary zero in the response scale, w_i is the psychological importance weight, and s_i is the scale value. When the theory is applied to attitude change, weight parameter becomes more important theoretically than the scale value, because weight has many determinants.

Information Integration Theory suggests that consumers first assign importance weight and scale values to stimuli that provide information, and later combine these values (weights and scales) when forming a purchase intention. The basic idea behind the information integration approach in the present study is illustrated in Figure 2. Consumers' favorability evaluations of the stimuli (i.e., product brand image and online store image) are combined with importance weights to form purchase intention for the specific branded product from the specific online store. In the proposed research, product brand image and online store image help to shape consumers' purchase intentions. Depending on the importance weight that consumers allocate to these two constructs (e.g., product brand image and online store image) and the scale values that consumers assign to each construct, the relative impact of product brand image versus online store image can be determined. In other words, it will be possible to determine whether product brand image or online store image plays a more important role in consumers' online purchase intention formation.

A more detailed discussion of the theory in the framework of the present study is presented in the hypothesis development section.

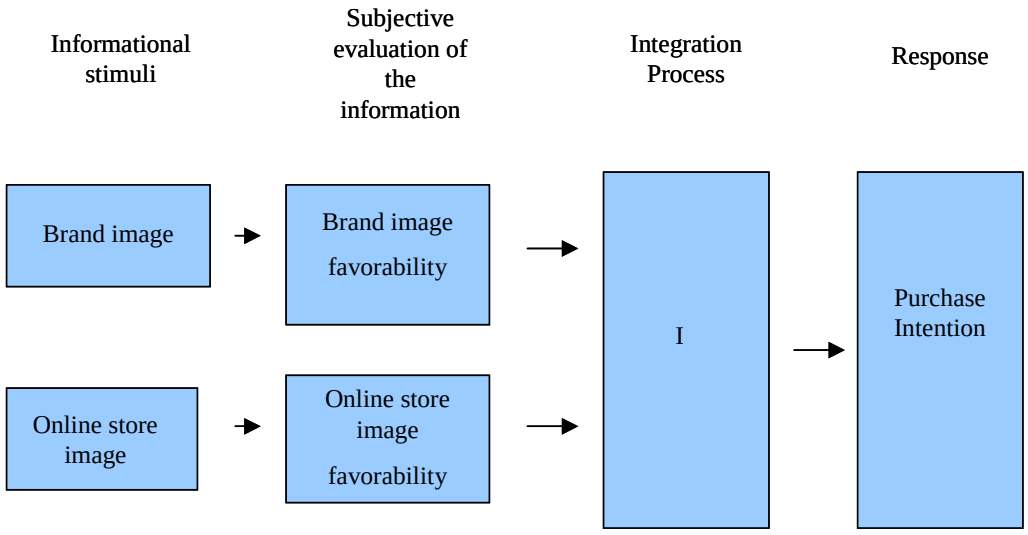


Figure2. Information integration process.

Hypothesis Development

The objective of the present study is to understand the relative roles of product brand image and online store image on consumers' perceptions of three types of risks associated with online shopping and their subsequent impact on purchase intentions. In addition, this study will examine the mediating roles of perceived risks on the impact of product brand and online store images on purchase intentions.

To achieve these research goals, hypotheses are developed based on the proposed model and literature relevant to the components of the model.

The proposed model (Figure 3) shows that product brand image and online store image impact consumers' purchase intentions both directly and indirectly by their impact on perceived risks. In the following section, each construct of the proposed model is explained with the theoretical support for the proposed hypotheses.

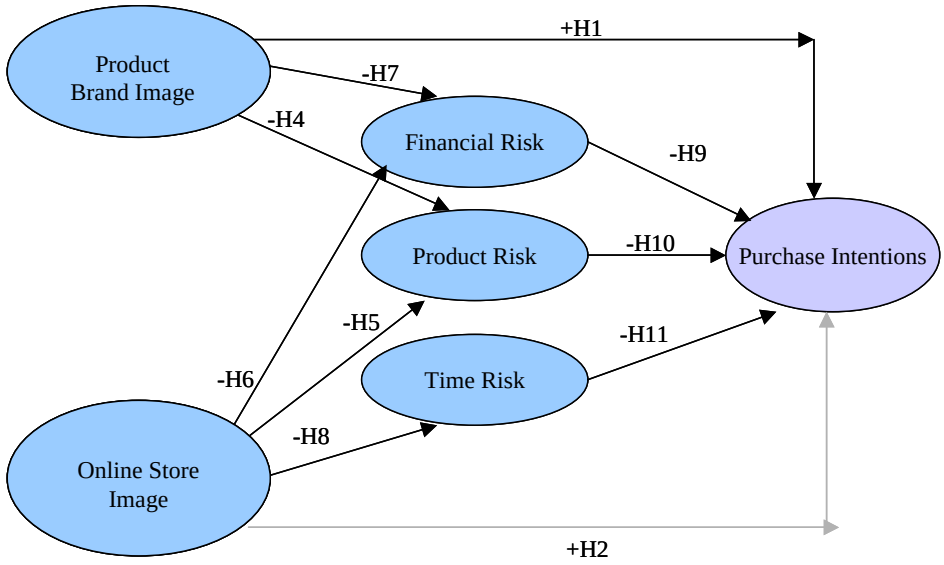


Figure 3. Hypothesized model

Product Brand Image and Purchase Intentions

Brand image assists consumers in retrieving and processing information; it gives a reason to purchase and use a branded product and creates associations that produce relevant attitudes that transfer to the product (Porter et al., 1997). Consequently, the more favorable the image of a brand, the more positive the attitude toward the branded product and its attributes. Researchers find that in the physical store environment, a favorable brand image has a positive effect on consumers' purchase intentions (Del Rio et al., 2001; Keller, 1993; Park & Srinivasan, 1994). In the case of online retail, research has shown

that consumers are more likely to shop online for products from well-established brands (Lee & Tan, 2003). Consumers will not only assign ratings that are more favorable to the product's attributes, but also have greater online purchase intentions for well-established brands.

For product categories that require physical evaluation (e.g., apparel choices require information on feel and fit), some of the information desirable for making a purchase decision is not available online. Consequently, brand image may be particularly important in online shopping for fashion apparel and accessories because brand image serves as a surrogate for intrinsic product attribute information that is not available online. Based on this argument, the proposed study offers the following hypothesis:

H1: The favorability of product brand image will positively influence purchase intentions for fashion apparel and accessory products.

Online store image and purchase intentions

The relationship between traditional store image and purchase intentions has received extensive attention. Dodds et al. (1991), Sweeney et al. (1999), Grewal, Krishnan, Bake, and Borin (1998), and Bell (1999) have empirically linked specific physical store image attributes to consumers' purchase intentions, examining perceived value as a mediating variable. Their findings indicate a significant positive relationship between the store name and purchase intentions. Though the relationship between store image and purchase intentions was low in some studies (e.g., Grewal et al., 1998), the relationship between perceived value and purchase intentions was consistently strong

(e.g., Dodds et al., 1991; Sweeney et al., 1999). Based on the consistently positive relationship between perceived value and purchase intentions, the present study examines purchase intentions directly. Expanding the findings of Dodds et al. (1991), Sweeney et al. (1999), and Grewal et al. (1998) to the online shopping environment, the study suggests a positive relationship between online store image and purchase intentions. Therefore, the next hypothesis is proposed:

H2: The favorability of online store image will positively influence purchase intentions for fashion apparel and accessory products.

Product Brand Image and Online Store Image

According to Information Integration Theory, consumers assign importance weights (psychological importance of the information) and scale values (location of the informational stimulus along the dimension of evaluation) to informational stimuli and then combine these weights and values to make an overall judgment. Two sources of information in the present study—product brand image and online store image—allow examination of the relative impact of product brand image versus online store image on purchase intentions.

According to Information Integration Theory, when scale values of stimuli (product brand and store image) are toward the opposite directions (i.e., product brand image is less favorable and store image is more favorable) "discounting effect" occurs. In this case, the "order" of information processing has an important effect on the outcome (Anderson, 1971). The "discounting effect" of inconsistent information on weight may

include primacy effect (Anderson, 1965; Fishbein and Ajzen, 1975). Anderson (1965) uses primacy effect to explain that initial information is better remembered and that it builds an impression that impacts the processing of later information. One may expect that, when consumers' product brand image formation precedes their online store image formation, the importance weight assigned to product brand image will be greater. Online shopping is a relatively new phenomenon for apparel and accessory brands; therefore, consumers have likely already formed their evaluation on product brands but not online stores. In other words, before getting experience in online shopping and forming their online store image, consumers have already purchased and used many branded products from other distribution channels (i.e., traditional store, catalogs). Consequently, they already have well-formed product brand images before they start to shop online. Therefore, due to primacy effect, the importance weight that consumers assign to product brand image in the online shopping environment will be greater than the importance weight they assign to online store image. That is, the importance weight assigned to product brand image will be greater regardless of scale values assigned to each stimuli, because information on online store image is formed later (consumers have prior information on product brand image) and therefore it will be discounted.

In the online shopping environment for fashion apparel and accessory products, consumers are likely to rely more on brand image than on online store image for several reasons. In the online environment, consumers do not have the opportunity to try on, touch, and feel products prior to online purchase, which is important when shopping for apparel and fashion products. Therefore, consumers rely more on brand image as a surrogate for product attributes that they cannot adequately evaluate online. Fashion

apparel and accessory products operate as a tool for expressing social status, self-image, lifestyle, and other personality characteristics of the wearer (Kaiser, 1990). Consequently, the brand image for these products has a greater role in forming purchase intentions. Furthermore, online store image is likely to be less important than product brand image because shopping in an online store is a "less-visible" process. Others do not observe you shopping there; hence, online store image is less likely to serve as a tool to express the lifestyle or social status of a consumer. Therefore, in online shopping, it is expected that consumers will apply a greater importance weight to the product brand image than to the online store image for fashion apparel and accessory products. Therefore, the following hypothesis is proposed:

H3: Product brand image will have a greater impact than online store image on purchase intentions for fashion apparel and accessory products.

Product Brand Image, Online Store Image, and Perceived Product Risk

It is recognized that brands play an essential function in consumers' perceptions of product attributes (Aaker, 1996). A favorable brand image was found to reduce overall risk (Leavitt, 1967; Montgomery, 1975). A number of studies showed that brand name reputation, brand loyalty, strong brand image, and store image all reduce risks (e.g., Hawes & Lumpkin, 1986; Roselius, 1971) in a physical store environment. Roselius (1971) found that brand image and store image impact perceptions of time, physical, psychological, and financial risks in traditional stores.

In the online shopping environment, online consumers tend to reduce perceived overall risks by purchasing well-known brand name products from well-known portal sites (Tan, 1999). Online store reputation and product brand image are preferred general risk relievers for online consumers (Tan, 1999).

Agarwal et al. (2001, 2004) investigated the direct and indirect influences of brand and store names on perceived product performance risk in the physical store environment and found a direct negative relationship between brand and store names and product performance risks for ski jackets. Based on the argument that consumers perceive higher risks when purchasing online, product brand image and online store image are particularly important for reducing perceived risks. Based on the halo effect argument, the more favorable the brand image, the more positive the perceptions of the branded product attributes will be. Consequently, the more favorable the brand image, the less risk associated with the performance of the branded product. Thus, a product brand image signals certain product attributes relative to product performance.

Online store image is also important in reducing product performance risk because in an online shopping environment, consumers often purchase without having the opportunity to try the product. This is particularly true for fashion apparel and accessory products, where the needs to touch, feel, try on, and fit are high (Gaal & Burns, 2001; Lim, 2001) and the product attribute information is limited. Due to the halo effect, a favorable online store image may reduce perceived product performance risk for fashion apparel and accessory products. The following hypotheses are proposed:

H4: The favorability of product brand image will have a negative impact on perceived product risk for fashion apparel and accessory products.

H5: The favorability of online store image will have a negative impact on perceived product risk for fashion apparel and accessory products.

Online Store Image, Product Brand Image, and Financial Risk

Financial risk is defined as a net loss of money perceived by consumers that includes possibility of repair, refund, maintenance cost, and misuse of one's credit card information (Forsythe et al., 2003). Thus, financial risk is directly derived from trust in the online retailer (e.g., credit card information use) or in the needed refund/repair of the product when some functional attribute of a product does not meet prior expectations. Based on the findings of a wide range of empirical studies where store image and brand image have been found to decrease perceived risks in the traditional store environment (e.g., Agarwal et al., 2001, 2004; Derbaix, 1983; Hawes et al., 1986; Roselius, 1971), this study expects a similar relationship in an online shopping environment between store image, brand image, and perceived financial risk. Hence, the following hypotheses are offered:

H6: The favorability of online store image will have a negative impact on perceived financial risk in online shopping for fashion apparel and accessory products.

H7: The favorability of product brand image will have a negative impact on perceived financial risk in online shopping for fashion apparel and accessory products.

Online Store Image and Time Risk

Time risk in online shopping is described as inconvenience and time loss experienced by a consumer due to difficulties in the website navigation and/or submitting a product order and waiting for product delivery (Forsythe et al., 2003). Thus, time risk is associated with online store image because web design affects functional attributes of online stores such as ease of navigation and product order submission, which require time when shopping online. Hence, a more favorable image of the online store should result in lower perceived time risk. Further, based on the halo effect, it is expected that a strong online store image will positively bias consumers' impressions and expectations of other store image attributes such as functionality (e.g., ease of navigation, placing an order, etc.). Consequently, a stronger online store image will relieve certain perceived risks that are strongly linked to its attributes. Based on this discussion, the following hypothesis is offered:

H8: The favorability of online store image will have a negative impact on perceived time risk in online shopping for fashion apparel and accessory products.

Perceived Risks and Purchase Intentions

Perceived risk is a function of uncertainty about the possible results of consumer behavior and potential unpleasantness of some of these results (Bauer, 1960). The literature provides considerable evidence of the role of risk perceptions as a barrier to product adoption and usage in a physical shopping environment (e.g., Bauer, 1967; Dowling et al., 1994).

Perceived product risk is greater in online shopping environments than in physical store environments due to the inability for consumers to inspect an online product physically (Huang, Schrank, & Dubinsky, 2004). In addition, consumers perceive higher financial risk in online shopping environments due to potential credit card fraud (Featherman & Pavlou, 2003). The inconveniences of navigating an online store, waiting for slow downloads, or dealing with confusing Web site organization can all lead to higher perceived time risk (Forsythe et al., 2003). It is expected that the greater the perception of any of these risks, the lower the intention to purchase. Therefore, the following hypotheses are posited:

H9: Perceptions of financial risk will have a negative impact on online purchase intentions for fashion apparel and accessory products.

H10: Perceptions of product risk will have a negative impact on online purchase intentions for fashion apparel and accessory products.

H11: Perceptions of time risk will have a negative impact on online purchase intentions for fashion apparel and accessory products.

The mediating role of perceived risk

It has been suggested that consumers' online purchase intentions are negatively associated with their perceived risks of shopping in online stores (Jarvenpaa & Tractinsky, 1999). In other words, higher perceived risks associated with an online store

(e.g., time risk, financial risk, product risk) result in lower intentions to purchase from that online store. Sweeney et al. (1999) reported that consumers, when exposed to extrinsic product cues (e.g., brand image), make judgments about risks. It has been shown that perceived overall risk is a mediator between extrinsic cues and outcome (Sweeney et al., 1999). Agarwal et al. (2004) suggested that product risk mediates the impact of product brand and store image on perceived value. No other published study has examined the mediating role of perceived risks on extrinsic cues and outcome. Based on the theory of perceived risk, consumers tend to take action to reduce risk (Bauer, 1960). Product brand image and store image are believed to serve as risk relievers by providing higher probability of successful purchase (Derbaix, 1983). As a result, perceived risks can be viewed as mediating variables between brand and store image and purchase intentions. Based on this argument and the findings of empirical studies (e.g., Agarwal et al., 2001, 2004), the proposed study expects three types of perceived risk (financial, product, time) to mediate the relationship between brand and store image and purchase intentions in an online shopping environment. Hence, the following hypotheses are suggested.

H12: The influence of online store image on consumers' online purchase intentions will be mediated by product, time, and financial risks.

H13: The influence of product brand image on consumers' online purchase intentions will be mediated by product, and financial risks.

CHAPTER III: METHODOLOGY

Research Design

A 2 (product brand image – high vs. low) X 2 (online store image –high vs. low) X 3 (product types – shirt, dress, and athletic shoes) mixed factorial design was used to investigate the direct and indirect effects of product brand image and online store image on consumers' online purchase intentions and the mediating role of three types of perceived risks on this relationship. Quantitative interval-scaled data were obtained for both dependent and independent variables. Three products (shirt, dress, and athletic shoes) were selected from one general product category (fashion apparel and accessories). The stimulus was designed to reflect four different conditions of product brand and online store image for each of the three products: (1) High (more favorable) product brand image–Low (less favorable) online store brand image; (2) Low product brand image–High online store image; (3) High product brand image–High online store image; (4) Low product brand image–Low online store image. Each product (shirt, dress, and athletic shoes) was presented for two conditions of brand image (High/Low) and two conditions of online store image (High/Low). High and low levels of product brand image and store image were chosen to increase the variability of responses. Thus, there were a total of four experimental conditions for each of the three products.

Stimuli were developed to represent each possible combination of product brand

image and online store image for all three products. For example, one version of the stimuli represents a certain brand that has a high or low level of favorability for three products, in an online store that has a high or low level of favorability. Each participant was randomly assigned only one of the four stimulus conditions and asked about product brand image, online store image, perceived risks, and purchase intentions for the three product categories. By limiting the respondent to only one condition, the length of the questionnaire was reduced, which resulted in higher probability of completing the questionnaire and minimized the potential for bias from exposure to the other conditions.

Sampling procedure and sample characteristics

This research examines the effect of product brand image and online store image on perceived risks and online purchase intentions among female college students at Auburn University. College students are a major consumer group in the U.S. online market (Hyde, 2003) as they spend more money online compared to other demographic segments (O'Donell and Associates, LLC, 2004). They are potentially valuable target consumers for online retailers because students normally feel comfortable with online shopping and represent a lifetime of potential buying power (Yun et al., 2007). In addition, female college students are intensive purchasers of the chosen product categories for this research (fashion apparel and accessories). To increase the diversity of the survey respondents, students were randomly selected from different colleges and schools at Auburn University. Both graduate and undergraduate students were included in the sample. The present study employed a web-based experiment. Announcements

requesting participation were e-mailed to students, and the announcement included a URL that linked to a web survey. Detailed descriptions of the sampling procedure are discussed below under each relevant subheading (e.g., pretest, pilot study, main study).

Stimuli development

Apparel is an important product category in online shopping (Murphy, 1999). Athletic shoes, dresses, and casual shirts are the three chosen fashion apparel products because female college students frequently purchase and wear them. They convey social status, self-image, lifestyle, and other personality characteristics of the wearer (Kaiser, 1990) and they are good examples of symbolic vividness and complexity as they provide personal importance to the individual (Forney, Park, & Brandon, 2005). These three products were selected from one general product category (fashion apparel and accessories) to determine whether the impact of brand and store image on perceived risk and purchase intentions is consistent across more than one product. Stimuli consisted of two brands for each of the three chosen products (i.e., two brands of shirts, two brands of dresses, and two brands of athletic shoes) selling at two online stores. Participants viewed a stimulus Web site evaluating each of the three branded products (e.g., Nike athletic shoes, Ralph Lauren dress, and Ralph Lauren shirt selling at Amazon.com – High-High condition). For the pilot test and main survey, the questionnaire included a visual representation of each online store presenting the relevant brand and product (e.g., Nike athletic shoes at Amazon.com). The same image of the product was used for all brands in all experimental conditions (i.e., the same image of athletic shoes, shirt, and dress was

used to represent HH, HL, LH, and LL conditions). Thus, each respondent saw the same image of a product while rating different product brand names. This way, the researcher created a more realistic environment for online shopping while controlling the aesthetic and design factors in all four versions. This allowed the researcher to assume that respondents' ratings were based mostly on brand name information. All three products chosen for this study (athletic shoes, dress, and shirt) have limited functional differentiation. That is, these products are similar in terms of many tangible attributes; however, they differ significantly in terms of the associations attached to the brands. For instance, Adidas and Nike are both athletic shoes sharing many common physical characteristics; however, they differ widely in terms of brand image associations. Adidas is associated with soccer whereas Nike is associated with winning (del Rio et al., 2001). Ralph Lauren and Nautica are both better quality apparel brands with similar functional attributes; however, people associate the Ralph Lauren brand with American luxury and a posh, upscale American lifestyle (www.RalphLauren.com, Hogeboom), whereas Nautica is mainly associated with an active, adventurous, and spirited lifestyle (www.nautica.com). The aesthetic and style details of shirts are often very similar among brands. However, shirt brands reflect different symbols, lifestyles, and associations. Some brands (e.g., Burberry, Giorgio Armani) mirror high social status (Seckler, 2006) while others (e.g., L.L.Bean) are associated with practical design and outdoor activities (www.llbean.com). In addition, these products (shirt, dress, and athletic shoes) are visible consumer products that are usually used in public. Consumers are likely to rely heavily on product brand image in their purchase decisions for these products since they serve as

communication “tools” to express the wearer’s social status, self-image, lifestyle, and other personality distinctiveness.

Instrument development

Pretest

A random sample of approximately 1,250 college graduate and undergraduate female students from different colleges or schools at Auburn University was invited to participate in a pretest to identify the product brands and online stores that female students favor the most and the least for each chosen product category. The Office of Institutional Research and Assessment at Auburn University selected a random sample of female students and sent the survey invitation e-mail to all subjects. The survey with the product brand names, product types (names of the products), and online store names was e-mailed to selected female students at Auburn University as a URL attachment (see Appendix 1). The e-mail also included an information letter describing the purpose of the study. The initial list of product brands for each of the three product categories has been selected based on the following criteria:

(1) The product brands must offer products in one of the three categories selected for this research (athletic shoes, dress, or shirt).

(2) The brands should be national brands—not specialty brands or store brands.

Product brands that met the above criteria were included in the initial list of brands. This initial list (see Appendix 1) was provided to participants with the request to rate each product brand based on their favorability, using a seven-point Likert scale (1 =

strongly disagree; 7 = strongly agree). An option was included to evaluate whether participants had ever heard of the brand. Two product brands were chosen for each product category (athletic shoes, dress, shirt) to represent a more favorable brand and a less favorable brand condition. This way, the favorability of product brand image varies between chosen brands. The selection of stimulus product brands was based on favorability ratings among the chosen population (female college students). A brand that received one of the highest mean values for favorability (closer to "7") was selected to represent "favorable product brand image," and a brand that received one of the lowest mean values (closer to "1") was selected to represent "not favorable product brand image." Brands that participants were not familiar with were not considered for assessing favorability.

Online stores were selected using a similar procedure. An initial list of 9 online stores (selected from Internet Retailer™, 2007) was given to participants asking them to rate each online store based on their favorability with the online store as a place to shop using a seven-point Likert scale (see Appendix 2). The initial list of online retailers was selected based on the criterion that the online stores included must be mass merchandisers that sell all the products and brands selected as stimuli for this research (athletic shoes, dress, and shirt).

Based on the favorability ratings from the pretest, two online stores were chosen—a more favorable and a less favorable online store. The online store receiving one of the highest favorability means was selected to represent "favorable online store image," and the online store that obtained one of the lowest means was selected to

represent “not favorable online store image” so that online store image would be diverse. Online stores that were not familiar to participants were not considered.

Instrument

Based on the literature review, seven-point Likert scales were identified or modified to measure each of the constructs—product brand image, online store image, perceived risks, and purchase intentions of the proposed model. Reliability analysis was conducted using Cronbach’s alphas on each scale to examine internal consistency among the items. Items that reduced the scale’s alpha were deleted.

Product Brand Image. Brand image is composed of different types of brand associations. In the present study product, brand image is defined as reasoned or emotional perceptions about a brand as reflected by functional and symbolic associations held in a consumer’s memory. Functional associations of the product brand image reflect the practical needs of a consumer. Some of the functional needs may be linked to tangible attributes of a branded product; however, consumers’ functional associations with the brand mostly reflect brand identification (e.g., brand trustworthiness, value, etc.). Symbolic associations of a product brand reflect the social and psychological needs of a consumer. Because product brand image is product category specific, it is suggested that selection of the brand image scale should be based on product or service category (Low & Lamb, 2000). The brand utility scale developed by Vazquez et al. (2002) is adopted (see Appendix 3) to measure product brand image for several reasons. First, the 11 items of the scale measure both functional and symbolic associations with the brand—

consistent with the definition of brand image as consumers' overall perceptions about a brand reflected by functional and symbolic associations. All dimensions of brand utility functional and symbolic (social identification, status, personal identification) showed acceptable reliability (functional .793; social identification .837; status .633; personal identification .635) Vazquez et al., 2002). In the present study, social identification (brand that is in fashion, brand that is used by friends, reputed brand, and leading brand), status (brand that is a symbol of prestige, brand that is recommended by famous people), and personal identification (brand that I like, brand that fits my lifestyle) are combined. These are combined to represent the symbolic associations because the present study is not focused on investigating the effects of specific dimensions of symbolic association of brand image. The brand's features, trustworthiness, and quality measure functional associations of a brand. A seven-point Likert scale response format was used to measure all items.

Online Store Image: Online store image is a complex construct and no universally accepted measure has been suggested in the literature to conceptualize and measure online store image (Yun et al., 2007). In the present study, a scale developed by Yun et al. (2007) to measure online store image will be modified to measure online store image (see Appendix 4). In the original scale, authors selected merchandise, service, and atmosphere items representing online store characteristics. Merchandise attributes include product dependability, value, quality, and pricing; service attributes include customization, delivery, sales or service representative contact, and description of product/service information; atmosphere attributes include privacy and security, ease of navigation, shopping convenience, and friendly web design and layout.

The preliminary measures (provided by Yun et al.) included additional items that later were deleted during development of the initial scale. In the present study, the researcher modified some of those initial scale items and re-included them in the scale. A number of reasons support this decision. First, several items presented in the original questionnaire are relevant to the concept of online store image. Second, the researcher expected that rewording some of the items would improve the performance of the items. Finally, it was expected that the items would perform adequately when all participants rate the same online store image, rather than rating his or her favorite online store image, where the outcome may depend on the type of merchandise the online store offers (e.g., Yun et al., 2007). A seven-point Likert scale response format was used.

Perceived financial risk: Scale items to measure perceived financial risk were selected from the scale developed by Forsythe et al. (2006) because this scale focused on risks related specifically to online shopping (see Appendix 5). This scale was composed of seven items measuring perceived financial risks associated with online shopping. All seven items on the scale show high reliability and the overall reliability of the scale is .89. A seven-point Likert scale response format was used.

Perceived product risk: The five-item scale developed by Forsythe et al. (2006) was used to measure perceived financial risk (see Appendix 6). This scale included one item, "must wait for merchandise to be delivered," that was moved to the time-risk scale. Based on the definition of time risk in the present study, this item appears to be more relevant to perceived time risk. The overall reliability of the scale is .84. A seven-point Likert scale response format was used.

Perceived time risk: The three-item scale developed by Forsythe et al. (2006) was used study (see Appendix 7). One additional item was added to the scale, "must wait for merchandise to be delivered," that was removed from the product-risk scale. The overall reliability of the scale is .74. A seven-point Likert scale response format was used.

Purchase intentions: A six-item scale developed by Theo and Liu (2007) was used to measure online purchase intentions (see Appendix 8). This scale was developed based on the purchase intentions scales used in previous studies (e.g., Jarvenpaa et al., 1999; Jarvenpaa et al., 2000; Macintosh & Lockshin, 1997). Theo et al. (2007) used a five-item scale to measure online purchase intentions in three different countries—Singapore, China, and the U.S. Composite reliability of the scale was .94, .94, and .91, respectively. A seven-point Likert scale response format was used.

Additional demographic questions regarding age, gender, major, etc. as well as questions regarding importance weight of both product brand image and online store image were also included (see Appendix 9).

Pilot test

After the initial scales were developed, 3,750 college students from different schools and colleges across Auburn University were invited to participate in the pilot test to evaluate product brand image, online store image, perceived risks, and purchase intentions for three products—shirt, dress, and athletic shoes. Data were collected through a web-based survey. A random sample of female students from Auburn University was selected to participate in the pretest. The survey and information letter explaining the purpose and procedure of the study were sent to the female students via e-mail, with a URL

attachment that directed the students to the online survey. Each participant completed survey questions to measure product brand image, online store image, perceived financial, product, and time risks, and purchase intentions for one condition of favorability of product brand and online store image. Using data obtained from the pilot study, Exploratory Factor Analysis (EFA) was conducted to reduce the number of scale items and test the reliability of each scale. Only scale items that showed factor loadings on the dominant factor greater than .60 and less than .40 on other factors were included in the scale.

Data Collection

A web-based survey was conducted to collect the main experimental data from participants' evaluations of product brand image, online store image, perceived risks, and purchase intentions for three products (shirt, dress, and athletic shoes) in four experimental conditions. The questionnaire was e-mailed to female students at Auburn University as a URL attachment. The e-mail included a welcome page inviting students to participate in the research and enter a $200 cash drawing. The URL link included in the welcome page transferred participants to the main survey that opened with an information letter that explained the purpose of the study. A systematic random sample of 7,717 female graduate and undergraduate students was requested from Auburn University's Office of Institutional Research and Assessment. Each of the four versions of the questionnaire was randomly distributed to a sample of 1,929 students.

The measurement scales for each variable were modified as required, based on the results of the pilot study. Each participant evaluated the product brand image; online store

image; perceived financial, product, and time risks; and purchase intentions for one of the four experimental conditions (see below). Four versions of the questionnaire were developed to reflect each of the 4 experimental conditions. The first version presented a High product brand image for the three product categories (shirt, dress, and athletic shoes) that are presented in an online store that has Low image (High-Low condition). The second version of the questionnaire presented the Low product brand image–High online store image condition for the three product categories. Version three represented the High product brand image–High online store image condition for the three product categories, and version four represented the Low product brand image–Low online store image condition for the three product categories. Demographic questions regarding age, major, race, income, etc. were included in all versions of the questionnaire. Anonymity of participants was provided.

CHAPTER IV: ANALYSES AND RESULTS

Pretest

Description of Sample

Female students from 12 colleges and schools of Auburn University participated in the pretest. Seventy-three students participated in the pretest (a 6% participation rate). Only students from the Veterinary School did not respond to the survey. The majority of respondents were enrolled in the School of Liberal Arts (29.6%). About 19% of respondents were from the School of Education, and 11% were from the College of Human Sciences. Around 84% of the participants were Caucasian, and 11% were African-American. Thirty percent of respondents were graduate or professional students, and freshman and junior students composed 20.5% each. The mean age of participants was 23, and 60% of participants were between the ages of 19 and 21. Descriptive statistics for the demographic characteristics of the pretest sample are demonstrated in Table 1.

	f	%	*M*	*SD*
Age (n = 73)			23.4	6.6
Ethnicity (n = 73)				
Caucasian/White	61	83.6%		
African-American/Black	8	11. 0%		
Asian/Pacific Islander	2	2.7%		
Hispanic	2	2.7%		
American Indian/Alaskan Native	0	0.0%		
Bi-racial	1	1.4%		
College for majors (n = 71)				
Liberal Arts	21	29.6%		
Education	13	18.3%		
Human Sciences	8	11.3%		
Business	5	7.0%		
Medicine and Public Health	5	7.0%		
Other	21	26.8%		
Class Standing (n = 73)				
Freshman	15	20.5%		
Sophomore	7	9.6%		
Junior	15	20.5%		
Senior	14	19.2%		
Graduate/professional student	22	30.1%		

Table 1. Pretest Sample Characteristics.

Brand Favorability

Dress Brands: Sixteen product brand names were included in the pretest to assess the favorability of product brand for dress. Average mean scores were calculated for each brand to assess the most favorable and the least favorable brands. Only brands that were relatively well known were considered for further analysis. Brands that received a higher frequency of "I have never heard about this brand" responses were not considered for selection. Ralph Lauren received the highest mean score (M = 4.32), and Tommy Hilfiger

received the lowest (*M* = 2.54) mean score for favorability. Both brands were well known. Results of the ratings for product brands for dress are presented in Table 2.

Product brands for dresses	I have never heard about this brand	Favorability
	Frequency	*Mean*
Ralph Lauren	**3**	**4.32**
Tommy Hilfiger	**4**	**2.54**
Anne Klein	10	2.76
Calvin Klein	2	3.60
BCBGMAXAZRIA	19	4.10
Kensie	47	1.85
Maggy London/London Times	47	1.39
Liz and Co.	30	1.86
Jones New York	18	2.56
Nine West	5	4.06
Isaak Mizrahi	25	2.99
Xhilaration	15	2.91
Liz Claiborne	3	3.23
Donna Morgan	44	1.06
DKNY	4	3.28
AK Ann Klein	19	2.47

Table 2. Favorability mean scores of product brands for dresses.

Shirt Brands: Ralph Lauren (*M* = 4.79) and Kenneth Cole Reaction (*M* = 2.81) brands were selected to represent the more and the less favorable product brands for shirts from among the ten brands included to represent a variety of product brands for shirts. Results for favorability ratings are shown in Table 3.

Product brands for shirts	I have never heard about this brand *Frequency*	Favorability *Mean*
Ralph Lauren	**3**	**4.79**
Tommy Hilfiger	1	3.07
Nautica	3	3.11
DKNY	4	3.48
Lacoste	8	4.13
Calvin Klein	1	3.73
Kenneth Cole Reaction	**5**	**2.81**
Westbound	45	0.89
Bianca Nygard	55	0.51
Liz Claiborne	3	2.91

Table 3. Favorability mean scores of product brands for shirts.

Athletic Shoe Brands: Eleven brands were included in the survey to assess the favorability of athletic shoe brands. Nike (M = 5.81) and Tommy Hilfiger (M = 1.97) were selected as more favorable and less favorable brands respectively. The brands rated the lowest and the highest were not well known and therefore were not considered further. Results of ratings for all brands for athletic shoes are shown in Table 4.

Product brands for athletic shoes Favorability	I have never heard about this brand	
	Frequency	*Mean*
Adidas	0	4.81
Nike	**0**	**5.81**
Sketchers	5	2.45
Coach	7	3.33
Easy Spirit	10	1.77
Puma	0	3.93
Tommy Hilfiger	**3**	**1.97**
Champion	17	1.57
Airwalk	22	1.33
New Balance	3	5.41
Reebok	3	3.53

Table 4. Brand favorability mean scores of product brands for athletic shoes.

Online Store: Respondents rated nine online store names. The respondents did not frequently visit most of these online stores. Amazon.com was among the most frequently visited online stores and was rated favorably (*M* = 3.39, *SD = 3.32*) as an online store where respondents like to shop or browse. Therefore, it was selected to represent the more favorable online store image. Overstock.com was the next most frequently visited online store after Amazon.com, however, it was rated as less favorable (*M = 2.27, SD = 3.01*), and consequently was selected to represent the less favorable online store image. Table 5 illustrates the mean scores and frequency scores for all online stores.

Online stores	I have never visited this online store	Favorability
	Frequency	*Mean*
Macys.com	31	4.81
Dillards.com	26	5.81
JCPenney.com	26	2.45
Overstock.com	**24**	**2.27**
Sears.com	27	1.77
Bloomingdales.com	32	3.93
Nordstrom.com	29	1.97
Bluefly.com	40	1.57
Amazon.com	**12**	**3.39**

Table 5. Favorability means for online stores.

Pilot Test

Only one version of the survey was used in the pilot test to check the reliability of each scale. One hundred and fifty-seven respondents participated in the pilot test (4.1 % participation rate).

Description of Sample

College of Liberal Arts students composed 22.6% of the sample, followed by the Department of Education (18. 0%) and the College of Human Sciences (15.8%). No student participated from the College of Art and Music (0%). The majority of respondents were White/Caucasian (85%), and African-Americans represented 9.8%. Graduate or professional students composed 31.6%, followed by sophomores and seniors (20.3% and 18.0%, respectively). Students within the age range of 19 to 21 years old composed just over half of the sample (51.0%). Table 6 illustrates the demographic characteristics of the pilot test sample.

	f	%
Age (n = 157)		
19	37	23.6
20	25	15.9
21	18	11.5
22	9	5.7
23	7	4.5
24	5	3.2
25	3	1.9
26	3	1.9
27 and older	50	31.8
Ethnicity (n = 133)		
Caucasian/White	113	85
African American/Black	13	9.8
Asian/Pacific Islander	4	3
Hispanic	3	2.3
American Indian/Alaskan Native	1	0.8
Bi-racial	2	1.5%
College for majors (n = 133)		
Liberal Arts	30	22.6
Education	24	18
Human Sciences	21	15.8
Business	15	11.3
Engineering	9	6.8
Other	25	25.5

Table 6. Pilot test sample characteristics.

Exploratory Factor Analysis (EFA) was conducted to examine and reduce the data, as well as to increase the possibility of using the output in subsequent analyses (Field, 2000). Gerbing and Hamilton (1996) suggested that EFA is a statistical approach used to discover the factor structure of a measure. Maximum Likelihood (ML) model estimation and varimax rotation methods were employed for the EFA, because in a varimax rotation method, the rotation of the factor matrix can achieve a simpler and theoretically more meaningful pattern (Hair, Anderson, Tatham, & Black, 1998). In

addition, the varimax rotation method could generally provide a clearer separation of the factors than other rotation methods (Hair et al., 1998).

Missing data was imputed using multiple imputation method, a well-accepted method for treating missing data (Graham & Schafer, 1999; Schafer & Graham, 2002). This method has been shown to generate unbiased parameter estimates, which echoes the uncertainty associated with estimating missing data. Multiple imputations also provide adequate results in small sample size cases. The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO-test) was employed to check whether the sample was big enough. The sample is adequate if the KMO value is greater than 0.5 (Field, 2000). The results of each scale showed an adequate KMO value. Bartlett's test of sphericity was used for each scale to check intercorrelation that "tests the null hypothesis that the original correlation matrix is an identity matrix" (Field, 2000, p. 457). Test results of this study also showed a significant value for Bartlett's test of sphericity for each scale (.000). According to Kaiser's Criterion values (Eigen values greater than 1), initial factor solution was obtained. Factor loadings indicate the degree of correspondence between the item and the factor. Items exhibiting high cross-loading (> .40) and low factor loading (< .60) were eliminated. Items that did not meet the criteria discussed above were not considered for further analysis. Cronbach's alpha coefficients were checked to examine the internal consistency within each factor. Values above .70 indicate an acceptable reliability level. Table 7 provides the results of EFA analyses including item mean scores, factor loadings, and alpha coefficients.

	Item Mean	*Factor Loading*	*Coefficient Alpha*	*KMO*
Brand Image			.90	.89
Trustworthy	5.34	.70		
Is in fashion	5.57	.74		
Used by friends	4.75	.76		
Reputed brand	5.48	.68		
Leading brand	5.64	.78		
Prestige symbol	5.63	.76		
Recommended by famous people	4.95	.76		
Attractive brand	4.37	.90		
Keeping with my lifestyle	3.83	.88		
Online Store Image			.97	.96
Good brand variety	5.9	.85		
Goof product variety	6.0	.84		
Fair price	5.9	.75		
Good product image	5.5	.65		
Easy to contact	5.1	.86		
Easy to exchange/return	4.9	.84		
Reduced shopping time	5.3	.80		
Financial Risk			.85	.83
Can't trust	2.9	.74		
May not get product	3.0	.61		
Accidental purchase	2.7	.60		
Personal information may not be kept	3.5	.71		
May not get what I want	4.1	.69		
Credit card may not be secured	3.6	.84		
Might be overcharged	3.5	.67		
Product Risk			.78	.81
Can't examine	5.6	.75		
Size problem	5.2	.68		
Can't try on	6.2	.74		
Can't touch and feel	5.8	.79		
Pay for shipping and handling	5.2	.62		
Time Risk			.76	.81
Complicated to place order	2.6	.64		
Difficult to find Web site	3.2	.69		
Pictures take too long to come up	3.0	.83		

Continued

Purchase Intentions			**.**94	.88
I would return	2.3	.80		
I would purchase	2.2	.91		
I would purchase in next 3 months	1.7	.78		
I would purchase in next 12 months	1.9	.78		
My willingness to buy this product	2.6	.91		
Probability I would consider buying	2.5	.93		

Table 7. Item means, factor loadings, and reliability indices of the model scales.

Main Study

A random sample of 7,717 female graduate and undergraduate Auburn students was sent an e-mail invitation to participate in the web survey. The e-mail invitation included a brief announcement inviting students to participate in the research and enroll for the cash drawing. To increase the participation rate, a $200 cash drawing served as an incentive. Respondents randomly received one of the four versions of the survey. Thus, around 1,929 respondents were enrolled in each sample group. The URL link, which transferred students to the actual survey, was included below the invitation text. The web survey opened with the information letter that described the purpose of the research (see Appendix 10).

Description of Sample

The respondents were comprised of 875 graduate and undergraduate female students from Auburn University (11% participation rate). There were 221 respondents in the HH sample, 211 in HL sample, 214 in LH sample, and 229 in LL sample. The

respondents were from all 12 colleges or schools at Auburn University. The mean age of respondents was 22.8 (*SD* = 6.12). About 82% of respondents were between ages 19 and 24, 9% of respondents were between 25 and 28, and 9% of respondents were 29 and older. Around 27% of the participants were graduate students and 72.9% were undergraduate students, from which 26% were juniors and 23% were sophomores. About 81% of respondents were White/Caucasian, 9% were African-American, 7% were Asian, and 2% were Hispanic. The majority of participants were from the College of Liberal Arts (24.7%). Table 8 illustrates the demographic characteristics of the sample.

	%	*M*	*SD*
Age (n = 684)		22.84	6.1
19	19.2		
20	26.5		
21	18.9		
22	7.6		
23	5.4		
24	4.2		
25	1.8		
26	2.6		
27	2.6		
28	1.9		
29 and older	9.3		
Ethnicity (n = 695)			
Caucasian/White	81		
African-American/Black	7		
Asian/Pacific Islander	9		
Hispanic	2		
American Indian/Alaskan Native	0		
Bi-racial	1		
College for majors (n = 720)			
Liberal Arts	24.7		
Education	15.3		
Human Sciences	13.4		
Business	12.6		
Other	34		

Table 8. Main study—sample characteristics.

Reliability and Validity

To test the proposed hypotheses, a Structural Equation Modeling (SEM) statistical test was performed because SEM incorporates and integrates path analysis and factor analysis. SEM can estimate all path coefficients simultaneously and examine the significance of each causal path. SEM allows for testing the reliability of the

measurement of the model constructs due to its capability to estimate measurement error and to incorporate these errors into the model. In addition, SEM can evaluate model performance as a whole through goodness-of-fit calculations (Byrne, 2001).

The analysis was conducted in two steps. First, multiple group confirmatory factor analysis (CFA) was performed on latent variables to test the validity of measurement models with the data from the four experimental groups. CFA analyses of the data for each product and each group were conducted using Maximum Likelihood estimation. Missing data was handled by Listwise deletion by using SPSS. The Listwise deletion method offers a simple and effective solution for handling missing data when a small proportion of cases are lost due to this imputation method (Schafer and Graham, 2002). An advantage of using Listwise deletion is that all analyses are calculated with the same set of cases. Necessary model modification was conducted and an alternative model was proposed because the initial model failed to achieve discriminant validity. A more detailed description related to discriminant validity and model modification is provided below, under *Hypotheses Testing*. The reliability of the scales was examined based on Cronbach's *alpha* coefficients obtained by SPSS 16. Next, structural equation modeling analyses were performed to test the model.

Multiple-group (group 1—High product brand image/High online store image; group 2—High product brand image/Low online store image; group 3—Low product brand image/High online store image; group 4—Low product brand image/Low online store image) Confirmatory Factor Analysis (CFA) was performed on latent variables to test the validity of constructs. This process verified the relationship between observable variables and latent variables, and provided evidence that each construct of the model had

good measurement properties and was different from the other dimensions (Anderson & Gerbing, 1988). Indices of Goodness of Fit are not appropriate for large sample sizes (Sharma, Mukherjee, Kumar, & Dillon, 2005) because GFI is sensitive to sample size and to the number of parameters (Miles & Shevlin, 1998). Therefore, the indices of Goodness of Fit (GFI) are not reported in this study. Comparative Fit Index (CFI), Incremental Fit Index (IFI), and Root Mean Square Residual (RMSEA) were calculated to estimate the fit of the model. CFI and IFI values of .90 or above represent a good verification of model fit. Values of RMSEA below .05 are regarded as a good fit (Byrne, 2001), and values around .089 reflect a reasonable fit of a model (Browne, 1990). The chi-square statistic is very sensitive to a large sample size (Byrne, 2001); therefore, due to the large sample size in the present study, chi-square statistics were not reported. The internal reliability was checked by calculating the Cronbach *alpha* coefficients from the pooled data for each measurement model.

Product Brand Image

Multiple-group CFA was conducted on the two-factor (symbolic and personal identification) nine-item product brand image scale. Because samples from the four experimental groups were independent from each other, the model fit was compared across groups using multiple-group CFA. By allowing factor loadings to change freely across the four groups, good descriptions between the latent variables and relevant indicators were expected. Standardized factor loadings were used to measure the convergent validity of the measurements. All item factor loadings were generally high across all four groups, exceeding the acceptable marginal threshold of .5. Thus,

convergent validity of the items was signified. The RMSEA, CFI, and IFI from the multiple group CFA model of product brand image failed to meet acceptable values, indicating a poor fit of the model.

Therefore, the researcher inspected the modification indices (MIs) to proceed to model modification. However, before making any re-specifications, the researcher examined each proposed model modification to be sure that making a modification was theoretically consistent with research goals. This inspection showed a high modification index (MI) between items “this brand is used by friends” and “this is a brand I particularly like and find attractive.” The correlation of the measurement error between these two items makes theoretical sense, since college students’ perceptions of the attractiveness of a product brand may be influenced by peer opinions and preferences. Another item that showed high MI was between “this is a leading brand” and “this brand is recommended by famous people.” This result may also be explained by the fact that leading brands are generally believed to be those that are heavily used and recommended by famous people.

A second CFA was then conducted on the items. Model fit substantially improved and exhibited a respectable fit. The RMSEA from the multiple-group CFA model of brand image was .072 with the confidence interval between .069 and .081, indicating a reasonable fit of the model. Other incremental fit indices produced satisfactory levels (CFI = .91; IFI = .91). Finally, Cronbach’s *alpha* coefficients were calculated for brand image scales. The results revealed excellent internal reliability for the brand image scales for each (.93 and .94). The measurement model parameter estimates for brand image are shown in Table 9.

Construct/Item	Group 1[a] Construct Brand 1 (for dress and shirt)	Est.[b]	S.E.[b]	S.Est.[b]	*t*	Est.[b]	S.E.[b]	Group 2[a] S.Est.[b]	*t*
Trustworthy	RL[c]	1.00		.78		1.00		.76	
Fashionable	RL[c]	1.04	.08	.83	12.39***	1.12	.09	.84	11.69***
Reputed	RL[c]	.83	.08	.63	9.88***	.92	.09	.65	9.66***
Prestige symbol	RL[c]	.98	.10	.68	9.71***	1.02	.10	.69	9.49***
Attractive	RL[c]	1.09	.11	.69	9.85***	1.30	.12	.77	10.60***
Keeps with my lifestyle	RL[c]	.90	.11	.56	7.74***	1.07	.12	.68	8.32***
Construct/Item	**Construct Brand 2 (for athletic shoe)**	**Est.[b]**	**S.E.[b]**	**S.Est.[b]**	***t***	**Est.[b]**	**S.E.[b]**	**S.Est.[b]**	***t***
Trustworthy	Nike	1.00		.73		1.00		.74	
Fashionable	Nike	1.13	.11	.77	10.19***	1.02	.09	.76	10.49***
Reputed	Nike	.92	.10	.63	9.11***	.87	.09	.64	9.56***
Prestige symbol	Nike	.88	.11	.68	7.61***	.91	.11	.67	8.03***
Attractive	Nike	1.13	.12	.72	9.46***	1.18	.11	.74	10.21***
Keeps with my Lifestyle	Nike	1.05	.12	.64	8.33***	1.16	.12	.71	9.66***

Continued

Construct/Item	Group 3[a] Construct Brand 1 (for shirt)	Est.[b]	S.E.[b]	S.Est.[b]	*t*	Est.[b]	S.E.[b]	Group 4[a] S.Est.[b]	*t*
Trustworthy	KCR[d]	1.00		.76		1.00		.72	
Fashionable	KCR[d]	1.26	.10	.85	12.57***	1.19	.10	.83	11.92***
Reputed	KCR[d]	1.16	.10	.75	11.04***	1.09	.09	.75	11.26***
Prestige symbol	KCR[d]	1.16	.10	.78	11.42***	1.25	.11	.78	11.22***
Attractive	KCR[d]	1.12	.10	.74	10.77***	1.13	.12	.74	10.62***
Keeps with my lifestyle	KCR[d]	1.08	.10	.71	10.15***	1.26	.12	.72	10.27***
Construct/Item	**Construct Brand 2 (for dress &athletic shoes)**	**Est.[b]**	**S.E.[b]**	**S.Est.[b]**	***t***	**Est.[b]**	**S.E.[b]**	**S.Est.[b]**	***T***
Trustworthy	TH[e]	1.00		.73		1.00		.74	
Fashionable	TH[e]	1.26	.10	.83	11.77***	1.26	.09	.87	13.15***
Reputed	TH[e]	1.03	.10	.74	10.40***	1.02	.08	.74	11.49***
Prestige symbol	TH[e]	1.08	.09	.78	10.96***	1.16	.09	.83	12.37***
Attractive	TH[e]	.99	.10	.68	9.52***	1.16	.09	.79	11.81***
Keeps with my lifestyle	TH[e]	.85	.09	.65	9.03***	1.04	.09	.76	11.31***

a. Group1 = High Brand Image/High Store Image; Group2 = High Brand Image/Low Store Image; Group3 = Low Brand Image/High Store Image; Group4 = Low Brand Image/Low Store Image

b. Est. = parameter estimate; SE = standard error; S.Est. = Standardized parameter estimate

*** $p < .001$

c. RL = Ralph Lauren

d. KCR = Kenneth Cole Reaction

e. TH = Tommy Hilfiger

Table 9. Multiple-group CFA to check the convergent validity of the brand image scale for product brands

Store Image

The seven-item store image scale was measured by conducting multiple-group CFA. Multiple-group CFA was conducted to measure the scale across the four different samples. The RMSEA from the multiple-group CFA model of the store image was .072 with a confidence interval between .063 and .080, indicating a reasonable fit of the model. Other model fit indices were generally above acceptable thresholds (CFI = .95; IFI = .95), which indicates an acceptable fit of the model. The convergent validity of the measurement items was examined in terms of their standardized factor loadings. All factor loadings were higher than the acceptable level of .60 to their respected constructs across all four groups demonstrating the convergent validity of the items.

The internal consistency reliability of items was measured by Cronbach's *alpha*. Cronbach's *alpha* of .93 was obtained for the store image scale, indicating good reliability. The measurement model parameter estimates for store image are shown in Table 10.

	Group 1[a]					Group 2[a]			
Construct/ Item	Construct	Est.(b)	S.E.(b)	S.Est.(b)	*t*	Est.(b)	S.E.(b)	S.Est.(b)	*t*
Brands	Merchandise	1.000		.91		1.000		.81	
Products	Merchandise	1.003	.05	.91	20.18***	1.048	.08	.84	12.91***
Price	Merchandise	1.000	.05	.89	18.79***	.837	.08	.70	10.37***
Pictures	Merchandise	.864	.05	.80	14.81***	.867	.07	.75	11.18***
Contact	Service	1.000		.78		1.000		.84	
Return	Service	1.029	.08	.82	11.79***	.881	.07	.81	12.33***
Time	Service	.969	.08	.77	10.93***	.943	.09	.66	9.63***
	Group 3(a)							**Group 4(a)**	
Construct/ Item	Construct	Est.(b)	S.E.(b)	S.Est.(b)	*t*	Est.(b)	S.E.(b)	S.Est.(b)	*t*
Brands	Merchandise	1.000		.95		1.000		.89	
Products	Merchandise	.925	.03	.91	24.63***	1.081	.05	.92	21.35***
Price	Merchandise	.987	.50	.85	19.59***	1.039	.05	.87	18.73***
Pictures	Merchandise	.883	.05	.80	16.67***	.873	.05	.80	16.07***
Contact	Service	.1.00		.81		1.000		.83	
Return	Service	.986	.08	.79	12.29***	.707	.06	.70	10.97***
Time	Service	1.019	.08	.78	11.93***	1.021	.08	.75	11.98***

a. Group1 = High Brand Image/High Store Image; Group2 = High Brand Image/Low Store Image; Group3 = Low Brand Image/High Store Image; Group4 = Low Brand Image/Low Store Image

b. Est. = parameter estimate; SE = standard error; S.Est. = Standardized parameter estimate

*** $p < .001$

Table 10. Multiple-group CFA to check the convergent validity of the store image scale for online stores

Perceived Risks

The 14 perceived risks items were subjected to multiple-group CFA using a three-factor model (financial risk, product risk, time risk). Multiple-group CFA was conducted across three products (shirt, dress, and athletic shoes), since the survey in each sample measured the financial risk, product risk, and time risk of three different products. Consequently, the level of perceived risk was expected to differ across products. The RMSEA from the multiple-group CFA model of perceived risks across all three products was near .05, indicating a good fit of the model. However, an inspection of model fit (CFI; IFI) revealed that indices were below acceptable thresholds of .9. Examination of factor correlations between the three risk factors showed that across all four groups, the correlation between financial risk and time risk was higher than .85. This means that the model failed to indicate discriminant validity between these two factors. Therefore, the researcher combined financial risk and time risk as one construct, naming it financial/time risk. Multiple-group CFA was then conducted for this new two-factor model—product risk and financial/time risk. The results showed good model fit across all products except for the shirt (shirt: CFI = .89, IFI = .85, RMSEA = .039; dress: CFI = .92, IFI = .92, RMSEA = .040; athletic shoes: CFI = .92, IFI = .92, RMSEA = .048). All factor loadings were significant across groups and products at a .001 level, indicating good divergent validity of the measure. Correlation between financial/time risk and product risk was under .5 across products, which signifies discriminant validity of the measure. However, the researcher noticed that some items consistently demonstrated a low factor loading to their respective variable across products in all four conditions. For

example, the item “my personal information may not be kept” had lower than .06 factor loading to time/financial risk variables across all four conditions for the three products, except for the athletic shoes in HH condition (see Table 11). Due to low factor loadings, the “may pay for shipping and handling” and “may not get the product” items were dropped from the model. Multiple-group CFA was again conducted on the model; the results showed that there were still some items that had low factor loadings to their respective variable in some groups. However, factor loadings were not consistently low across all groups (see Table 12) so the remaining items remained in the model. The results again showed a good model fit across all three products except for the shirt (shirt: CFI = .89, IFI = .89, RMSEA = .045; dress: CFI = .92, IFI = .91, RMSEA = .054; athletic shoes: CFI = .93, IFI = .93, RMSEA = .050). Correlation between product risk and time/financial risk was lower than .50 across all three products.

The internal consistency reliability of items was measured by Cronbach’s *alpha* coefficients across products. The Cronbach’s *alpha* of .86 was obtained from financial/time risk scale for the shirt, .91 for the dress and .93 for the athletic shoes. A Cronbach’s *alpha* for product risk was .79 for the shirt, .87 for the dress, and .84 for the athletic shoes. All Cronbach’s alpha coefficients indicate acceptable to good reliability.

		Group 1(a)				Group 2(a)			
Construct/Item	**Construct**	**Est.(b)**	**S.E.(b)**	**S.Est.(b)**	***t******	**Est.(b)**	**S.E.(b)**	**S.Est.(b)**	***t******
trust	Fin./Time risk shirt	1.00		.74		1.00		.58	
get	Fin./Time risk shirt	1.10	.12	.74	9.35	.91	.17	.48	5.31
accident	Fin./Time risk shirt	.82	.12	.56	7.04	1.21	.18	.64	6.61
personal info	*Fin./Time risk shirt*	*.91*	*.12*	*.59*	*7.42*	*.99*	*.17*	*.52*	*5.66*
may not get	*Fin./Time risk shirt*	*.98*	*.12*	*.65*	*8.19*	*.92*	*.17*	*.49*	*5.41*
credit card	Fin./Time risk shirt	1.01	.13	.62	7.82	1.26	.20	.61	6.40
overcharged	Fin./Time risk shirt	.81	.11	.58	7.39	1.19	.18	.64	6.61
order place	Fin./Time risk shirt	.72	.10	.57	7.15	.99	.16	.58	6.15
find website	Fin./Time risk shirt	.91	.11	.65	8.19	.99	.16	.59	6.28
picture load.	Fin./Time risk shirt	.81	.11	.61	7.75	.95	.16	.56	6.03
examination	Prod. risk shirt	1.00		.69		1.00		.83	
size	Prod. risk shirt	.83	.12	.60	7.05	.66	.09	.54	7.26
try-on	Prod. risk shirt	.87	.10	.80	8.88	.87	.09	.73	10.14
touch and feel	Prod. risk shirt	.98	.11	.76	8.58	.90	.08	.80	11.03
shipping pay	*Prod. risk shirt*	*.89*	*.12*	*.62*	*7.32*	*.50*	*.09*	*.42*	*5.42*
trust	Fin./Time risk dress	1.00		.83		1.00		.72	
get	Fin./Time risk dress	1.02	.09	.75	11.48	1.00	.13	.62	7.89
accident	Fin./Time risk dress	.84	.08	.70	10.41	.99	.11	.69	8.70
personal info	*Fin./Time risk dress*	*.89*	*.09*	*.68*	*10.00*	.79	*.12*	*.52*	*6.56*
may not get	*Fin./Time risk dress*	*.76*	*.09*	*.60*	*8.59*	.74	*.12*	*.50*	*6.34*
credit card	Fin./Time risk dress	.97	.09	.71	10.60	.90	.13	.56	7.11
overcharged	Fin./Time risk dress	.80	.08	.69	10.26	.99	.12	.68	8.58
order place	Fin./Time risk dress	.82	.07	.74	11.18	.82	.11	.61	7.78
find website	Fin./Time risk dress	1.00	.08	.83	13.27	.97	.12	.66	8.42
picture load.	Fin./Time risk dress	.85	.07	.76	11.60	.90	.11	.64	8.10
examination	Prod. risk dress	1.00		.80		1.00		.90	
size	Prod. risk dress	.80	.10	.61	8.22	.82	.07	.72	11.76
try-on	Prod. risk dress	.93	.08	.82	11.43	.86	.07	.75	12.60
touch and feel	Prod. risk dress	.96	.09	.79	11.07	1.02	.06	.90	17.05
shipping pay	*Prod. risk dress*	*.85*	*.10*	*.62*	*8.31*	.67	*.08*	*.56*	*8.42*
trust	Fin./Time risk shoe	1.00		.84		1.00		.75	
get	Fin./Time risk shoe	1.04	.08	.83	13.64	1.02	.11	.70	9.48
accident	Fin./Time risk shoe	.87	.08	.74	11.54	1.02	.10	.73	9.86
personal info	*Fin./Time risk shoe*	*.87*	*.08*	*.71*	*10.94*	*.95*	*.11*	*.66*	*8.80*
may not get	*Fin./Time risk shoe*	*.94*	*.08*	*.76*	*11.95*	*.75*	*.10*	*.56*	*7.52*
credit card	Fin./Time risk shoe	.89	.09	.67	9.98	.96	.11	.63	8.43
overcharged	Fin./Time risk shoe	.87	.08	.72	11.19	.99	.10	.75	10.18
order place	Fin./Time risk shoe	.88	.07	.79	12.82	.94	.10	.70	9.51
find website	Fin./Time risk shoe	.95	.07	.85	14.36	.98	.09	.76	10.34
picture load.	Fin./Time risk shoe	.87	.07	.78	12.53	.88	.10	.68	9.24
examination	Prod. Risk shoe	1.00		.83		1.00		.84	
size	Prod. Risk shoe	.89	.10	.67	9.31	.80	.09	.64	9.24
try-on	Prod. Risk shoe	.93	.08	.78	11.26	1.01	.08	.84	13.24
touch and feel	Prod. Risk shoe	.96	.08	.83	12.06	1.08	.08	.84	13.39
shipping pay	*Prod. Risk shoe*	*.62*	*.09*	*.52*	*7.05*	*.71*	*.09*	*.59*	*8.35*

Continued

		Group 3(a)				Group 4(a)			
Construct/Item	Construct	Est.(b)	S.E.(b)	S.Est.(b)	*t****	Est.(b)	S.E.(b)	S.Est.(b)	*t****
trust	Fin./Time risk shirt	1.00		.67		1.00		.69	
get	Fin./Time risk shirt	1.26	.15	.73	8.61	1.05	.13	.63	8.05
accident	Fin./Time risk shirt	.97	.14	.56	6.87	1.14	.12	.74	9.26
personal info	*Fin./Time risk shirt*	*.92*	*.14*	*.52*	*6.41*	*.76*	*.12*	*.50*	*6.51*
may not get	*Fin./Time risk shirt*	*.86*	*.14*	*.50*	*6.11*	*.74*	*.12*	*.47*	*6.17*
credit card	Fin./Time risk shirt	1.19	.17	.59	7.10	.99	.13	.59	7.57
overcharged	Fin./Time risk shirt	1.08	.14	.63	7.60	.97	.12	.64	8.14
order place	Fin./Time risk shirt	.88	.12	.63	7.54	.94	.11	.67	8.59
find website	Fin./Time risk shirt	1.07	.14	.66	7.86	.90	.11	.65	8.29
picture load.	Fin./Time risk shirt	.88	.13	.55	6.68	.68	.11	.48	6.31
examination	Prod. risk shirt	1.00		.73		1.00		.70	
size	Prod. risk shirt	.74	.10	.56	7.16	.63	.11	.45	5.73
try-on	Prod. risk shirt	.99	.10	.77	9.71	1.00	.11	.74	8.99
touch and feel	Prod. risk shirt	1.16	.11	.86	10.36	1.19	.13	.84	9.35
shipping pay	*Prod. risk shirt*	*.70*	*.11*	*.49*	*6.26*	*.45*	*.11*	*.31*	*4.02*
trust	Fin./Time risk dress	1.00		.86		1.00		.77	
get	Fin./Time risk dress	.99	.08	.77	12.93	1.02	.08	.76	12.14
accident	Fin./Time risk dress	.79	.07	.70	11.17	1.13	.08	.82	13.40
personal info	*Fin./Time risk dress*	*.88*	*.08*	*.68*	*10.84*	*.80*	*.09*	*.60*	*9.11*
may not get	*Fin./Time risk dress*	*.55*	*.09*	*.44*	*6.35*	*.97*	*.09*	*.73*	*11.43*
credit card	Fin./Time risk dress	.98	.08	.73	11.94	.86	.10	.59	8.84
overcharged	Fin./Time risk dress	.98	.07	.81	13.93	.97	.08	.74	11.69
order place	Fin./Time risk dress	.82	.07	.75	12.43	.96	.08	.75	11.84
find website	Fin./Time risk dress	.98	.06	.85	15.17	.96	.08	.76	12.08
picture load.	Fin./Time risk dress	.95	.06	.84	14.93	1.10	.08	.87	14.44
examination	Prod. risk dress	1.00		.78		1.00		.82	
size	Prod. risk dress	1.01	.09	.78	11.25	.85	.08	.71	10.88
try-on	Prod. risk dress	.92	.08	.83	12.17	.96	.07	.82	13.12
touch and feel	Prod. risk dress	.99	.08	.86	12.75	.96	.07	.83	13.43
shipping pay	*Prod. risk dress*	*.80*	*.09*	*.63*	*8.77*	*.81*	*.08*	*.67*	*10.16*
trust	Fin./Time risk shoe	1.00		.87		1.00		.79	
get	Fin./Time risk shoe	.93	.07	.76	13.12	1.02	.09	.73	11.40
accident	Fin./Time risk shoe	1.07	.06	.88	17.27	1.11	.08	.86	14.06
personal info	*Fin./Time risk shoe*	*.61*	*.08*	*.50*	*7.30*	*.86*	*.09*	*.65*	*9.82*
may not get	*Fin./Time risk shoe*	*.92*	*.08*	*.72*	*12.10*	*.95*	*.09*	*.69*	*10.55*
credit card	Fin./Time risk shoe	.97	.08	.73	12.41	.88	.09	.63	9.46
overcharged	Fin./Time risk shoe	.95	.06	.82	15.03	.85	.08	.68	10.47
order place	Fin./Time risk shoe	.70	.06	.70	11.64	1.06	.08	.84	13.69
find website	Fin./Time risk shoe	.96	.06	.87	16.57	1.05	.08	.81	12.97
picture load.	Fin./Time risk shoe	.89	.07	.78	13.54	.85	.08	.72	11.20
examination	Prod. Risk shoe	1.00		.77		1.00		.83	
size	Prod. Risk shoe	1.14	.10	.82	11.71	1.00	.08	.74	11.91
try-on	Prod. Risk shoe	1.15	.09	.88	12.68	1.08	.07	.88	15.05
touch and feel	Prod. Risk shoe	1.10	.11	.72	10.08	1.09	.08	.83	14.07
shipping pay	*Prod. Risk shoe*	*.99*	*.10*	*.70*	*9.81*	*.67*	*.09*	*.52*	*7.74*

a. Group1 = High Brand Image/High Store Image; Group2 = High Brand Image/Low Store Image; Group3 = Low Brand Image/High Store Image; Group4 = Low Brand Image/Low Store Image
b. Est. = parameter estimate; SE = standard error; S.Est. = Standardized parameter estimate
c. *** $p < .001$
d. Italicized items were later deleted

Table 11. Multiple-group CFA to check the convergent validity of the perceived risks scales with all scale items included

		Group 1(a)				Group 2(a)			
Construct/Item	**Construct**	**Est.(b)**	**S.E.(b)**	**S.Est.(b)**	***t******	**Est.(b)**	**S.E.(b)**	**S.Est.(b)**	***t******
trust	Fin./Time risk shirt	1.00		.74		1.00		.58	
get	Fin./Time risk shirt	.79	.12	.54	6.61	1.20	.19	.64	6.51
accident	Fin./Time risk shirt	.96	.12	.64	7.83	.88	.17	.47	5.21
credit card	Fin./Time risk shirt	1.01	.13	.62	7.63	1.25	.20	.61	6.31
overcharged	Fin./Time risk shirt	.84	.11	.61	7.52	1.17	.18	.64	6.51
order place	Fin./Time risk shirt	.72	.10	.57	7.01	1.02	.16	.60	6.24
find website	Fin./Time risk shirt	.90	.11	.64	7.86	.99	.16	.59	6.21
picture load.	Fin./Time risk shirt	.81	.11	.61	7.52	.96	.16	.57	6.05
examination	Prod. risk shirt	1.00		.72		1.00		.82	
size	Prod. risk shirt	.82	.11	.62	7.28	.66	.09	.54	7.17
try-on	Prod. risk shirt	.81	.09	.78	8.68	.86	.09	.73	9.93
touch and feel	Prod. risk shirt	.90	.11	.73	8.38	.92	.08	.81	10.91
trust	Fin./Time risk dress	1.00		.82		1.00		.69	
get	Fin./Time risk dress	.85	.08	.70	10.29	1.05	.13	.70	8.36
accident	Fin./Time risk dress	.74	.09	.58	8.15	.69	.13	.45	5.53
credit card	Fin./Time risk dress	.98	.10	.71	10.35	.94	.14	.56	6.84
overcharged	Fin./Time risk dress	.80	.08	.68	9.91	.98	.13	.65	7.81
order place	Fin./Time risk dress	.85	.08	.75	11.24	.90	.12	.65	7.83
find website	Fin./Time risk dress	1.02	.08	.84	13.00	1.06	.13	.70	8.41
picture load.	Fin./Time risk dress	.87	.08	.76	11.49	.99	.12	.67	8.07
examination	Prod. risk dress	1.00		.83		1.00		.91	
size	Prod. risk dress	.78	.09	.61	8.22	.80	.07	.71	11.59
try-on	Prod. risk dress	.90	.08	.82	11.32	.86	.07	.75	12.70
touch and feel	Prod. risk dress	.91	.08	.78	10.83	1.01	.06	.89	16.66
trust		1.00		.82		1.00		.72	
get	Fin./Time risk shoe	1.04	.08	.75	11.41	1.07	.11	.74	9.56
accident	Fin./Time risk shoe	.87	.08	.74	11.26	.76	.11	.55	7.11
credit card	Fin./Time risk shoe	.87	.09	.66	9.68	.99	.12	.63	8.21
overcharged	Fin./Time risk shoe	.94	.08	.71	10.61	1.00	.11	.73	9.49
order place	Fin./Time risk shoe	.90	.07	.81	12.62	1.01	.11	.73	9.44
find website	Fin./Time risk shoe	.98	.07	.86	13.94	1.02	.10	.77	9.94
picture load.	Fin./Time risk shoe	.90	.07	.79	12.37	.93	.10	.70	9.09
examination	Prod. Risk shoe	1.00		.84		1.00		.83	
size	Prod. Risk shoe	.89	.10	.67	9.37	.81	.09	.64	9.10
try-on	Prod. Risk shoe	.92	.08	.78	11.14	1.03	.08	.84	12.92
touch and feel	Prod. Risk shoe	.94	.08	.81	11.73	1.11	.08	.85	13.12

Continued

Table 12. Multiple-group CFA to check the convergent validity of the perceived risks scales with final group of scale items

		Group 3(a)				Group 4(a)			
Construct/Item	**Construct**	**Est.(b)**	**S.E.(b)**	**S.Est.(b)**	***t******	**Est.(b)**	**S.E.(b)**	**S.Est.(b)**	***t******
trust	Fin./Time risk shirt	1.00		.65		1.00		.67	
get	Fin./Time risk shirt	.95	.15	.54	6.25	1.16	.13	.73	8.79
accident	Fin./Time risk shirt	.89	.15	.50	5.84	.73	.13	.46	5.87
credit card	Fin./Time risk shirt	1.31	.18	.63	7.11	1.01	.14	.58	7.28
overcharged	Fin./Time risk shirt	1.13	.16	.64	7.19	1.03	.13	.66	8.06
order place	Fin./Time risk shirt	.91	.13	.63	7.13	.98	.12	.68	8.34
find website	Fin./Time risk shirt	1.06	.15	.63	7.17	.93	.12	.66	8.08
picture load.	Fin./Time risk shirt	.91	.14	.55	6.36	.70	.11	.49	6.20
examination	Prod. risk shirt	1.00		.73		1.00		.70	
size	Prod. risk shirt	.73	.10	.55	7.02	.63	.11	.45	5.77
try-on	Prod. risk shirt	.98	.10	.76	9.61	.99	.11	.74	8.97
touch and feel	Prod. risk shirt	1.17	.11	.87	10.24	1.17	.13	.83	9.25
trust		1.00		.86		1.00		.80	
get	Fin./Time risk dress	.79	.07	.70	11.15	1.11	.09	.81	13.09
accident	Fin./Time risk dress	.54	.09	.44	6.22	.97	.09	.73	11.38
credit card	Fin./Time risk dress	.99	.08	.74	12.10	.87	.10	.60	9.07
overcharged	Fin./Time risk dress	.98	.07	.81	14.03	.96	.08	.74	11.64
order place	Fin./Time risk dress	.82	.07	.75	12.43	.97	.08	.75	11.89
find website	Fin./Time risk dress	.96	.07	.84	14.86	.96	.08	.76	12.09
picture load.	Fin./Time risk dress	.94	.06	.84	14.77	1.10	.08	.87	14.50
examination	Prod. risk dress	1.00		.80		1.00		.82	
size	Prod. risk dress	.98	.09	.77	11.32	.86	.08	.71	10.73
try-on	Prod. risk dress	.88	.07	.81	12.04	.98	.08	.83	13.02
touch and feel	Prod. risk dress	.99	.08	.87	13.05	.95	.07	.82	12.89
trust	Fin./Time risk shoe	1.00		.87		1.00		.80	
get	Fin./Time risk shoe	1.08	.06	.89	17.28	1.09	.08	.86	14.07
accident	Fin./Time risk shoe	.92	.08	.72	11.92	.93	.09	.68	10.48
credit card	Fin./Time risk shoe	.98	.08	.74	12.53	.87	.09	.63	9.45
overcharged	Fin./Time risk shoe	.94	.06	.82	14.71	.85	.08	.69	10.61
order place	Fin./Time risk shoe	.70	.06	.71	11.72	1.04	.08	.83	13.58
find website	Fin./Time risk shoe	.96	.06	.86	16.41	1.04	.08	.81	13.15
picture load.	Fin./Time risk shoe	.89	.07	.77	13.46	.87	.07	.74	11.71
examination	Prod. Risk shoe	1.00		.77		1.00		.84	
size	Prod. Risk shoe	1.17	.10	.84	11.80	.99	.08	.73	11.76
try-on	Prod. Risk shoe	1.13	.09	.87	12.12	1.06	.07	.87	14.74
touch and feel	Prod. Risk shoe	1.10	.11	.72	9.97	1.11	.08	.85	14.40

a. Group1 = High Brand Image/High Store Image; Group2 = High Brand Image/Low Store Image; Group3 = Low Brand Image/High Store Image; Group4 = Low Brand Image/Low Store Image
b. Est. = parameter estimate; SE = standard error; S.Est. = Standardized parameter estimate
c. *** $p < .001$

Table 12. Multiple-group CFA to check the convergent validity of the perceived risks scale with final group of scale items

Purchase Intention

Multiple-group CFA, conducted across three products measured consumers' purchase intentions separately for each product. The RMSEA from the multiple-group CFA model of purchase intention and other model fit indices were nearly at the acceptable model fit level. Modification indices were inspected, and after considering the theoretical relevance of any re-specifications, the researcher decided to eliminate the items "the likelihood that I would purchase this products from this online store in the next 3 months is," and "the likelihood that I would purchase this product from this online store in the next 12 months is," due to high MI across products. After correlation of residuals, all indices for model fit revealed considerably better results except for the dress (shirt: RMSEA = .073, IFI = .968, CFI = .968; dress: RMSEA = .11, IFI = .945, CFI = .944; shoes: RMSEA = .068, IFI = .979, CFI = .979). The convergent validity of the measurement items was examined in terms of their factor loadings; all factor loadings to their respected constructs were higher than the .70 for almost all groups.

The internal consistency reliability of items was measured by the Cronbach *alpha*. The Cronbach's *alpha* .93 was obtained from purchase intention scale for the shirt, .95 for the dress, and .96 for the athletic shoes, which indicates excellent reliability. The measurement model parameter estimates for purchase intention are shown in Table 13.

		Group 1(a)				Group 2(a)			
Construct/Item	**Construct**	**Est.(b)**	**S.E.(b)**	**S.Est.(b)**	***t***	**Est.(b)**	**S.E.(b)**	**S.Est.(b)**	***t***
return likelihood	PI shirt	1.00		0.57		1.00		.72	
purcahse.likel.	PI shirt	1.52	.18	.92	8.568***	1.24	.10	.94	12.756***
purch. next 3 mo.	PI shirt	1.03	.13	.81	7.998***	.79	.08	.73	9.824***
purch next.12 mo.	PI shirt	1.18	.14	.85	8.218***	.95	.09	.81	1 .979***
buying willing.	PI shirt	1.64	.20	.86	8.27***	1.26	.11	.86	11.667***
consider buying	PI shirt	1.44	.18	.84	8.17***	1.33	.11	.87	11.883***
return likelihood	PI dress	1.00		.74		1.00		.89	
purcahse.likel.	PI dress	1.19	.09	.97	13.667***	1.01	.05	.95	22.482***
purch. next 3 mo.	PI dress	.83	.08	.78	1 .789***	.85	.05	.86	17.238***
purch next.12 mo.	PI dress	1.07	.08	.90	12.711***	.98	.05	.93	21.170***
buying willing.	PI dress	1.23	.10	.88	12.324***	1.02	.05	.90	19.323***
consider buying	PI dress	1.24	.10	.89	12.555***	1.10	.05	.94	21.817***
return likelihood	PI shoe	1.00		.82		1.00		.89	
purcahse.likel.	PI shoe	1.16	.07	.95	16.832***	1.05	.05	.96	22.984***
purch. next 3 mo.	PI shoe	.77	.07	.76	11.838***	.88	.05	.84	16.433***
purch next.12 mo.	PI shoe	1.01	.07	.88	14.87***	.96	.05	.91	19.469***
buying willing.	PI shoe	1.22	.07	.94	16.608***	1.11	.05	.95	21.936***
consider buying	PI shoe	1.22	.07	.94	16.654***	1.13	.05	.94	21.662***

		Group 3(a)				Group 4(a)			
		Est.(b)	**S.E.(b)**	**S.Est.(b)**	**t**	**Est.(b)**	**S.E.(b)**	**S.Est.(b)**	***t***
return likelihood	PI shirt	1.00		.66		1.00		.70	
purcahse.likel.	PI shirt	1.24	.11	.94	11.059***	1.18	.09	.95	13.137***
purch. next 3 mo.	PI shirt	1.05	.11	.80	9.755***	1.00	.09	.85	11.880***
purch next.12 mo.	PI shirt	1.06	.10	.86	10.382***	1.02	.09	.86	12.021***
buying willing.	PI shirt	1.29	.12	.88	10.595***	1.21	.10	.85	11.784***
consider buying	PI shirt	1.31	.12	.91	10.833***	1.22	.10	.91	12.683***
return likelihood	PI dress	1.00		.74		1.00		.80	
purcahse.likel.	PI dress	1.05	.09	.85	12.185***	1.15	.07	.93	16.578***
purch. next 3 mo.	PI dress	1.01	.09	.81	11.519***	1.01	.07	.89	15.449***
purch next.12 mo.	PI dress	.97	.08	.89	12.783***	1.10	.07	.93	16.707***
buying willing.	PI dress	1.11	.09	.87	12.546***	1.12	.07	.92	16.386***
consider buying	PI dress	1.12	.09	.92	13.203***	1.09	.07	.89	15.588***
return likelihood	PI shoe	1.00		.70		1.00		.76	
purcahse.likel.	PI shoe	1.12	.09	.90	12.023***	1.05	.07	.94	15.016***
purch. next 3 mo.	PI shoe	.93	.08	.86	11.397***	1.01	.07	.93	14.786***
purch next.12 mo.	PI shoe	.99	.09	.85	11.356***	.99	.07	.93	14.728***
buying willing.	PI shoe	1.28	.11	.87	11.576***	.98	.08	.84	12.980***
consider buying	PI shoe	1.26	.10	.93	12.374***	1.03	.07	.90	14.296***

a. Group1 = High Brand Image/High Store Image; Group2 = High Brand Image/Low Store Image; Group3 = Low Brand Image/High Store Image; Group4 = Low Brand Image/Low Store Image
b. Est. = parameter estimate; SE = standard error; S.Est. = Standardized parameter estimate
c. *** $p < .001$

Table 13. Multiple-group CFA to check the convergent validity of the purchase intention scale for products

Testing Hypotheses

Before conducting path analyses to test the hypotheses (except H3, H12 and H13), some of the hypotheses were modified because multiple-group CFA analyses showed that perceived time risk was highly correlated with perceived financial risk. To avoid a multicoliniarity problem and have a measure that meets discriminant validity requirements (i.e., factors in the model discriminate each other), the researcher combined two factors (financial and time risks), creating a 10-item factor called financial/time risk. Combining these two factors made it necessary to modify the hypotheses. Figure 4 presents the hypothesized model before the modifications and Figure 5 shows the modified model. As shown in Figure 5, some hypotheses were combined—H9 and H11 are combined to make H9; H6 and H8 are combined to make H6.

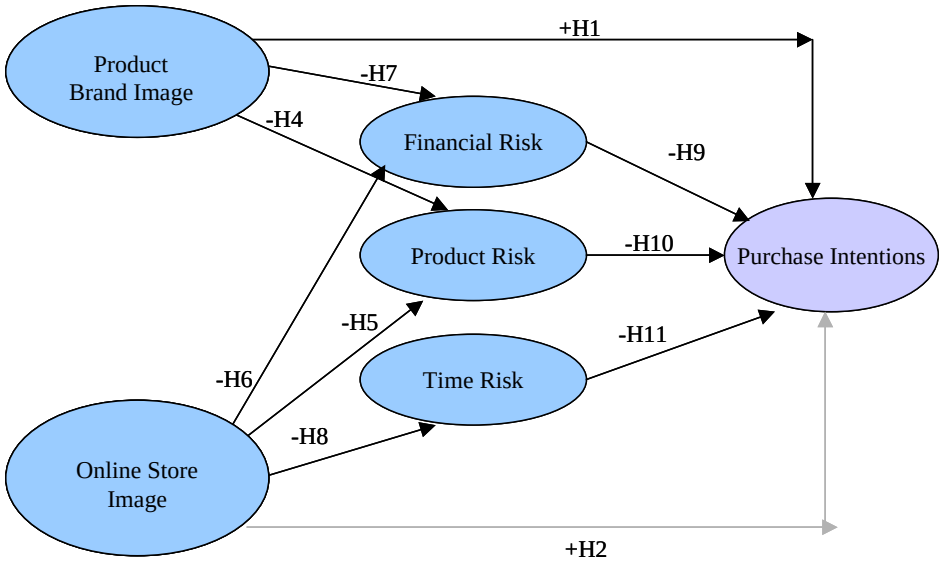


Figure 4. Hypothesized model before modifications

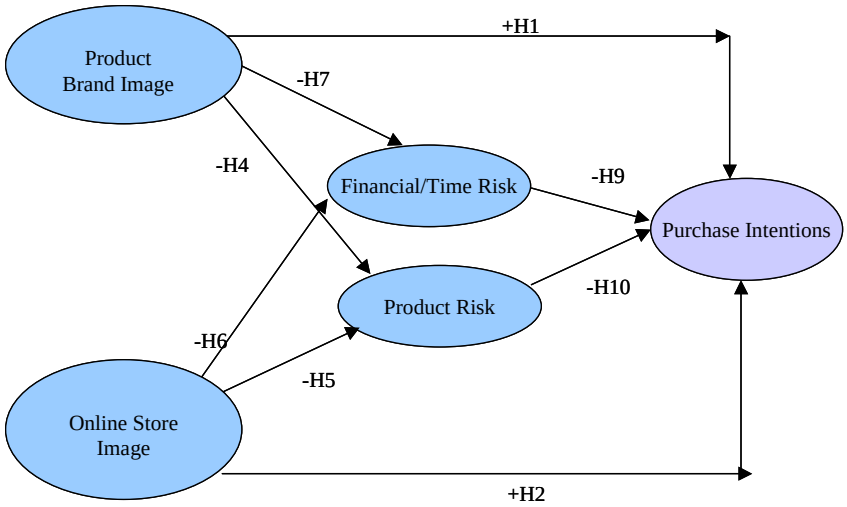


Figure 5. Modified hypothesized model

Estimated coefficients and their associated critical ratios (C.R.) in the path model were examined to test some of the hypotheses. SEM analyses were applied to test hypotheses for each product separately. The path model was utilized to test the direct effect of product brand image (H1) and online store image (H2) on purchase intentions and on two types of perceived risks (H4, H5, H6, and H7) for each product separately. In addition, path model was used to test the direct effect of perceived risks on purchase intentions for each product (H9 and H10). Model fit for each product was within an acceptable range—shirt: RMSEA=.051, CFI=.94, IFI=.94; dress: RMSEA=.055, CFI=.94, IFI=.94; and athletic shoes: RMSEA=.051, CFI=.95, IFI=.95. The results are presented in Table 14.

Product	Hypotheses	Hypothesized Path	Path coefficient
	H1:	Brand Image --> Purchase Intention	.23***
	H2:	Store Image -->Purchase Intention	.04
	H4:	Brand Image -->Product Risk	-.26***
Shirt	H5:	Store Image -->Product Risk	-.11*
	H6:	Store Image -->Financial/Time Risk	-.39***
	H7:	Brand Image -->Financial/Time Risk	-.19***
	H9:	Financial/Time Risk -->Purchase Intention	.00
	H10:	Product Risk -->Purchase Intention	-.31***
	H1:	Brand Image --> Purchase Intention	.13**
	H2:	Store Image -->Purchase Intention	.06
	H4:	Brand Image -->Product Risk	-.17**
Dress	H5:	Store Image -->Product Risk	-.01
	H6:	Store Image -->Financial/Time Risk	-.39***
	H7:	Brand Image -->Financial/Time Risk	-.12**
	H9:	Financial/Time Risk -->Purchase Intention	-.23***
	H10:	Product Risk -->Purchase Intention	-.26***
	H1:	Brand Image --> Purchase Intention	
	H2:	Store Image -->Purchase Intention	.25***
	H4:	Brand Image -->Product Risk	.02
	H5:	Store Image -->Product Risk	-.10*
Athletic	H6:	Store Image -->Financial/Time Risk	-.10*
shoes	H7:	Brand Image -->Financial/Time Risk	-.30***
	H9:	Financial/Time Risk -->Purchase Intention	-.05
	H10:	Product Risk -->Purchase Intention	-.07
			-.30***

***p<.00; **p<01; *p<.05

Table 14. Standardized path coefficients in structural models across products showing hypotheses test results

As shown in Table 14, the results support the hypotheses that product brand image will have a significant impact on purchase intentions and product risk across all three products (shirt, dress, and athletic shoes). Propositions that store image will have a significant impact on financial/time risks and that online store image will have a significant impact on financial/time risks were also supported across all three products. Hypothesis 5 regarding the impact of store image on product risk was supported only for the shirt and athletic shoes and hypothesis 7 regarding the impact of brand image on financial/time risk was supported for the shirt and dress. Hypothesis 9 regarding the impact of financial/time risk on purchase intentions was supported only for the dress and hypothesis 2 regarding the impact of online store image on purchase intention was not supported for any of the products.

Multiple-group path analyses were conducted across the four groups for each product separately to further examine differences in the structural relationships among the variables across the four experimental conditions (High product brand image – Low online store image, etc.) for each product separately. Model fit for each product was within an acceptable range—shirt: RMSEA=.031, CFI=.91, IFI=.91; dress: RMSEA=.036, CFI=.91, IFI=.91; athletic shoes: RMSEA=.035, CFI=.92, IFI=.92. The results are presented in Table 15.

Product	HP	Hypothesized Path	Path Coefficient Group 1 (HH)	Group 2 (HL)	Group 3 (LH)	Group 4 (LL)
	H1:	Brand Image -> Purchase Intention	.40***	.12	.09	.35***
	H2:	Store Image->Purchase Intention	.07	.16	.11	.08
	H4:	Brand Image ->Product Risk	-.13	-.30**	-.22**	-.20*
Shirt	H5:	Store Image->Product Risk	-.11	.08	-.11	-.24**
	H6:	Store Image ->Financial/Time Risk	-.39***	-.21**	-.27***	-.35***
	H7:	Brand Image->Financial/Time Risk	-.26**	.06	.06	-.12
	H9:	Financial/Time Risk->Purchase Intention	-.01	-.24**	-.12	-.05
	H10:	Product Risk->Purchase Intention	-.35***	-.32***	-.27***	-.22**
	H1:	Brand Image -> Purchase Intention	.40***	.12	.06	.29***
	H2:	Store Image->Purchase Intention	.06	.49***	.16	.07
	H4:	Brand Image ->Product Risk	-.2	0.25***	.05	-.12
Dress	H5:	Store Image->Product Risk	-.03	-.06	-.22*	-.20*
	H6:	Store Image ->Financial/Time Risk	-.51***	-.22*	-.77***	-.26**
	H7:	Brand Image->Financial/Time Risk	-.35***	.03	-.03	-.12
	H9:	Financial/Time Risk->Purchase Intention	.03	-.31**	-.29***	-.12
	H10:	Product Risk->Purchase Intention	-.51***	-.57***	-.10	-.15*
	H1:	Brand Image -> Purchase Intention	.15	.03	.30***	.20**
	H2:	Store Image->Purchase Intention	.09	.28*	.01	.15
	H4:	Brand Image ->Product Risk	.03	-.10	-.03	-.12
Athletic	H5:	Store Image->Product Risk	-.12	-.08	-.10	-.06
shoes	H6:	Store Image ->Financial/Time Risk	-.35***	-.35***	-.42***	-32***
	H7:	Brand Image->Financial/Time Risk	-.07	-.19	-.12	-.09
	H9:	Financial/Time Risk->Purchase Intention	-.03	-.14	-.15**	-.04
	H10:	Product Risk->Purchase Intention	-.46***	-.44***	-.26***	-.16*

***p<.00; **p<01; *p<.05

Table 15. Standardized path coefficients showing hypotheses results across groups and products

As in Table 15, the results of multiple-group path analyses fully support H6, which found that the favorability of online store image negatively influences perceived financial/time risk across all three products (shirt, dress, and athletic shoes) in all four conditions (HH, HL. LH, LL). This result suggests that regardless of product type and the level of favorability of store image, there will be a significant negative relationship

between store image and perceived financial/time risk. Full support was found for H10 (perceptions of product risk will negatively influence purchase intentions) across all three products in all four experimental conditions. This result suggests that regardless of product type and favorability of product brand image and store image, the relationship between perceived product risk and purchase intentions will be negative in online shopping environments. The rest of the hypotheses were partially supported, depending on product type and experimental condition.

A structural equation modeling test was conducted to test mediation hypotheses (H12 and H13). Before testing these hypotheses, modifications were made due to the proposed alternative model (see Figure 5). Accordingly, H12 and H13 were restated in the following way:

H12: The influence of online store image on consumers' purchase intentions will be mediated by perceived product and financial/time risks.

H13: The influence of product brand image on consumers' purchase intentions will be mediated by perceived product and financial/time risks.

To test the mediation effects of product and financial/time risks, separate structural equation models were conducted and compared. First, SEM was conducted for the full model to measure both direct and indirect relationships between independent variables (product brand image, online store image) and the dependent variable (purchase

intention). Second, SEM was conducted for the model without direct effects. The chi-square value was used to determine any significant difference between two models.

Multiple-group SEM with constrained and unconstrained models was conducted to test mediation effects of perceived risks for each product separately. That is, SEM was run on the model where the direct effect of product brand image on purchase intention (H13) and the direct effect of store image on purchase intention (H12) were "0" (constrained model, see Figure 6) and on the model with no such restrictions (original model, see Figure 7), to determine if the effects of brand image and store image on purchase intention are fully mediated by perceived risks. Then, chi-square difference was tested to see if these two models are significantly different. In the dress example, the chi-square is 1605.42 for the unconstrained model with 480 degrees of freedom and the chi-square is 1607.58 for the constrained model with 481 degrees of freedom. The difference between the chi-squares is 1607.58-1605.42=2.16. The difference in degree of freedoms (DF) is 1. Chi-square difference test showed the p value was .14. Therefore, the researcher could not reject the hypothesis that the direct effect of store image on purchase intention is "0," which means that for the dress, the impact of store image on purchase intention was fully mediated by perceived risk. The same technique was used to test H12 and H13 for the two other products—shirt and athletic shoes. The results of SEM tests are illustrated in Table 16.

The results for H12 (the influence of online store image on consumers' purchase intentions will be mediated by perceived product and financial/time risks) showed full mediation across all three products, since the assumption that the direct effect of store image on purchase intention was equal to zero could not be rejected. For H13 (The

influence of product brand image on consumers' purchase intentions will be mediated by perceived product and financial/time risks), the assuption that the direct effect of brand image on purchase intention was equal to zero was rejected, although the effect of brand image on perceived risks and the impact of perceived risks on purchase intention was significant. Therefore, perceived risks partially mediated the influence of brand image on purchase intentions.

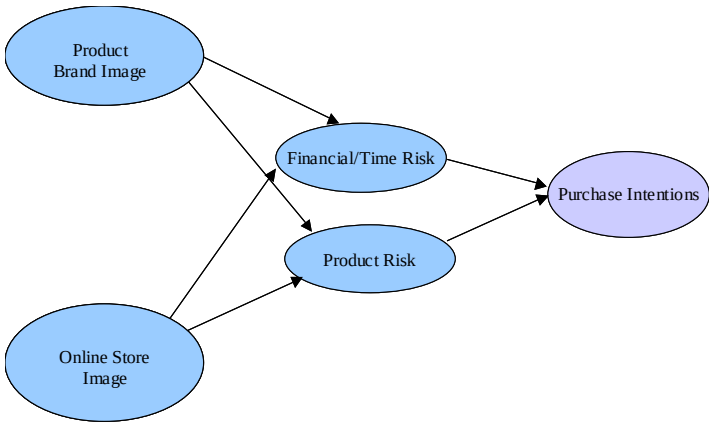


Figure 6. Constrained model without direct impact of product brand image and online store image on purchase intention

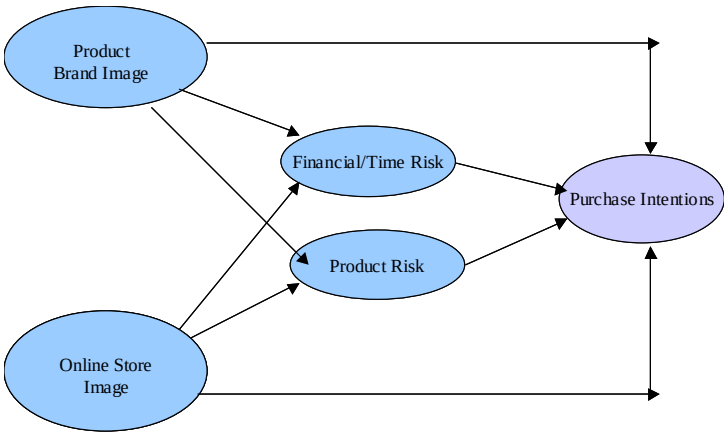


Figure 7. Original model with direct impact of product brand image and online store image on purchase intention

Product	Hypotheses	Chi-square: Full model (*DF* = 480)	Chi-square: Constrained model (*DF* = 481)	Chi-square: Chi-square difference (DF = 1)	*p*
Dress	H12: Impact of online store image on purchase intention will be mediated by percevied risks	1605.42	1607.58	2.16	.140
	H13: Impact of product brand image on purchase intention will be mediated by percevied risks	1605.42	1615.82	10.4	.001
Shirt	H12: Impact of online store image on purchase intention will be mediated by percevied risks	1442.64	1443.72	1.08	.290
	H13: Impact of product brand image on purchase intention will be mediated by percevied risks	1442.64	1475.26	32.62	.000
Athletic Shoe	H12: Impact of online store image on purchase intention will be mediated by percevied risks	1461.8	1462.05	0.25	.620
	H13: Impact of product brand image on purchase intention will be mediated by percevied risks	1461.8	1505.19	43.39	.000

Table 16. Validation of the mediation role of perceived risks

Hypothesis 3 (product brand image has greater importance weight than online store image in influencing purchase intentions than online store image) was tested through regression coefficients in the SEM models and calculation of the significant difference of these models. First, regression beta coefficients of corresponding paths (from brand image to purchase intentions, and from store image to purchase intention) were checked in the SEM model. The results showed that the path from product brand image to purchase intention has greater regression beta value (dress - .13, shirt - .23, athletic shoes - .25) for all three products than the path from online store image to purchase intention (dress - .06, shirt - .04, athletic shoes - .02). Next, the statistical significance of the difference of these regression coefficients was checked. To do so, multiple-group SEM was conducted for a model that restricts the two regression coefficients to be equal (brand image to purchase intentions regression is equal to store image to purchase intention regression) and for a model with no such restrictions (original model). Last, a chi-square difference test was run to examine whether there is any significant improvement in fit in the unrestricted model vs. the restricted model. The results show that H3 (product brand image will have greater impact than online store image on purchase intention) is only supported for shirts and athletic shoes (Table 17).

		Chi-square		Difference		
Product	Test	Full model (*DF* = 480)	Constrained model (*DF* = 481)	Chi-square	*DF*	*p*
Dress	H3:	1605.42	1605.97	0.55	1	.45
Shirt	H3:	1442.64	1449.01	6.37	1	.00
Athletic Shoe	H3:	1461.8	1475.9	14.1	1	.00

Table 17. Chi-square difference for the relative importance of product brand image and online store image on purchase intentions

CHAPTER V: DISCUSSION OF FINDINGS

This study examines the role of product brand image and online store image on consumers' perceptions of specific types of perceived risks and their online purchase intentions for fashion apparel and accessory products. In addition, this research examines the mediating role of specific types of perceived risks on the impact of product brand image and online store image on purchase intentions for fashion apparel and accessory products in online shopping environments. Before testing the hypotheses, validity and reliability tests were conducted on each measurement scale—product brand image, online store image, perceived risks, and purchase intentions.

Product Brand Image and Purchase Intentions

The results of this study show that brand image significantly influences consumers' purchase intentions for fashion apparel and accessory products. When the relationship was examined across the three products and groups separately, the impact of product brand image on purchase intentions was significant across all three products in most of the groups. These findings are consistent with those from previous research suggesting that in physical store environment, favorability of brand image has a positive

impact on consumers' purchase intentions (e.g., Del Rio et al., 2001; Dodds et al., 1991; Jacoby et al., 1971; Sweeney et al., 1999; Park et al., 1994). Brand image is a critical cue in forming consumers' perceptions of product attributes. In the online shopping environment, the role of brand image becomes particularly important, since it serves as a surrogate for a variety of product attributes, when products cannot be examined directly. In the case of fashion apparel products, the inability to touch, feel, and try on the product prior to the purchase makes brand image a principal cue in shaping purchase intentions.

Online Store Image and Purchase Intentions

Earlier studies of the relationship between store image and purchase intentions have focused on physical stores (Sweeney et al., 1999; Grewal et al., 1998; Bell, 1999) finding brand image (but not necessarily store image) to have a positive impact on consumers' purchase intentions.. The current study failed to find a significant positive relationship between store image and purchase intentions in the online shopping environment for any of the three stimulus products. When the relationship between online store image and purchase intentions was examined for the four experimental conditions across each product separately, the result was significant in only one experimental condition— for the dress and athletic shoes. These findings suggest that online store image does not make as important a contribution to increasing consumers' purchase intentions in the online shopping environment as it appears to do in the physical store environments (e.g., Grewal et al., 1998). Unlike physical store image that can add some level of value and status, particularly for fashion products (e.g., visiting and purchasing

from a well-known and prestigious store conveys fissionability and social status); the online store image does not offer such value to its consumers because it does not carry the same characteristics that a physical store does (e.g., atmosphere, physical environment, visibility, etc.).

The Relative Importance of Product Brand Image and Online Store Image in Purchase Intentions

Built on Information Integration Theory, the present research proposed that in the online shopping environment, product brand image has greater impact on purchase intentions than does online store image. The current finding that product brand image has greater impact on purchase intentions than online store image for shirts and athletic shoes may be explained by the premise that fashion apparel and accessory products operate as tools for expressing social status and lifestyle (Kaiser, 1990). In addition, these product brands are often associated with lifestyle, personality, and social status. For example, people associate the Ralph Lauren brand with American luxury and a posh, upscale lifestyle (www.RalphLauren.com; Hogeboom). Therefore, when shopping online, consumers give more importance to the product brand image rather than to the online store image because the latter is a virtual process and does little to convey social status or lifestyle. In addition, based on the Information Integration Theory that suggests a "discounting effect", one may expect that the importance of product brand image will be greater than online store image, because consumers are more likely to be familiar with the brand before they became familiar with the online store as the stimulus brands

represent mature brands. According to the primacy effect, first inquired information is better memorized and fosters an impression that significantly impacts the information acquired later. In this case, product brand image is the information that impacts the later information, because online shopping is a relatively new phenomenon and is less likely to have a primacy effect.

Product Brand, Online Store Image and Perceived Risks

The present study focused on the impact of product brand image and online store image on specific types of perceived risk associated with online shopping. The results of this research show full support for the proposition that online store image will have a negative influence on perceived financial/time risk. This impact was significant across all three products in all experimental conditions, suggesting that regardless of the product type, consumers will perceive considerable financial/time risk when shopping online. The relationship between product brand image and perceived financial/time risk was significant only for two products (shirts and dresses). The path coefficients from product brand image to perceived time/financial risks were lower than those from online store image to perceived time/financial risk. The difference of these coefficients was not tested in this research; however, it seems likely that online store image is a stronger financial/time risk reducer than product brand image, because the characteristics of perceived financial/time risks (e.g., may be overcharged, takes too long to place order, etc.) are more closely related to online store image than product brand image. Perceived product risk was negatively related to store image in two products (shirt and athletic

shoes) and to brand image in all three products, showing that product brand image reduces perceived product risk for fashion apparel and accessory products. Also, the path coefficients from store image to perceived product risk were lower than those from product brand image to perceived product risk, suggesting that product brand image is a stronger product risk reducer than online store image. Perceived product risk is associated with product attributes that product brand image conveys by serving as a surrogate for these attributes. Therefore, the significant contribution of product brand image to reducing perceived product risk is evident in all three products.

These findings are consistent with previous research findings on physical store environment, showing the negative impact of both store image and brand image on overall risk (Leavitt, 1967; Roselius, 1971; Montgomery, 1975). The current research focused on the online shopping environment; however, the findings of this study are consistent with the Theory of Perceived Risk—in a physical shopping environment, consumers feel a certain level of risk in their buying behavior and tend to act to reduce this risk by relying on risk relievers (Bauer, 1960).

Perceived Risks and Purchase Intentions

Empirical studies consistently suggest perceived risk as a barrier to product adoption and product purchase in a physical store environment (e.g., Dowling et al., 1994). The current study examined the influence of perceived risks on purchase intentions in the online shopping environment and found that product risk significantly

influenced purchase intentions for all three products. The impact of perceived product risk on purchase intentions was significant in almost all experimental conditions across all three products (the only exception being the LH condition for the dress). Perceived product risk is a significant barrier to purchase intentions in online shopping environments for fashion apparel and accessory products since consumers do not have opportunity to evaluate the fit, feel, and other characteristics of these products prior to online purchase.

Consistent with the findings of recent empirical studies (Featherman at al., 2003) the current research finds that consumers perceive high financial risk in the online shopping environment. However, the results of this study suggest that regardless of a high level of perceived financial/time risk, consumers may still have high purchase intentions. In other words, perceived financial/time risk does not necessarily prevent consumers from purchasing online. This study found that perceived financial/time risk was negatively related to purchase intentions only for the dress. More in-depth examination of the impact of perceived financial/time risk on purchase intentions for each product (under high and low product brand image and online store image conditions) showed that financial/time risk does not significantly impact the purchase intentions for shirts and athletic shoes under most of the conditions tested.

These results are consistent with the study of Swaminathan et al. (1999) that financial risk had no significant influence on consumers' online shopping behavior. These results are not too surprising if one considers that respondents in this study were college students, a major online consumer group (Hyde, 2003) with confidence in online

shopping (Yun et al., 2007). While consumers feel some level of risk associated with online shopping, the convenience and benefits provided by online shopping appear to outweigh those risks.

Mediating Role of Perceived Risks

Empirical studies show that perceived risks mediate the impact of product brand image and store image on perceived value in the physical store environment (Agarwal et al., 2001; 2004). The present study examines the mediating roles of perceived risk on purchase intentions . Findings of the present study suggest that the impact of online store image on consumers' purchase intentions is fully mediated by perceptions of product and financial/time risks, which means that there is no direct impact of online store image on purchase intentions but there is an impact from online store image on perceived risks and impact from perceived risks on purchase intentions. The influence of product brand image on consumers' purchase intentions was partially mediated by product and financial/time risks. Consequently, it can be concluded that consumers' online purchase intentions are influenced byproduct brand image, online store image, and perceptions of product and financial/time risks. Consumers do not only use product brand image and online store image to shape their purchase intentions; however, they also engage perceived risks when form their online purchase intentions. They use both product brand image and online store image as cues to assess risks associated with online shopping.. This e finding is consistent with the suggestion that product brand image and store image are risk relievers and provide a higher probability of successful purchase in the physical

store environment (Derbaix, 1983). However, perceptions of some types of risks (e.g. financial/time risk) have little impact on their purchase intentions

CHAPTER VI: IMPLICATIONS AND CONCLUSIONS

The present study examines the direct and indirect influences of product brand image and store image on consumers' online purchase intentions for fashion apparel products and proposes a conceptual model of the role of product brand image and online store image on specific types of perceived risk and purchase intentions in the online shopping environment. Application of theories in social psychology and consumer research enhance our understanding of the process by which product brand image, online store image, and perceived risks influence purchase intentions formation in online environment.

Theoretical Implications

Online shopping provides a relatively new environment to test and apply behavioral theories. This research extends the limited theoretical and empirical work in online shopping with regard to the importance of product brand image and store image and their relative influence on perceived risks and purchase intentions. The results of this study provide an enhanced understanding of perceived risk by enhancing our knowledge about the factors impacting perceptions of specific risks in online environments and the risk-reducing roles of product brand image and store image in forming online purchase intentions for fashion apparel and accessory products in online environments. This study

also applies the Theory of Perceived Risk and Information Integration Theory to a new shopping medium—online shopping—to better understand the role of product brand image and store image in online purchase intentions as well as their role in reducing perceived risks associated with online shopping. Information Integration Theory provides a framework for understanding, examines the relative importance of product brand image and online store image in influencing online purchase intentions.

The present study suggests that regardless of the strength of perceived financial/time risk and its relationship to online store image, it does not always serve as a barrier to online purchasing. In this research, store image significantly influenced perceived financial/time risk across all products and in all experimental conditions; however, perceived financial/time risk did not significantly influence online purchase intentions.

Practical Implications

The findings of this research provide practical implications for marketers and online retailers. These results may help online marketers better understand the relative and combined influences of product brand image and store image on consumer perceptions of specific risk and on their online purchase intentions, thereby, allowing them to create more effective marketing strategies.

Based on the findings presented here, it appears that marketers of apparel and fashion products should give considerable attention to building and maintaining a strong and favorable product brand image to improve the online performance of their brands;

however, they may not need to be as concerned as previously thought about the distribution of their products through a variety of online channels.

The results of this study may help practitioners design better strategies to reduce risks that may hinder consumers from purchasing online. For instance, in this study, it was found that perceived product risk strongly inhibits consumers' purchase intentions for all three products—shirt, dress, and athletic shoes. Therefore, online retailers need to adopt new technologies to decrease perceived product risk for fashion apparel and accessory products. For example, incorporating 3-D body avatars allow consumers to create their own virtual body by imputing body size parameters such as height and weight would allow consumers to virtually try on the apparel product. They could also rotate the image to get the full picture, in an effort to reduce product risk. Given that product brand image has significant impact on online purchase intentions; marketers should pay considerable attention to building and maintaining a strong and favorable product brand image. Based on the results of this study, favorable product brand image will, in turn, decrease perceived product risk and increase purchase intentions. Consequently, product brand image may be the most valuable asset held by online retailers. Therefore, to be successful, online retailers should sale strong and favorable brand names and include them in their inventory.

Limitations

While the current study examined the direct and indirect influences of product brand image and store image on consumers' online purchase intentions, the results need to be interpreted in the context of some limitations.

First, the sample employed in this study is limited to the college students in one university in the southeastern U.S. Though it was a random sample of college students, the focus on a single geographical region limits the generalizability of the results to all college students in the U.S. Also, compared to the overall national population in the U.S., the respondents in this study are young, well-educated, and computer and web-savvy. Second, the product categories chosen in this study—shirt, dress, and athletic shoes—do not represent the whole spectrum of fashion apparel. Therefore, the findings of this study may not be generalized to all fashion apparel products. More specifically, certain types of risk, such as product risk, may have different levels of uncertainty across different fashion apparel products.

Third, participants' involvement with product categories (i.e., whether they wear dresses or shirts) and their Internet shopping experience (i.e., whether they shop online) was not measured in the present study.

The low response rates in the pretest and pilot study may also be a limitation as it is not clear the results are representative of the population. In both steps (pretest and pilot study), the websurvey was sent to the respondent before a holiday (Thanksgiving break for the pretest and semester break of Fall semester for the pilot study). Nonetheless, a dedicated effort was made to increase the participation rate by sending follow-up e-mails.

Recommendations for Future Study

Since this study represents one of the first attempts to examine consumers' online purchase intentions with regard to product brand image, store image, and specific types of perceived risk, it is very important to consider what was learned and what still needs to be examined. Several recommendations are suggested for future research.

The current study focused on college students in one large university in the southeastern region of the U.S. A future direction for research would be to include more data using samples from different universities to determine whether the findings of this study are generalizable to other college student samples. Future replications of this research should also include other consumer markets that may provide a more in-depth understanding of consumers' online purchase intentions in terms of different consumer segments and demographics. These tactics will increase the generalizability of the results found in this study.

The product types chosen in this study—shirt, dress, and athletic shoes—are all related to fashion apparel and are associated with certain types of perceived product risks (i.e., size, inability to try-on, etc.). However, inclusion of other fashion products that are associated with different levels of perceived product risk (i.e., pants, skirts, sunglasses) will be beneficial in understanding the role of product brand image on the perceptions of product risk and purchase intentions. Moreover, it will be useful for future research to investigate the impact of product brand image and store image on perceived risks and purchase intentions by comparing between or among different types of product categories.

An important step would be the inclusion of additional constructs to the model. A more comprehensive model that includes price, perceived quality, and value could be useful to facilitate a better understanding of the roles of product brand image and online store image in online shopping environment.

Furthermore, considering the global nature of modern retailing, it would be very beneficial to investigate consumers' purchase intentions in other cultures.

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APPENDICES

Appendix 1 and Appendix 2: Online Survey for Pretest: Evaluation of Product Brands and Online Stores

Pretest

1. Default Section

1. 1. How much do you like each of these BRANDS for a DRESS listed below. Please click on the circle that best indicates your answer. (1 = I do not like this brand very much, 7 = I like this brand very much)

	I have never heard about this brand	1	2	3	4	5	6	7
Ralph Lauren	◯	◯	◯	◯	◯	◯	◯	◯
Tommy Hilfiger	◯	◯	◯	◯	◯	◯	◯	◯
Anne Klein	◯	◯	◯	◯	◯	◯	◯	◯
Calvin Klein	◯	◯	◯	◯	◯	◯	◯	◯
BCBGMAXAZRIA	◯	◯	◯	◯	◯	◯	◯	◯
Kensie	◯	◯	◯	◯	◯	◯	◯	◯
Maggy London/London Times	◯	◯	◯	◯	◯	◯	◯	◯
Liz and Co.	◯	◯	◯	◯	◯	◯	◯	◯
JONES NEW YORK	◯	◯	◯	◯	◯	◯	◯	◯
Nine West	◯	◯	◯	◯	◯	◯	◯	◯
Isaak Mizrahi	◯	◯	◯	◯	◯	◯	◯	◯
Xhilaration	◯	◯	◯	◯	◯	◯	◯	◯
Liz Claiborne	◯	◯	◯	◯	◯	◯	◯	◯
Donna Morgan	◯	◯	◯	◯	◯	◯	◯	◯
DKNY	◯	◯	◯	◯	◯	◯	◯	◯
AK Anne Klein	◯	◯	◯	◯	◯	◯	◯	◯

2. 2. How much do you like each of these BRANDS for the SHIRT listed below. Please click on the circle that best indicates your answer. (1 = I do not like this brand very much, 7 = I like this brand very much)

	I have never heard about this brand	1	2	3	4	5	6	7
Ralph Lauren	◯	◯	◯	◯	◯	◯	◯	◯
Tommy Hilfiger	◯	◯	◯	◯	◯	◯	◯	◯
Nautica	◯	◯	◯	◯	◯	◯	◯	◯
DKNY	◯	◯	◯	◯	◯	◯	◯	◯
Lacoste	◯	◯	◯	◯	◯	◯	◯	◯
Calvin Klein	◯	◯	◯	◯	◯	◯	◯	◯
Kenneth Cole Reaction	◯	◯	◯	◯	◯	◯	◯	◯
Westbound	◯	◯	◯	◯	◯	◯	◯	◯
Bianca Nygard	◯	◯	◯	◯	◯	◯	◯	◯
Liz Claiborne	◯	◯	◯	◯	◯	◯	◯	◯

Pretest

3. 3. How much do you like each of these BRANDS for the ATHLETIC SHOES listed in the table. Please click on the circle that best indicates your answer. (1 = I do not like this brand very much, 7 = I like this brand very much)

	I have never heard about this brand	1	2	3	4	5	6	7
Adidas	◯	◯	◯	◯	◯	◯	◯	◯
Nike	◯	◯	◯	◯	◯	◯	◯	◯
Skechers	◯	◯	◯	◯	◯	◯	◯	◯
Coach	◯	◯	◯	◯	◯	◯	◯	◯
Easy Spirit	◯	◯	◯	◯	◯	◯	◯	◯
Puma	◯	◯	◯	◯	◯	◯	◯	◯
Tommy Hilfiger	◯	◯	◯	◯	◯	◯	◯	◯
Champion	◯	◯	◯	◯	◯	◯	◯	◯
Airwalk	◯	◯	◯	◯	◯	◯	◯	◯
New Balance	◯	◯	◯	◯	◯	◯	◯	◯
Reebok	◯	◯	◯	◯	◯	◯	◯	◯

4. 4. How much do you like to SHOP/BROWSE at each of the following ONLINE STORES for purchasing a dress, a shirt, and/or athletic shoes? Please click on the circle that best indicates your answer. (1 = I do not like to shop in this online store very much, 7 = I like to shop in this online store very much)

	I have never visited this online store	1	2	3	4	5	6	7
Macys.com	◯	◯	◯	◯	◯	◯	◯	◯
Dillards.com	◯	◯	◯	◯	◯	◯	◯	◯
JCPenny.com	◯	◯	◯	◯	◯	◯	◯	◯
Overstock.com	◯	◯	◯	◯	◯	◯	◯	◯
Sears.com	◯	◯	◯	◯	◯	◯	◯	◯
Bloomingdales.com	◯	◯	◯	◯	◯	◯	◯	◯
Nordstrom.com	◯	◯	◯	◯	◯	◯	◯	◯
Bluefly.com	◯	◯	◯	◯	◯	◯	◯	◯
Amazon.com	◯	◯	◯	◯	◯	◯	◯	◯

*** 5. 5. How old are you?**

Pretest

6. 6. Of what racial group do you consider yourself to be a member?

- [ ] Caucasian / White
- [ ] African American / Black
- [ ] Asian / Pacific Islander
- [ ] Hispanic
- [ ] American Indian / Alaskan Native
- [ ] Bi-racial

Other (please specify)

7. 7. Under which of the following colleges/schools does your major fall? (If you have multiple majors, choose the most central one)

- [ ] Liberal Arts
- [ ] Architecture, Design & Construction
- [ ] Art / Music
- [ ] Business
- [ ] Education
- [ ] Engineering
- [ ] Food, Agriculture, and Environmental Sciences
- [ ] Forestry and Wildlife Sciences
- [ ] Human Sciences
- [ ] Mathematical and Physical Sciences
- [ ] Medicine and Public Health
- [ ] Nursing
- [ ] Pharmacy
- [ ] Veterinary Medicine

8. What is your class standing?

- [ ] Freshman
- [ ] Sophomore
- [ ] Junior
- [ ] Senior
- [ ] Graduate or professional student

Appendix 3: Pilot Study Instrument for Product Brand Image

Product Brand image scale

To what extent do you agree the following characteristics are descriptive of this brand? (1 = strongly disagree and 7=strongly agree)

Functional associations

This brand continuously improves its features 1…2…..3…..4…..5…..6…..7

This brand is trustworthy 1…2…..3…..4…..5…..6…..7

This brand is of excellent quality 1…2…..3…..4…..5…..6…..7

Symbolic Associations

Social identification

This brand is in fashion 1…2…..3…..4…..5…..6…..7

This brand used by friends 1…2…..3…..4…..5…..6…..7

This is a reputed brand 1…2…..3…..4…..5…..6…..7

This is a leading brand 1…2…..3…..4…..5…..6…..7

Status

The use of this brand is a prestige symbol 1…2…..3…..4…..5…..6…..7

This brand recommended by famous people 1…2…..3…..4…..5…..6…..7

Personal identification

This is a brand I particularly like and find attractive 1…2…..3…..4…..5…..6…..7

This brand is keeping with my lifestyle 1…2…..3…..4…..5…..6…..7

Appendix 4: Pilot Study Instrument for Online Store Image

Please indicate your degree of agreement (1= strongly disagree, 7= strongly agree) on whether **the following (name of a store)** online store provides these attributes.

<u>E-merchandise attributes</u>	
Dependable products	1…2…..3…..4…..5…..6…..7
Good quality products	1…2…..3…..4…..5…..6…..7
Good value products	1…2…..3…..4…..5…..6…..7
Good variety of brands	*1…2…..3…..4…..5…..6…..7*
Good variety of products	*1…2…..3…..4…..5…..6…..7*
Fashionable products	*1…2…..3…..4…..5…..6…..7*
Popular products	*1…2…..3…..4…..5…..6…..7*
Fair/competitive prices	*1…2…..3…..4…..5…..6…..7*
<u>E-service attributes</u>	
Customized service	1…2…..3…..4…..5…..6…..7
Good product information	1…2…..3…..4…..5…..6…..7
Good product image/picture	*1…2…..3…..4…..5…..6…..7*
Easy to contact by phone, e-mail or feedback section to sales or service representatives	1…2…..3…..4…..5…..6…..7
Delivery, shipping and tracking availability	1…2…..3…..4…..5…..6…..7

Easy exchange and return system	*1…2…..3…..4…..5…..6…..7*
<u>E-shopping atmosphere attributes</u>	
Shopping pleasantness	*1…2…..3…..4…..5…..6…..7*
Shopping convenience	1…2…..3…..4…..5…..6…..7
Easy to find product	*1…2…..3…..4…..5…..6…..7*
Privacy and security	1…2…..3…..4…..5…..6…..7
Reduced shopping time	1…2…..3…..4…..5…..6…..7
Easy site navigation	1…2…..3…..4…..5…..6…..7
User friendly site design and layout	1…2…..3…..4…..5…..6…..7

Note: Italic lines indicate items included by the researcher

Appendix 5: Pilot Study Instrument for Perceived Financial Risk

To what extent do you agree the following characteristics are descriptive of (**name of the online store**) online store when purchasing (product and brand name)? (1 = strongly disagree and 7=strongly agree)

Cant' trust the online company for purchasing (brand and product name)	1…2…..3…..4…..5…..6…..7
May mot get the (brand name, product name) product	1…2…..3…..4…..5…..6…..7
May purchase something by accident	1…2…..3…..4…..5…..6…..7
My personal information may not be kept	1…2…..3…..4…..5…..6…..7
I may not get what I want	1…2…..3…..4…..5…..6…..7
My credit card number may not be secure	1…2…..3…..4…..5…..6…..7
Might be overcharged	1…2…..3…..4…..5…..6…..7

Appendix 6: Pilot Study Instrument for Perceived Product Risk

To what extent do you agree the following characteristics are descriptive of (**name of the online store**) online store when purchasing (product and brand name)? (1 = strongly disagree and 7=strongly agree)

Can't examine the actual product	1…2…..3…..4…..5…..6…..7
Size may be a problem with (brand name, product name) product	1…2…..3…..4…..5…..6…..7
Can't try on the (brand name, product name) product on-line	1…2…..3…..4…..5…..6…..7
Inability to touch and feel the item	1…2…..3…..4…..5…..6…..7
Must pay for shipping and handling	1…2…..3…..4…..5…..6…..7

Appendix 7: Pilot Study Instrument for Perceived Time Risk

To what extent do you agree the following characteristics are descriptive of (**name of the online store**) online store when purchasing (product and brand name)? (1 = strongly disagree and 7=strongly agree)

Must wait for merchandise to be delivered	1…2…..3…..4…..5…..6…..7
Too complicated to place order	1…2…..3…..4…..5…..6…..7
Difficult to find appropriate Web sites	1…2…..3…..4…..5…..6…..7
Pictures take too long to come up	1…2…..3…..4…..5…..6…..7

Appendix 8: Pilot Study Instrument for Purchase Intentions

Please rate the probability that you would buy (**product name and brand name**) from (**online store name**) online store (1 = Unlikely and 7 = Likely)

1. The likelihood that I would return to this online store to purchase (product name and brand name) is 1…2…..3…..4…..5…..6…..7
2. The likelihood that I would purchase (product name and brand name) from this online store is 1…2…..3…..4…..5…..6…..7
3. The likelihood that I would purchase (product name and brand name) from this online store in the next 3 months is 1…2…..3…..4…..5…..6…..7
4. The likelihood that I would purchase (product name and brand name) from this online store in the next 12 months is 1…2…..3…..4…..5…..6…..7
5. My willingness to buy (product name and brand name) from this online store is 1…2…..3…..4…..5…..6…..7
6. The probability that I would consider buying (product name and brand name) from this online store is 1…2…..3…..4…..5…..6…..7

Appendix 9: Pilot Study Instrument for Measuring Importance Weight Values for Product Brand Image and Online Store Image

Rate the relative importance of (1) **PRODUCT BRAND** and (2) **ONLINE STORE IMAGE** to you when buying clothing online so that the two ratings total 100% (for example, if product brand image is rated at 70% on importance, then online store image will be 30%.)

1. How important is the product brand when you buy clothing online? _____%
1. How important is the store image when you buy clothing online? _____%

Appendix 10: Online Survey for the Main Study

1. Information Letter

Auburn University
College of Human Sciences
Department of Consumer Affairs

The Auburn University Institutional Review Board has approved this document for use From February 14, 2009 to October 30, 2009.
Protocol #08-243 EX 0810

Information Letter
for a Research Study entitled
"The Role of Product Brand and Online Store Image on Perceived Risks and Online Purchase Intentions" (main study)

You are invited to participate in a research study to examine the relative impact of product brand and online store image on consumers' perceived risks and purchase intentions while doing online shopping for fashion apparel products. The study is being conducted by Marine Aghekyan, Ph.D. student, in the Department of Consumer Affairs, Auburn University under direction of Dr. Sandra Forsythe, Professor in the Department of Consumer Affairs. You were selected as a possible participant because you are a female student enrolled in Auburn University and you are age 19 or older.
What will be involved if you participate? If you decide to participate in this research study, you will be asked to complete a questionnaire. Your total time commitment will be approximately 15 minutes.

Are there any risks or discomforts? We assure that the participation in this study would put you in no physical or psychological risks other than the minimal inconvenience of completing the survey. Personal information collected through this survey will be kept confidential and used only for the purpose of this study. No identifiers will be used to link your responses to your identity. Any information obtained in connection with this study, and that can be identified with you will remain anonymous. Information collected through your participation may be published in a professional journal, and/or presented at a professional meeting. If so, none of your identifiable information will be included.

Are there any benefits to yourself or others? Findings from this study are hoped to increase understanding factors that may help enhance consumers' online shopping intentions.

Will you receive compensation for participating? To thank you for your time you will be able to participate in a drawing for $200 cash at the end of the survey.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. After you submit the survey, the data will not be able to be withdrawn since it will be anonymous. Your decision about whether or not to participate or to stop participating will not jeopardize your relationship with the Department of Consumer Affairs or Auburn University.

If you have questions about this study, please contact Marine Aghekyan by email, aghekma@auburn.edu, or telephone, 334-844-1343 or her adviser Dr. Sandra Forsythe by e-mail, forsysa@auburn.edu, or telephone, 334-844-6458.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, THE DATA YOU PROVIDE WILL SERVE AS YOUR AGREEMENT TO DO SO (PLEASE CLICK ON THE "NEXT" BUTTON BELOW). YOU CAN PRINT A COPY OF THE LETTER TO KEEP.

Marine Aghekyan
Investigator obtaining consent
Date February 19, 2009

Dr. Sandra Forsythe
Co-Investigator
Date February 19, 2009

2. Section 1

*** 1. To what extent do you agree the following characteristics are descriptive of Ralph Lauren brand?**
(1= strongly disagree, 7=strongly agree)

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
This brand is keeping with my lifestyle	◯	◯	◯	◯	◯	◯	◯
This is a reputed brand	◯	◯	◯	◯	◯	◯	◯
This is a leading brand	◯	◯	◯	◯	◯	◯	◯
This brand recommended by famous people	◯	◯	◯	◯	◯	◯	◯
This brand is trustworthy	◯	◯	◯	◯	◯	◯	◯
This is a brand I particularly like and find attractive	◯	◯	◯	◯	◯	◯	◯
This brand is in fashion	◯	◯	◯	◯	◯	◯	◯
The use of this brand is a prestige symbol	◯	◯	◯	◯	◯	◯	◯
This brand used by friends	◯	◯	◯	◯	◯	◯	◯

3. Section 2

*** 2. To what extent do you agree the following characteristics are descriptive of Nike brand?**
(1= strongly disagree, 7=strongly agree)

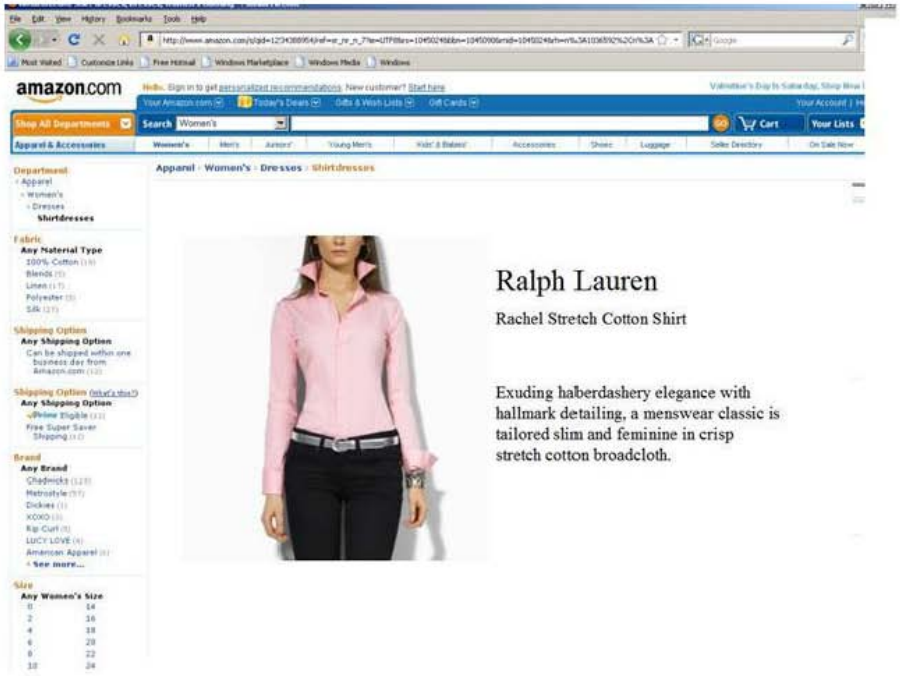
	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
The use of this brand is a prestige symbol	◯	◯	◯	◯	◯	◯	◯
This is a brand I particularly like and find attractive	◯	◯	◯	◯	◯	◯	◯
This brand is keeping with my lifestyle	◯	◯	◯	◯	◯	◯	◯
This brand is in fashion	◯	◯	◯	◯	◯	◯	◯
This is a leading brand	◯	◯	◯	◯	◯	◯	◯
This brand used by friends	◯	◯	◯	◯	◯	◯	◯
This brand is trustworthy	◯	◯	◯	◯	◯	◯	◯
This brand recommended by famous people	◯	◯	◯	◯	◯	◯	◯
This is a reputed brand	◯	◯	◯	◯	◯	◯	◯

4. Section 2

*** 3. Please indicate your degree of agreement on whether AMAZON.COM online store provides these attributes.**
(1= strongly disagree, 7=strongly agree)

	1 strongly disagree	2	3	4	5	6	7 strongly agree
Fair/competitive prices	◯	◯	◯	◯	◯	◯	◯
Easy exchange and return system	◯	◯	◯	◯	◯	◯	◯
Good variety of products	◯	◯	◯	◯	◯	◯	◯
Good variety of brands	◯	◯	◯	◯	◯	◯	◯
Easy to contact by e-mail or feedback section to service representatives	◯	◯	◯	◯	◯	◯	◯
Good product image/picture	◯	◯	◯	◯	◯	◯	◯
Reduced shopping time	◯	◯	◯	◯	◯	◯	◯

5. Section 3



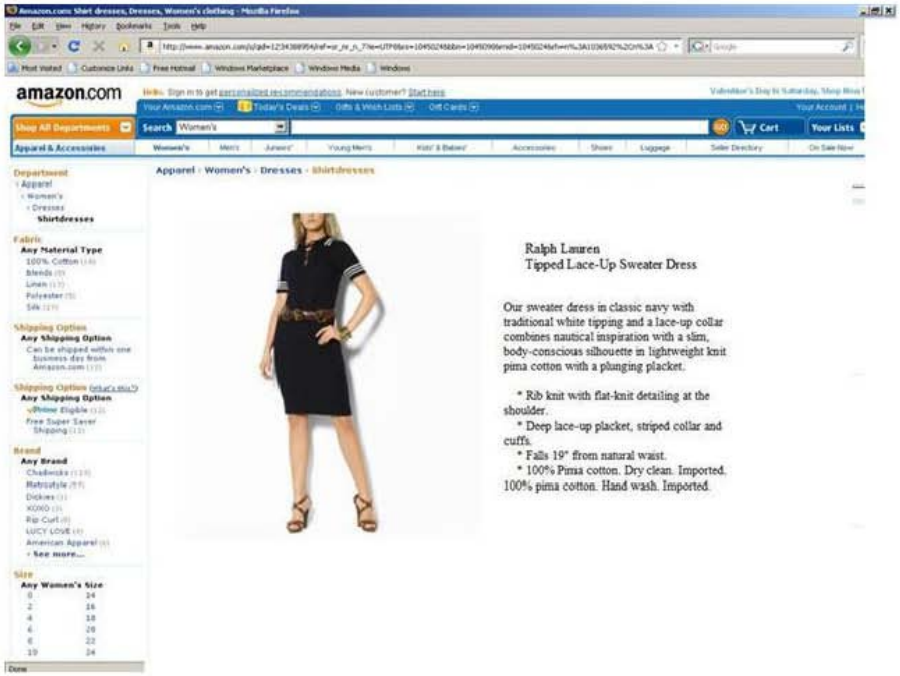
* 4. To what extent do you agree the following characteristics are descriptive of **AMAZON.COM online store when purchasing Ralph Lauren shirt? (1= strongly disagree, 7=strongly agree)**

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Cant' trust the online company for purchasing Ralph Lauren Shirt	◯	◯	◯	◯	◯	◯	◯
I may not get what I want	◯	◯	◯	◯	◯	◯	◯
May not get the Ralph Lauren Shirt	◯	◯	◯	◯	◯	◯	◯
Can't try on the Ralph Lauren Shirt on-line	◯	◯	◯	◯	◯	◯	◯
May purchase something by accident	◯	◯	◯	◯	◯	◯	◯
Can't examine the actual product	◯	◯	◯	◯	◯	◯	◯
Must pay for shipping and handling	◯	◯	◯	◯	◯	◯	◯
Size may be a problem with Ralph Lauren Shirt	◯	◯	◯	◯	◯	◯	◯
My credit card number may not be secure	◯	◯	◯	◯	◯	◯	◯
My personal information may not be kept	◯	◯	◯	◯	◯	◯	◯
Might be overcharged	◯	◯	◯	◯	◯	◯	◯
Difficult to find appropriate websites	◯	◯	◯	◯	◯	◯	◯
Inability to touch and feel the item	◯	◯	◯	◯	◯	◯	◯
Too complicated to place order	◯	◯	◯	◯	◯	◯	◯
Pictures take too long to come up	◯	◯	◯	◯	◯	◯	◯

*** 5. Please rate the probability that you would buy Ralph Lauren shirt from AMAZON.COM online store.**
(1=Very unlikely, 7=Very likely)

	1 Very unlikely	2	3	4	5	6	7 Very likely
The likelihood that I would return to this online store to purchase Ralph Lauren Shirt is	◯	◯	◯	◯	◯	◯	◯
The probability that I would consider buying Ralph Lauren shirt from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Ralph Lauren shirt from this online store in the next 12 months is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy Ralph Lauren shirt from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Ralph Lauren shirt from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Ralph Lauren shirt from this online store in the next 3 months is	◯	◯	◯	◯	◯	◯	◯

6. Section 5



* 6. To what extent do you agree the following characteristics are descriptive of AMAZON.COM online store when purchasing Ralph Lauren dress?
(1= strongly disagree, 7=strongly agree)

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Can't examine the actual product	◯	◯	◯	◯	◯	◯	◯
Pictures take too long to come up	◯	◯	◯	◯	◯	◯	◯
Inability to touch and feel the item	◯	◯	◯	◯	◯	◯	◯
Size may be a problem with Ralph Lauren dress	◯	◯	◯	◯	◯	◯	◯
Too complicated to place order	◯	◯	◯	◯	◯	◯	◯
My credit card number may not be secure	◯	◯	◯	◯	◯	◯	◯
My personal information may not be kept	◯	◯	◯	◯	◯	◯	◯
Cant' trust the online company for purchasing Ralph Lauren dress	◯	◯	◯	◯	◯	◯	◯
Difficult to find appropriate websites	◯	◯	◯	◯	◯	◯	◯
Can't try on the Ralph Lauren dress on-line	◯	◯	◯	◯	◯	◯	◯
I may not get what I want	◯	◯	◯	◯	◯	◯	◯
May purchase something by accident	◯	◯	◯	◯	◯	◯	◯
Must pay for shipping and handling	◯	◯	◯	◯	◯	◯	◯
May not get the Ralph Lauren dress	◯	◯	◯	◯	◯	◯	◯
Might be overcharged	◯	◯	◯	◯	◯	◯	◯

*** 7. Please rate the probability that you would buy Ralph Lauren dress from AMAZON.COM online store.**
(1=Very unlikely, 7=Very likely)

	1 Very unlikely	2	3	4	5	6	7 Very likely
The likelihood that I would purchase Ralph Lauren dress from this online store is	○	○	○	○	○	○	○
My willingness to buy Ralph Lauren dress from this online store is	○	○	○	○	○	○	○
The likelihood that I would purchase Ralph Lauren dress from this online store in the next 12 months is	○	○	○	○	○	○	○
The likelihood that I would purchase Ralph Lauren dress from this online store in the next 3 months is	○	○	○	○	○	○	○
The probability that I would consider buying Ralph Lauren dress from this online store is	○	○	○	○	○	○	○
The likelihood that I would return to this online store to purchase Ralph Lauren dress is	○	○	○	○	○	○	○

7. Section 6

* 8. To what extent do you agree the following characteristics are descriptive of **AMAZON.COM online store when purchasing Nike Athletic Shoes? (1= strongly disagree, 7=strongly agree)**

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
I may not get what I want	◯	◯	◯	◯	◯	◯	◯
My personal information may not be kept	◯	◯	◯	◯	◯	◯	◯
Size may be a problem with Nike Athletic Shoes	◯	◯	◯	◯	◯	◯	◯
My credit card number may not be secure	◯	◯	◯	◯	◯	◯	◯
Must pay for shipping and handling	◯	◯	◯	◯	◯	◯	◯
Pictures take too long to come up	◯	◯	◯	◯	◯	◯	◯
Difficult to find appropriate websites	◯	◯	◯	◯	◯	◯	◯
Might be overcharged	◯	◯	◯	◯	◯	◯	◯
Can't try on the Nike Athletic Shoes on-line	◯	◯	◯	◯	◯	◯	◯
Cant' trust the online company for purchasing Nike Athletic Shoes	◯	◯	◯	◯	◯	◯	◯
Can't examine the actual product	◯	◯	◯	◯	◯	◯	◯
Inability to touch and feel the item	◯	◯	◯	◯	◯	◯	◯
May not get the Nike Athletic Shoes	◯	◯	◯	◯	◯	◯	◯
Too complicated to place order	◯	◯	◯	◯	◯	◯	◯
May purchase something by accident	◯	◯	◯	◯	◯	◯	◯

*** 9. Please rate the probability that you would buy Nike athletic shoes from AMAZON.COM online store.**
(1=Very unlikely, 7=Very likely)

	1 Very unlikely	2	3	4	5	6	7 Very likely
The likelihood that I would purchase Nike athletic shoes from this online store in the next 12 months is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Nike athletic shoes from this online store is	◯	◯	◯	◯	◯	◯	◯
The probability that I would consider buying Nike athletic shoes from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would return to this online store to purchase Nike athletic shoes is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Nike athletic shoes from this online store in the next 3 months is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy Nike athletic shoes from this online store is	◯	◯	◯	◯	◯	◯	◯

8. Section 5

*** 10. Rate the relative importance of (1) PRODUCT BRAND and (2) ONLINE STORE IMAGE to you when buying clothing online so that the two ratings total 100% (for example, if product brand is rated at 70% on importance, then online store image will be 30%.)**

How important is the PRODUCT BRAND when you buy clothing online?

How important is the ONLINE STORE IMAGE when you buy clothing online?

9. Section 6

*** 11. How old are you?**

*** 12. Of what racial group do you consider yourself to be a member?**

- [ ] Caucasian / White
- [ ] African American / Black
- [ ] Asian / Pacific Islander
- [ ] Hispanic
- [ ] American Indian / Alaskan Native
- [ ] Bi-racial

Other (please specify)

13. Under which of the following colleges/schools does your major fall? (If you have multiple majors, choose the most central one)

- [ ] Architecture, Design & Construction
- [ ] Art / Music
- [ ] Business
- [ ] Education
- [ ] Engineering
- [ ] Food, Agriculture, and Environmental Sciences
- [ ] Forestry and Wildlife Sciences
- [ ] Human Sciences
- [ ] Mathematical and Physical Sciences
- [ ] Medicine and Public Health
- [ ] Nursing
- [ ] Pharmacy
- [ ] Veterinary Medicine
- [ ] Liberal Arts

14. What is your class standing?

- [ ] Freshman
- [ ] Sophomore
- [ ] Junior
- [ ] Senior
- [ ] Graduate or professional student

If you would like to enter for a $200 cash drawing, please follow the link below by copy/pasting in a new browser.

https://www.surveymonkey.com/s.aspx?sm=V11MpztA3Ai5dkVt5FCf9A_3d_3d

Low-High

1. Information Letter

Auburn University
College of Human Sciences
Department of Consumer Affairs

The Auburn University Institutional Review Board has approved this document for use From February 14, 2009 to October 30, 2009.
Protocol #08-243 EX 0810

Information Letter
for a Research Study entitled
"The Role of Product Brand and Online Store Image on Perceived Risks and Online Purchase Intentions" (main study)

You are invited to participate in a research study to examine the relative impact of product brand and online store image on consumers' perceived risks and purchase intentions while doing online shopping for fashion apparel products. The study is being conducted by Marine Aghekyan, Ph.D. student, in the Department of Consumer Affairs, Auburn University under direction of Dr. Sandra Forsythe, Professor in the Department of Consumer Affairs. You were selected as a possible participant because you are a female student enrolled in Auburn University and you are age 19 or older.
What will be involved if you participate? If you decide to participate in this research study, you will be asked to complete a questionnaire. Your total time commitment will be approximately 15 minutes.

Are there any risks or discomforts? We assure that the participation in this study would put you in no physical or psychological risks other than the minimal inconvenience of completing the survey. Personal information collected through this survey will be kept confidential and used only for the purpose of this study. No identifiers will be used to link your responses to your identity. Any information obtained in connection with this study, and that can be identified with you will remain anonymous. Information collected through your participation may be published in a professional journal, and/or presented at a professional meeting. If so, none of your identifiable information will be included.

Are there any benefits to yourself or others? Findings from this study are hoped to increase understanding factors that may help enhance consumers' online shopping intentions.

Will you receive compensation for participating? To thank you for your time you will be able to participate in a drawing for $200 cash at the end of the survey.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. After you submit the survey, the data will not be able to be withdrawn since it will be anonymous. Your decision about whether or not to participate or to stop participating will not jeopardize your relationship with the Department of Consumer Affairs or Auburn University.

If you have questions about this study, please contact Marine Aghekyan by email, aghekma@auburn.edu, or telephone, 334-844-1343 or her adviser Dr. Sandra Forsythe by e-mail, forsysa@auburn.edu, or telephone, 334-844-6458.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, THE DATA YOU PROVIDE WILL SERVE AS YOUR AGREEMENT TO DO SO (PLEASE CLICK ON THE "NEXT" BUTTON BELOW). YOU CAN PRINT A COPY OF THE LETTER TO KEEP.

Marine Aghekyan
Investigator obtaining consent
Date February 19, 2009

Dr. Sandra Forsythe
Co-Investigator
Date February 19, 2009

Low-High

2. Section 1

*** 1. To what extent do you agree the following characteristics are descriptive of Kenneth Cole Reaction brand?**
(1= strongly disagree, 7=strongly agree)

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
This brand is in fashion	◯	◯	◯	◯	◯	◯	◯
This brand is trustworthy	◯	◯	◯	◯	◯	◯	◯
This brand used by friends	◯	◯	◯	◯	◯	◯	◯
This brand is keeping with my lifestyle	◯	◯	◯	◯	◯	◯	◯
This is a leading brand	◯	◯	◯	◯	◯	◯	◯
This is a reputed brand	◯	◯	◯	◯	◯	◯	◯
The use of this brand is a prestige symbol	◯	◯	◯	◯	◯	◯	◯
This brand recommended by famous people	◯	◯	◯	◯	◯	◯	◯
This is a brand I particularly like and find attractive	◯	◯	◯	◯	◯	◯	◯

Page 2

Low-High

3. Section 2

*** 2. To what extent do you agree the following characteristics are descriptive of Tommy Hilfiger brand?**
(1= strongly disagree, 7=strongly agree)

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
This brand is keeping with my lifestyle	◯	◯	◯	◯	◯	◯	◯
The use of this brand is a prestige symbol	◯	◯	◯	◯	◯	◯	◯
This is a reputed brand	◯	◯	◯	◯	◯	◯	◯
This brand is trustworthy	◯	◯	◯	◯	◯	◯	◯
This brand used by friends	◯	◯	◯	◯	◯	◯	◯
This brand recommended by famous people	◯	◯	◯	◯	◯	◯	◯
This brand is in fashion	◯	◯	◯	◯	◯	◯	◯
This is a brand I particularly like and find attractive	◯	◯	◯	◯	◯	◯	◯
This is a leading brand	◯	◯	◯	◯	◯	◯	◯

Low-High

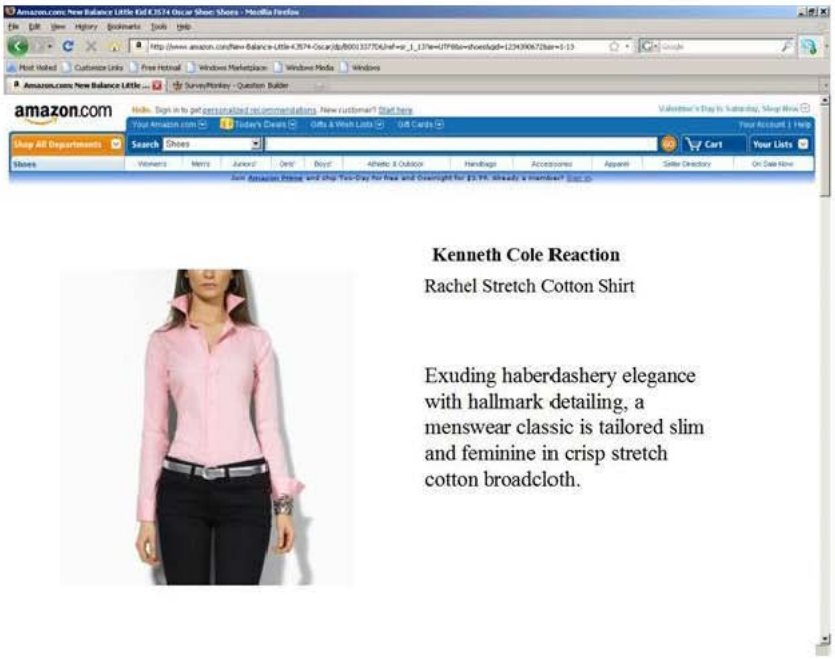
4. Section 2

*** 3. Please indicate your degree of agreement on whether AMAZON.COM online store provides these attributes.**
(1= strongly disagree, 7=strongly agree)

	1 strongly disagree	2	3	4	5	6	7 strongly agree
Good variety of brands	◯	◯	◯	◯	◯	◯	◯
Good variety of products	◯	◯	◯	◯	◯	◯	◯
Fair/competitive prices	◯	◯	◯	◯	◯	◯	◯
Easy to contact by e-mail or feedback section to service representatives	◯	◯	◯	◯	◯	◯	◯
Easy exchange and return system	◯	◯	◯	◯	◯	◯	◯
Reduced shopping time	◯	◯	◯	◯	◯	◯	◯
Good product image/picture	◯	◯	◯	◯	◯	◯	◯

Low-High

5. Section 3



Kenneth Cole Reaction

Rachel Stretch Cotton Shirt

Exuding haberdashery elegance with hallmark detailing, a menswear classic is tailored slim and feminine in crisp stretch cotton broadcloth.

Low-High

*** 4. To what extent do you agree the following characteristics are descriptive of AMAZON.COM online store when purchasing Kenneth Cole Reaction shirt? (1= strongly disagree, 7=strongly agree)**

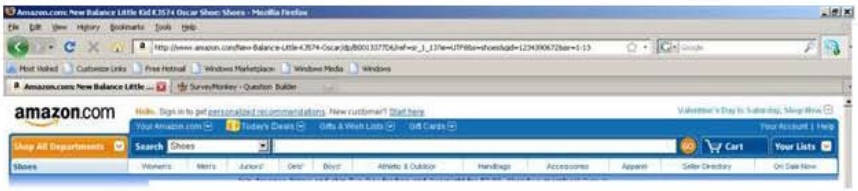
	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Cant' trust the online company for purchasing Kenneth Cole Reaction Shirt	◯	◯	◯	◯	◯	◯	◯
Might be overcharged	◯	◯	◯	◯	◯	◯	◯
My credit card number may not be secure	◯	◯	◯	◯	◯	◯	◯
I may not get what I want	◯	◯	◯	◯	◯	◯	◯
Too complicated to place order	◯	◯	◯	◯	◯	◯	◯
Must pay for shipping and handling	◯	◯	◯	◯	◯	◯	◯
Difficult to find appropriate websites	◯	◯	◯	◯	◯	◯	◯
Inability to touch and feel the item	◯	◯	◯	◯	◯	◯	◯
May purchase something by accident	◯	◯	◯	◯	◯	◯	◯
May not get the Kenneth Cole Reaction Shirt	◯	◯	◯	◯	◯	◯	◯
My personal information may not be kept	◯	◯	◯	◯	◯	◯	◯
Pictures take too long to come up	◯	◯	◯	◯	◯	◯	◯
Can't try on the Kenneth Cole Reaction Shirt on-line	◯	◯	◯	◯	◯	◯	◯
Size may be a problem with Kenneth Cole Reaction Shirt	◯	◯	◯	◯	◯	◯	◯
Can't examine the actual product	◯	◯	◯	◯	◯	◯	◯

*** 5. Please rate the probability that you would buy Kenneth Cole Reaction shirt from AMAZON.COM online store. (1=Very unlikely, 7=Very likely)**

	1 Very unlikely	2	3	4	5	6	7 Very likely
The likelihood that I would purchase Kenneth Cole Reaction hirt from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would return to this online store to purchase Kenneth Cole Reaction Shirt is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Kenneth Cole Reaction shirt from this online store in the next 3 months is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy Kenneth Cole Reaction shirt from this online store is	◯	◯	◯	◯	◯	◯	◯
The probability that I would consider buying Kenneth Cole Reaction shirt from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Kenneth Cole Reaction shirt from this online store in the next 12 months is	◯	◯	◯	◯	◯	◯	◯

Low-High

6. Section 5



Tommy Hilfiger
Tipped Lace-Up Sweater Dress

Our sweater dress in classic navy with traditional white tipping and a lace-up collar combines nautical inspiration with a slim, body-conscious silhouette in lightweight knit pima cotton with a plunging placket.

* Rib knit with flat-knit detailing at the shoulder.
* Deep lace-up placket, striped collar and cuffs.
* Falls 19" from natural waist.
* 100% Pima cotton. Dry clean. Imported.
100% pima cotton. Hand wash. Imported.

Low-High

*** 6. To what extent do you agree the following characteristics are descriptive of AMAZON.COM online store when purchasing Tommy Hilfiger dress? (1= strongly disagree, 7=strongly agree)**

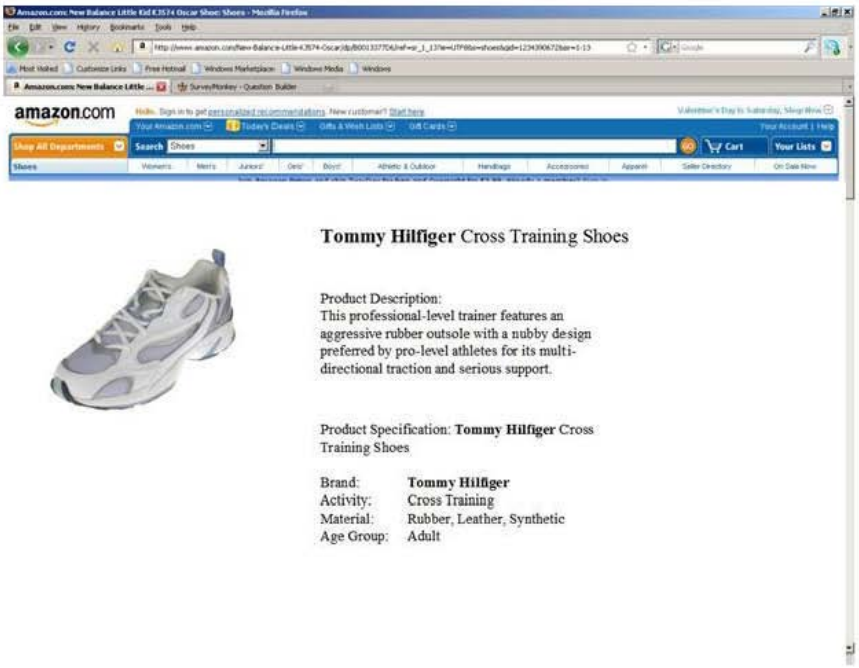
	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Pictures take too long to come up	◯	◯	◯	◯	◯	◯	◯
Size may be a problem with Tommy Hilfiger dress	◯	◯	◯	◯	◯	◯	◯
Might be overcharged	◯	◯	◯	◯	◯	◯	◯
May not get the Tommy Hilfiger dress	◯	◯	◯	◯	◯	◯	◯
Can't examine the actual product	◯	◯	◯	◯	◯	◯	◯
My personal information may not be kept	◯	◯	◯	◯	◯	◯	◯
Can't try on the Tommy Hilfiger dress on-line	◯	◯	◯	◯	◯	◯	◯
I may not get what I want	◯	◯	◯	◯	◯	◯	◯
Difficult to find appropriate websites	◯	◯	◯	◯	◯	◯	◯
My credit card number may not be secure	◯	◯	◯	◯	◯	◯	◯
Too complicated to place order	◯	◯	◯	◯	◯	◯	◯
May purchase something by accident	◯	◯	◯	◯	◯	◯	◯
Cant' trust the online company for purchasing Tommy Hilfiger dress	◯	◯	◯	◯	◯	◯	◯
Inability to touch and feel the item	◯	◯	◯	◯	◯	◯	◯
Must pay for shipping and handling	◯	◯	◯	◯	◯	◯	◯

*** 7. Please rate the probability that you would buy Tommy Hilfiger dress from AMAZON.COM online store. (1=Very unlikely, 7=Very likely)**

	1 Very unlikely	2	3	4	5	6	7 Very likely
Tommy Hilfiger dress from this online store is	◯	◯	◯	◯	◯	◯	◯
The probability that I would consider buying	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would return to this online store to purchase Tommy Hilfiger dress is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Tommy Hilfiger dress from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Tommy Hilfiger dress from this online store in the next 3 months is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy Tommy Hilfiger dress from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Tommy Hilfiger dress from this online store in the next 12 months is	◯	◯	◯	◯	◯	◯	◯

Low-High

7. Section 6



Tommy Hilfiger Cross Training Shoes

Product Description:
This professional-level trainer features an aggressive rubber outsole with a nubby design preferred by pro-level athletes for its multi-directional traction and serious support.

Product Specification: **Tommy Hilfiger** Cross Training Shoes

Brand:	**Tommy Hilfiger**
Activity:	Cross Training
Material:	Rubber, Leather, Synthetic
Age Group:	Adult

Low-High

*** 8. To what extent do you agree the following characteristics are descriptive of AMAZON.COM online store when purchasing Tommy Hilfiger Athletic Shoes? (1= strongly disagree, 7=strongly agree)**

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Must pay for shipping and handling	◯	◯	◯	◯	◯	◯	◯
Size may be a problem with Tommy Hilfiger Athletic Shoes	◯	◯	◯	◯	◯	◯	◯
May purchase something by accident	◯	◯	◯	◯	◯	◯	◯
Can't try on the Tommy Hilfiger Athletic Shoes on-line	◯	◯	◯	◯	◯	◯	◯
My credit card number may not be secure	◯	◯	◯	◯	◯	◯	◯
Might be overcharged	◯	◯	◯	◯	◯	◯	◯
Too complicated to place order	◯	◯	◯	◯	◯	◯	◯
Can't examine the actual product	◯	◯	◯	◯	◯	◯	◯
Difficult to find appropriate websites	◯	◯	◯	◯	◯	◯	◯
May not get Hilfiger Athletic Shoes	◯	◯	◯	◯	◯	◯	◯
Pictures take too long to come up	◯	◯	◯	◯	◯	◯	◯
Inability to touch and feel the item	◯	◯	◯	◯	◯	◯	◯
I may not get what I want	◯	◯	◯	◯	◯	◯	◯
My personal information may not be kept	◯	◯	◯	◯	◯	◯	◯
Cant' trust the online company for purchasing Tommy Hilfiger Athletic Shoes	◯	◯	◯	◯	◯	◯	◯

*** 9. Please rate the probability that you would buy Tommy Hilfiger athletic shoes from AMAZON.COM online store. (1=Very unlikely, 7=Very likely)**

	1 Very unlikely	2	3	4	5	6	7 Very likely
The likelihood that I would purchase Tommy Hilfiger athletic shoes from this online store in the next 3 months is	◯	◯	◯	◯	◯	◯	◯
The probability that I would consider buying Tommy Hilfiger athletic shoes from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would return to this online store to purchase Tommy Hilfiger athletic shoes is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy Tommy Hilfiger athletic shoes from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Tommy Hilfiger athletic shoes from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Tommy Hilfiger athletic shoes from this online store in the next 12 months is	◯	◯	◯	◯	◯	◯	◯

Low-High

8. Section 5

*** 10. Rate the relative importance of (1) PRODUCT BRAND and (2) ONLINE STORE IMAGE to you when buying clothing online so that the two ratings total 100% (for example, if product brand is rated at 70% on importance, then online store image will be 30%.)**

How important is the PRODUCT BRAND when you buy clothing online?

How important is the ONLINE STORE IMAGE when you buy clothing online?

Low-High

9. Section 6

*** 11. How old are you?**

*** 12. Of what racial group do you consider yourself to be a member?**

- [ ] Caucasian / White
- [ ] African American / Black
- [ ] Asian / Pacific Islander
- [ ] Hispanic
- [ ] American Indian / Alaskan Native
- [ ] Bi-racial

Other (please specify)

13. Under which of the following colleges/schools does your major fall? (If you have multiple majors, choose the most central one)

- [ ] Architecture, Design & Construction
- [ ] Art / Music
- [ ] Business
- [ ] Education
- [ ] Engineering
- [ ] Food, Agriculture, and Environmental Sciences
- [ ] Forestry and Wildlife Sciences
- [ ] Human Sciences
- [ ] Mathematical and Physical Sciences
- [ ] Medicine and Public Health
- [ ] Nursing
- [ ] Pharmacy
- [ ] Veterinary Medicine
- [ ] Liberal Arts

Low-High

14. What is your class standing?

- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior
- ☐ Graduate or professional student

If you would like to enter for a $200 cash drawing, please follow the link below by copy/pasting in a new browser.

https://www.surveymonkey.com/s.aspx?sm=V11MpztA3Ai5dkVt5FCf9A_3d_3d

1. Information Letter

Auburn University
College of Human Sciences
Department of Consumer Affairs

The Auburn University Institutional Review Board has approved this document for use From February 14, 2009 to October 30, 2009.
Protocol #08-243 EX 0810

Information Letter
for a Research Study entitled
"The Role of Product Brand and Online Store Image on Perceived Risks and Online Purchase Intentions" (main study)

You are invited to participate in a research study to examine the relative impact of product brand and online store image on consumers' perceived risks and purchase intentions while doing online shopping for fashion apparel products. The study is being conducted by Marine Aghekyan, Ph.D. student, in the Department of Consumer Affairs, Auburn University under direction of Dr. Sandra Forsythe, Professor in the Department of Consumer Affairs. You were selected as a possible participant because you are a female student enrolled in Auburn University and you are age 19 or older.
What will be involved if you participate? If you decide to participate in this research study, you will be asked to complete a questionnaire. Your total time commitment will be approximately 15 minutes.

Are there any risks or discomforts? We assure that the participation in this study would put you in no physical or psychological risks other than the minimal inconvenience of completing the survey. Personal information collected through this survey will be kept confidential and used only for the purpose of this study. No identifiers will be used to link your responses to your identity. Any information obtained in connection with this study, and that can be identified with you will remain anonymous. Information collected through your participation may be published in a professional journal, and/or presented at a professional meeting. If so, none of your identifiable information will be included.

Are there any benefits to yourself or others? Findings from this study are hoped to increase understanding factors that may help enhance consumers' online shopping intentions.

Will you receive compensation for participating? To thank you for your time you will be able to participate in a drawing for $200 cash at the end of the survey.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. After you submit the survey, the data will not be able to be withdrawn since it will be anonymous. Your decision about whether or not to participate or to stop participating will not jeopardize your relationship with the Department of Consumer Affairs or Auburn University.

If you have questions about this study, please contact Marine Aghekyan by email, aghekma@auburn.edu, or telephone, 334-844-1343 or her adviser Dr. Sandra Forsythe by e-mail, forsysa@auburn.edu, or telephone, 334-844-6458.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, THE DATA YOU PROVIDE WILL SERVE AS YOUR AGREEMENT TO DO SO (PLEASE CLICK ON THE "NEXT" BUTTON BELOW). YOU CAN PRINT A COPY OF THE LETTER TO KEEP.

Marine Aghekyan
Investigator obtaining consent
Date February 19, 2009

Dr. Sandra Forsythe
Co-Investigator
Date February 19, 2009

2. Section 1

*** 1. To what extent do you agree the following characteristics are descriptive of Kenneth Cole Reaction brand?**
(1= strongly disagree, 7=strongly agree)

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
This brand is in fashion	◯	◯	◯	◯	◯	◯	◯
This brand is trustworthy	◯	◯	◯	◯	◯	◯	◯
This is a brand I particularly like and find attractive	◯	◯	◯	◯	◯	◯	◯
This is a leading brand	◯	◯	◯	◯	◯	◯	◯
This is a reputed brand	◯	◯	◯	◯	◯	◯	◯
The use of this brand is a prestige symbol	◯	◯	◯	◯	◯	◯	◯
This brand used by friends	◯	◯	◯	◯	◯	◯	◯
This brand recommended by famous people	◯	◯	◯	◯	◯	◯	◯
This brand is keeping with my lifestyle	◯	◯	◯	◯	◯	◯	◯

3. Section 2

*** 2. To what extent do you agree the following characteristics are descriptive of Tommy Hilfiger brand?**
(1= strongly disagree, 7=strongly agree)

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
The use of this brand is a prestige symbol	◯	◯	◯	◯	◯	◯	◯
This brand used by friends	◯	◯	◯	◯	◯	◯	◯
This is a brand I particularly like and find attractive	◯	◯	◯	◯	◯	◯	◯
This is a leading brand	◯	◯	◯	◯	◯	◯	◯
This brand is keeping with my lifestyle	◯	◯	◯	◯	◯	◯	◯
This brand is trustworthy	◯	◯	◯	◯	◯	◯	◯
This brand is in fashion	◯	◯	◯	◯	◯	◯	◯
This is a reputed brand	◯	◯	◯	◯	◯	◯	◯
This brand recommended by famous people	◯	◯	◯	◯	◯	◯	◯

4. Section 2

*** 3. Please indicate your degree of agreement on whether OVERSTOCK.COM online store provides these attributes.**
(1= strongly disagree, 7=strongly agree)

	1 strongly disagree	2	3	4	5	6	7 strongly agree
Good variety of brands	◯	◯	◯	◯	◯	◯	◯
Good product image/picture	◯	◯	◯	◯	◯	◯	◯
Reduced shopping time	◯	◯	◯	◯	◯	◯	◯
Easy exchange and return system	◯	◯	◯	◯	◯	◯	◯
Good variety of products	◯	◯	◯	◯	◯	◯	◯
Fair/competitive prices	◯	◯	◯	◯	◯	◯	◯
Easy to contact by e-mail or feedback section to service representatives	◯	◯	◯	◯	◯	◯	◯

5. Section 3

Kenneth Cole Reaction

Rachel Stretch Cotton Shirt

Exuding haberdashery elegance with hallmark detailing, a menswear classic is tailored slim and feminine in crisp stretch cotton broadcloth.

* 4. To what extent do you agree the following characteristics are descriptive of OVERSTOCK.COM online store when purchasing Kenneth Cole Reaction shirt? **(1= strongly disagree, 7=strongly agree)**

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
May purchase something by accident	○	○	○	○	○	○	○
Cant' trust the online company for purchasing Kenneth Cole Reaction Shirt	○	○	○	○	○	○	○
Might be overcharged	○	○	○	○	○	○	○
Can't examine the actual product	○	○	○	○	○	○	○
Size may be a problem with Kenneth Cole Reaction Shirt	○	○	○	○	○	○	○
Difficult to find appropriate websites	○	○	○	○	○	○	○
Pictures take too long to come up	○	○	○	○	○	○	○
My credit card number may not be secure	○	○	○	○	○	○	○
My personal information may not be kept	○	○	○	○	○	○	○
May not get the Kenneth Cole Reaction Shirt	○	○	○	○	○	○	○
Too complicated to place order	○	○	○	○	○	○	○
Inability to touch and feel the item	○	○	○	○	○	○	○
Can't try on the Kenneth Cole Reaction Shirt on-line	○	○	○	○	○	○	○
Must pay for shipping and handling	○	○	○	○	○	○	○
I may not get what I want	○	○	○	○	○	○	○

*** 5. Please rate the probability that you would buy Kenneth Cole Reaction shirt from OVERSTOCK.COM online store.**
(1=Very unlikely, 7=Very likely)

	1 Very unlikely	2	3	4	5	6	7 Very likely
The likelihood that I would purchase Kenneth Cole Reaction shirt from this online store in the next 12 months is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would return to this online store to purchase Kenneth Cole Reaction shirt is	◯	◯	◯	◯	◯	◯	◯
The probability that I would consider buying Kenneth Cole Reaction shirt from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Kenneth Cole Reaction shirt from this online store in the next 3 months is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy Kenneth Cole Reaction shirt from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Kenneth Cole Reaction shirt from this online store is	◯	◯	◯	◯	◯	◯	◯

6. Section 5

Tommy Hilfiger
Tipped Lace-Up Sweater Dress

Our sweater dress in classic navy with traditional white tipping and a lace-up collar combines nautical inspiration with a slim, body-conscious silhouette in lightweight knit pima cotton with a plunging placket.

* Rib knit with flat-knit detailing at the shoulder.
* Deep lace-up placket, striped collar and cuffs.
* Falls 19" from natural waist.
* 100% Pima cotton. Dry clean. Imported.. 100% pima cotton. Hand wash. Imported.

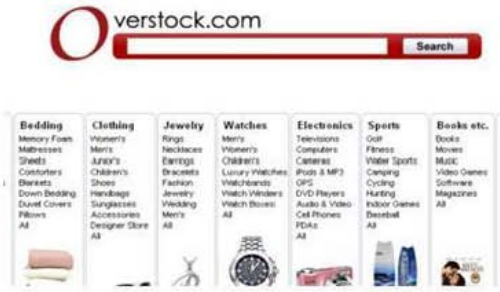
* 6. To what extent do you agree the following characteristics are descriptive of OVERSTOCK.COM online store when purchasing Tommy Hilfiger dress?
(1= strongly disagree, 7=strongly agree)

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Difficult to find appropriate w ebsites	◯	◯	◯	◯	◯	◯	◯
Can't try on the Tommy Hilfiger dress on-line	◯	◯	◯	◯	◯	◯	◯
May purchase something by accident	◯	◯	◯	◯	◯	◯	◯
May not get the Tommy Hilfiger dress	◯	◯	◯	◯	◯	◯	◯
Size may be a problem w ith Tommy Hilfiger dress	◯	◯	◯	◯	◯	◯	◯
Too complicated to place order	◯	◯	◯	◯	◯	◯	◯
My personal information may not be kept	◯	◯	◯	◯	◯	◯	◯
Can't examine the actual product	◯	◯	◯	◯	◯	◯	◯
My credit card number may not be secure	◯	◯	◯	◯	◯	◯	◯
I may not get what I w ant	◯	◯	◯	◯	◯	◯	◯
Must pay for shipping and handling	◯	◯	◯	◯	◯	◯	◯
Inability to touch and feel the item	◯	◯	◯	◯	◯	◯	◯
Might be overcharged	◯	◯	◯	◯	◯	◯	◯
Cant' trust the online company for purchasing Tommy Hilfiger dress	◯	◯	◯	◯	◯	◯	◯
Pictures take too long to come up	◯	◯	◯	◯	◯	◯	◯

*** 7. Please rate the probability that you would buy Tommy Hilfiger dress from OVERSTOCK.COM online store.**
(1=Very unlikely, 7=Very likely)

	1 Very unlikely	2	3	4	5	6	7 Very likely
The likelihood that I would purchase Tommy Hilfiger dress from this online store in the next 12 months is	◯	◯	◯	◯	◯	◯	◯
The probability that I would consider buying	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Tommy Hilfiger dress from this online store in the next 3 months is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would return to this online store to purchase Tommy Hilfiger dress is	◯	◯	◯	◯	◯	◯	◯
Tommy Hilfiger dress from this online store is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy Tommy Hilfiger dress from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Tommy Hilfiger dress from this online store is	◯	◯	◯	◯	◯	◯	◯

7. Section 6



Tommy Hilfiger Cross Training Shoes

Product Description:
This professional-level trainer features an aggressive rubber outsole with a nubby design preferred by pro-level athletes for its multi-directional traction and serious support.

Product Specification: **Tommy Hilfiger** Cross Training Shoes

Brand:	**Tommy Hilfiger**
Activity:	Cross Training
Material:	Rubber, Leather, Synthetic
Age Group:	Adult

* 8. To what extent do you agree the following characteristics are descriptive of **OVERSTOCK.COM online store when purchasing Tommy Hilfiger Athletic Shoes? (1= strongly disagree, 7=strongly agree)**

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
My credit card number may not be secure	○	○	○	○	○	○	○
Pictures take too long to come up	○	○	○	○	○	○	○
Inability to touch and feel the item	○	○	○	○	○	○	○
Might be overcharged	○	○	○	○	○	○	○
Can't examine the actual product	○	○	○	○	○	○	○
May not get Hilfiger Athletic Shoes	○	○	○	○	○	○	○
Can't try on the Tommy Hilfiger Athletic Shoes on-line	○	○	○	○	○	○	○
Difficult to find appropriate websites	○	○	○	○	○	○	○
Must pay for shipping and handling	○	○	○	○	○	○	○
Too complicated to place order	○	○	○	○	○	○	○
My personal information may not be kept	○	○	○	○	○	○	○
I may not get what I want	○	○	○	○	○	○	○
May purchase something by accident	○	○	○	○	○	○	○
Cant' trust the online company for purchasing Tommy Hilfiger Athletic Shoes	○	○	○	○	○	○	○
Size may be a problem with Tommy Hilfiger Athletic Shoes	○	○	○	○	○	○	○

*** 9. Please rate the probability that you would buy Tommy Hilfiger athletic shoes from OVERSTOCK.COM online store.**
(1=Very unlikely, 7=Very likely)

	1 Very unlikely	2	3	4	5	6	7 Very likely
The probability that I would consider buying Tommy Hilfiger athletic shoes from this online store is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy Tommy Hilfiger athletic shoes from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would return to this online store to purchase Tommy Hilfiger athletic shoes is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Tommy Hilfiger athletic shoes from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Tommy Hilfiger athletic shoes from this online store in the next 12 months is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Tommy Hilfiger athletic shoes from this online store in the next 3 months is	◯	◯	◯	◯	◯	◯	◯

8. Section 5

*** 10. Rate the relative importance of (1) PRODUCT BRAND and (2) ONLINE STORE IMAGE to you when buying clothing online so that the two ratings total 100% (for example, if product brand is rated at 70% on importance, then online store image will be 30%.)**

How important is the PRODUCT BRAND when you buy clothing online?

How important is the ONLINE STORE IMAGE when you buy clothing online?

9. Section 6

*** 11. How old are you?**

*** 12. Of what racial group do you consider yourself to be a member?**

- [ ] Caucasian / White
- [ ] African American / Black
- [ ] Asian / Pacific Islander
- [ ] Hispanic
- [ ] American Indian / Alaskan Native
- [ ] Bi-racial

Other (please specify)

13. Under which of the following colleges/schools does your major fall? (If you have multiple majors, choose the most central one)

- [ ] Architecture, Design & Construction
- [ ] Art / Music
- [ ] Business
- [ ] Education
- [ ] Engineering
- [ ] Food, Agriculture, and Environmental Sciences
- [ ] Forestry and Wildlife Sciences
- [ ] Human Sciences
- [ ] Mathematical and Physical Sciences
- [ ] Medicine and Public Health
- [ ] Nursing
- [ ] Pharmacy
- [ ] Veterinary Medicine
- [ ] Liberal Arts

14. What is your class standing?

- [ ] Freshman
- [ ] Sophomore
- [ ] Junior
- [ ] Senior
- [ ] Graduate or professional student

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High-Low

1. Information Letter

Auburn University
College of Human Sciences
Department of Consumer Affairs

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Information Letter
for a Research Study entitled
"The Role of Product Brand and Online Store Image on Perceived Risks and Online Purchase Intentions" (main study)

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What will be involved if you participate? If you decide to participate in this research study, you will be asked to complete a questionnaire. Your total time commitment will be approximately 15 minutes.

Are there any risks or discomforts? We assure that the participation in this study would put you in no physical or psychological risks other than the minimal inconvenience of completing the survey. Personal information collected through this survey will be kept confidential and used only for the purpose of this study. No identifiers will be used to link your responses to your identity. Any information obtained in connection with this study, and that can be identified with you will remain anonymous. Information collected through your participation may be published in a professional journal, and/or presented at a professional meeting. If so, none of your identifiable information will be included.

Are there any benefits to yourself or others? Findings from this study are hoped to increase understanding factors that may help enhance consumers' online shopping intentions.

Will you receive compensation for participating? To thank you for your time you will be able to participate in a drawing for $200 cash at the end of the survey.

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Marine Aghekyan
Investigator obtaining consent
Date February 19, 2009

Dr. Sandra Forsythe
Co-Investigator
Date February 19, 2009

High-Low

2. Section 1

*** 1. To what extent do you agree the following characteristics are descriptive of Ralph Lauren brand?**
(1= strongly disagree, 7=strongly agree)

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
This is a leading brand	◯	◯	◯	◯	◯	◯	◯
This brand is trustworthy	◯	◯	◯	◯	◯	◯	◯
The use of this brand is a prestige symbol	◯	◯	◯	◯	◯	◯	◯
This brand is keeping with my lifestyle	◯	◯	◯	◯	◯	◯	◯
This brand is in fashion	◯	◯	◯	◯	◯	◯	◯
This brand recommended by famous people	◯	◯	◯	◯	◯	◯	◯
This is a reputed brand	◯	◯	◯	◯	◯	◯	◯
This brand used by friends	◯	◯	◯	◯	◯	◯	◯
This is a brand I particularly like and find attractive	◯	◯	◯	◯	◯	◯	◯

High-Low

3. Section 2

*** 2. To what extent do you agree the following characteristics are descriptive of Nike brand?**
(1= strongly disagree, 7=strongly agree)

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
This brand recommended by famous people	◯	◯	◯	◯	◯	◯	◯
This is a leading brand	◯	◯	◯	◯	◯	◯	◯
This is a brand I particularly like and find attractive	◯	◯	◯	◯	◯	◯	◯
This brand used by friends	◯	◯	◯	◯	◯	◯	◯
This brand is trustworthy	◯	◯	◯	◯	◯	◯	◯
The use of this brand is a prestige symbol	◯	◯	◯	◯	◯	◯	◯
This brand is in fashion	◯	◯	◯	◯	◯	◯	◯
This is a reputed brand	◯	◯	◯	◯	◯	◯	◯
This brand is keeping with my lifestyle	◯	◯	◯	◯	◯	◯	◯

High-Low

4. Section 2

*** 3. Please indicate your degree of agreement on whether OVERSTOCK.COM online store provides these attributes.**
(1= strongly disagree, 7=strongly agree)

	1 strongly disagree	2	3	4	5	6	7 strongly agree
Easy exchange and return system	◯	◯	◯	◯	◯	◯	◯
Good variety of products	◯	◯	◯	◯	◯	◯	◯
Reduced shopping time	◯	◯	◯	◯	◯	◯	◯
Good variety of brands	◯	◯	◯	◯	◯	◯	◯
Good product image/picture	◯	◯	◯	◯	◯	◯	◯
Fair/competitive prices	◯	◯	◯	◯	◯	◯	◯
Easy to contact by e-mail or feedback section to service representatives	◯	◯	◯	◯	◯	◯	◯

High-Low

5. Section 3

Ralph Lauren

Rachel Stretch Cotton Shirt

Exuding haberdashery elegance with hallmark detailing, a menswear classic is tailored slim and feminine in crisp stretch cotton broadcloth.

High-Low

*** 4. To what extent do you agree the following characteristics are descriptive of OVERSTOCK.COM online store when purchasing Ralph Lauren shirt? (1= strongly disagree, 7=strongly agree)**

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Too complicated to place order	◯	◯	◯	◯	◯	◯	◯
Pictures take too long to come up	◯	◯	◯	◯	◯	◯	◯
Can't try on the Ralph Lauren Shirt on-line	◯	◯	◯	◯	◯	◯	◯
Might be overcharged	◯	◯	◯	◯	◯	◯	◯
My personal information may not be kept	◯	◯	◯	◯	◯	◯	◯
Must pay for shipping and handling	◯	◯	◯	◯	◯	◯	◯
Size may be a problem with Ralph Lauren Shirt	◯	◯	◯	◯	◯	◯	◯
Cant' trust the online company for purchasing Ralph Lauren Shirt	◯	◯	◯	◯	◯	◯	◯
I may not get what I want	◯	◯	◯	◯	◯	◯	◯
May purchase something by accident	◯	◯	◯	◯	◯	◯	◯
Can't examine the actual product	◯	◯	◯	◯	◯	◯	◯
May not get the Ralph Lauren Shirt	◯	◯	◯	◯	◯	◯	◯
Difficult to find appropriate websites	◯	◯	◯	◯	◯	◯	◯
Inability to touch and feel the item	◯	◯	◯	◯	◯	◯	◯
My credit card number may not be secure	◯	◯	◯	◯	◯	◯	◯

*** 5. Please rate the probability that you would buy Ralph Lauren shirt from AMAZON.COM online store. (1=Very unlikely, 7=Very likely)**

	1 Very unlikely	2	3	4	5	6	7 Very likely
The likelihood that I would purchase Ralph Lauren shirt from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would return to this online store to purchase Ralph Lauren Shirt is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy Ralph Lauren shirt from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Ralph Lauren shirt from this online store in the next 12 months is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Ralph Lauren shirt from this online store in the next 3 months is	◯	◯	◯	◯	◯	◯	◯
The probability that I would consider buying Ralph Lauren shirt from this online store is	◯	◯	◯	◯	◯	◯	◯

High-Low

6. Section 5

Ralph Lauren
Tipped Lace-Up Sweater Dress

Our sweater dress in classic navy with traditional white tipping and a lace-up collar combines nautical inspiration with a slim, body-conscious silhouette in lightweight knit pima cotton with a plunging placket.

* Rib knit with flat-knit detailing at the shoulder.
* Deep lace-up placket, striped collar and cuffs.
* Falls 19" from natural waist.
* 100% Pima cotton. Dry clean. Imported.
100% pima cotton. Hand wash. Imported.

High-Low

*** 6. To what extent do you agree the following characteristics are descriptive of OVERSTOCK.COM online store when purchasing Ralph Lauren dress? (1= strongly disagree, 7=strongly agree)**

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Must pay for shipping and handling	◯	◯	◯	◯	◯	◯	◯
I may not get what I want	◯	◯	◯	◯	◯	◯	◯
Inability to touch and feel the item	◯	◯	◯	◯	◯	◯	◯
Size may be a problem with Ralph Lauren dress	◯	◯	◯	◯	◯	◯	◯
Might be overcharged	◯	◯	◯	◯	◯	◯	◯
My credit card number may not be secure	◯	◯	◯	◯	◯	◯	◯
May not get the Ralph Lauren dress	◯	◯	◯	◯	◯	◯	◯
Pictures take too long to come up	◯	◯	◯	◯	◯	◯	◯
May purchase something by accident	◯	◯	◯	◯	◯	◯	◯
Cant' trust the online company for purchasing Ralph Lauren dress	◯	◯	◯	◯	◯	◯	◯
Can't examine the actual product	◯	◯	◯	◯	◯	◯	◯
Too complicated to place order	◯	◯	◯	◯	◯	◯	◯
Can't try on the Ralph Lauren dress on-line	◯	◯	◯	◯	◯	◯	◯
Difficult to find appropriate websites	◯	◯	◯	◯	◯	◯	◯
My personal information may not be kept	◯	◯	◯	◯	◯	◯	◯

*** 7. Please rate the probability that you would buy Ralph Lauren dress from OVERSTOCK.COM online store. (1=Very unlikely, 7=Very likely)**

	1 Very unlikely	2	3	4	5	6	7 Very likely
The likelihood that I would return to this online store to purchase Ralph Lauren dress is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Ralph Lauren dress from this online store in the next 3 months is	◯	◯	◯	◯	◯	◯	◯
The probability that I would consider buying Ralph Lauren dress from this online store is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Ralph Lauren dress from this online store in the next 12 months is	◯	◯	◯	◯	◯	◯	◯
The likelihood that I would purchase Ralph Lauren dress from this online store is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy Ralph Lauren dress from this online store is	◯	◯	◯	◯	◯	◯	◯

High-Low

7. Section 6

Nike Cross Training Shoes

Product Description:
This professional-level trainer features an aggressive rubber outsole with a nubby design preferred by pro-level athletes for its multi-directional traction and serious support.

Product Specification: Nike Cross Training Shoes

Brand:	Nike
Activity:	Cross Training
Material:	Rubber, Leather, Synthetic
Age Group:	Adult

High-Low

*** 8. To what extent do you agree the following characteristics are descriptive of OVERSTOCK.COM online store when purchasing Nike Athletic Shoes? (1= strongly disagree, 7=strongly agree)**

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Can't examine the actual product	○	○	○	○	○	○	○
Size may be a problem with Nike Athletic Shoes	○	○	○	○	○	○	○
Can't try on the Nike Athletic Shoes on-line	○	○	○	○	○	○	○
May not get the Nike Athletic Shoes	○	○	○	○	○	○	○
Might be overcharged	○	○	○	○	○	○	○
Must pay for shipping and handling	○	○	○	○	○	○	○
May purchase something by accident	○	○	○	○	○	○	○
Too complicated to place order	○	○	○	○	○	○	○
Cant' trust the online company for purchasing Nike Athletic Shoes	○	○	○	○	○	○	○
My personal information may not be kept	○	○	○	○	○	○	○
I may not get what I want	○	○	○	○	○	○	○
Inability to touch and feel the item	○	○	○	○	○	○	○
My credit card number may not be secure	○	○	○	○	○	○	○
Pictures take too long to come up	○	○	○	○	○	○	○
Difficult to find appropriate websites	○	○	○	○	○	○	○

*** 9. Please rate the probability that you would buy Nike athletic shoes from OVERSTOCK.COM online store. (1=Very unlikely, 7=Very likely)**

	1 Very unlikely	2	3	4	5	6	7 Very likely
The likelihood that I would return to this online store to purchase Nike athletic shoes is	○	○	○	○	○	○	○
The likelihood that I would purchase Nike athletic shoes from this online store in the next 12 months is	○	○	○	○	○	○	○
My willingness to buy Nike athletic shoes from this online store is	○	○	○	○	○	○	○
The likelihood that I would purchase Nike athletic shoes from this online store in the next 3 months is	○	○	○	○	○	○	○
The probability that I would consider buying Nike athletic shoes from this online store is	○	○	○	○	○	○	○
The likelihood that I would purchase Nike athletic shoes from this online store is	○	○	○	○	○	○	○

High-Low

8. Section 5

*** 10. Rate the relative importance of (1) PRODUCT BRAND and (2) ONLINE STORE IMAGE to you when buying clothing online so that the two ratings total 100% (for example, if product brand is rated at 70% on importance, then online store image will be 30%.)**

How important is the PRODUCT BRAND when you buy clothing online?

How important is the ONLINE STORE IMAGE when you buy clothing online?

High-Low

9. Section 6

*** 11. How old are you?**

*** 12. Of what racial group do you consider yourself to be a member?**

- [ ] Caucasian / White
- [ ] African American / Black
- [ ] Asian / Pacific Islander
- [ ] Hispanic
- [ ] American Indian / Alaskan Native
- [ ] Bi-racial

Other (please specify)

13. Under which of the following colleges/schools does your major fall? (If you have multiple majors, choose the most central one)

- [ ] Architecture, Design & Construction
- [ ] Art / Music
- [ ] Business
- [ ] Education
- [ ] Engineering
- [ ] Food, Agriculture, and Environmental Sciences
- [ ] Forestry and Wildlife Sciences
- [ ] Human Sciences
- [ ] Mathematical and Physical Sciences
- [ ] Medicine and Public Health
- [ ] Nursing
- [ ] Pharmacy
- [ ] Veterinary Medicine
- [ ] Liberal Arts

High-Low

14. What is your class standing?

- [ ] Freshman
- [ ] Sophomore
- [ ] Junior
- [ ] Senior
- [ ] Graduate or professional student

If you would like to enter for a $200 cash drawing, please follow the link below by copy/pasting in a new browser.

https://www.surveymonkey.com/s.aspx?sm=V11MpztA3Ai5dkVt5FCf9A_3d_3d