

Effects of perceived merchandise quality and service quality on consumer shopping behavior
in the Internet apparel retailing environment

by

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ABSTRACT

The purpose of this study was to investigate the structural relationships among perceived quality, perceived sacrifices, and perceived risks of product and service as antecedents of the value of Internet apparel shopping, as well as satisfaction and behavioral outcomes as consequences of the value of Internet apparel shopping. To examine the relationships among these variables, the quality-value-satisfaction (QVS) model (Cronin, Brady, & Hult, 2000) was adopted. The model was expanded to fit the Internet apparel retailing environment by incorporating perceived apparel merchandise quality as an antecedent of perceived value in the QVS model.

This study employed both qualitative and quantitative approaches to examine the phenomenon of Internet apparel shopping. For scale development, two focus interviews were conducted using female college-aged consumers. For the model testing, an experimental design with two treatment levels of service quality was employed. Two mock Internet apparel retail sites were created. Pretest and manipulation checks of the two treatments were conducted. At two large Midwestern universities 361 female students were randomly assigned to one of two treatments and provided usable responses after browsing of one of the two websites for ten minutes.

The results of a series of confirmatory factor analyses revealed that three scales—perceived apparel quality, perceived Internet retailer's service quality, and perceived value of Internet apparel shopping—had three correlated factors with moderate to very good model fit indices and good reliability. However, these scales contained some areas for improvement through scale refinements.

The findings from causal model analyses showed that four proposed models had moderate to very good model fit indices. In all except one model, treatment effects were significant. Perceived apparel sacrifice and apparel risk did not significantly impact perceived value. Perceived service risk was a successful mediating variable between perceived service quality and perceived value. Findings showed that perceived apparel quality, perceived service quality and perceived service sacrifice were significant determinants of the perceived value of Internet apparel shopping. In addition, perceived

value was an influential factor affecting consumer satisfaction and future behavioral outcomes. Specifically, perceived value and perceived Internet retailer's service quality were the strongest predictors of future behavioral outcomes which were intention to purchase, search, revisit, recommend and say positive things about the site to others.

CHAPTER 1: INTRODUCTION

One of the most important marketing strategies in the 21st century is providing value to consumers (Blackwell et al., 2001, p. 36; Kotler, 2000, p. 34). In the context of global competition and product proliferations, offering the customer a product or service that has a great value is believed to be the best way to drive an advantage among competitors (Burns & Woodruff, 1992; Woodruff, 1997). This strategy is also applicable to Internet apparel retailers. Since the introduction of the Internet and World Wide Web (WWW) to the general population in the U. S., the adoption of the Internet as a shopping channel has increased phenomenally in the apparel retailing industry. Ranging from national chain retailers to television home shopping companies, many types of apparel retailers have launched the Website as a shopping channel to serve the customer by providing easy access with almost no geographical limit to product information and a wide assortment of merchandise.

According to Forrester Research, e-commerce sales are expected to increase at a steady 19 percent year-over-year growth rate, rising to \$229.0 billion in 2008 from \$95.7 billion in 2003 (Rush, 2003). Specifically, apparel and accessories ranked as the second best selling product category via the Internet behind computer hardware in 2001, with \$3 billion in online sales (U. S. Department of Commerce, 2003). The growing rate of Internet purchase of apparel products has been noted by researchers. Using the survey data from Graphics, Visualization, Usability (GVU) center in 1998, Lee and Johnson (2002) reported that among 1,055 online shoppers, about 16 percent purchased apparel online and about 20 percent only browsed for apparel products online. More recent research revealed that clothing is the largest product category purchased by American college students (Choi & Lee, 2003; Comegys & Brennan, 2003). According to the National Association of College Stores, most college students (72%) make a general range of purchases from the Internet (Shop.org, 2003). Ninety-four percent of U. S. college students searched Websites for product information and more than half used the Internet for shopping with average expenditure of \$378 in 2002 (Comegys & Brennan, 2003). College students' Internet experience and actual online purchases qualify them as an attractive target market for Internet retailers and marketers.

From the perceived quality-perceived value perspective (Dodds & Monroe, 1985; Zeithaml, 1988), the consumer judges the overall evaluation of the product or service, based on perceived quality of and perceived sacrifice for the product or service. Perceived quality is excellence or superiority of the product or service, while perceived sacrifice is what the consumer gives up to obtain the product or service (Zeithaml, 1988). So far, this perspective has usually been adopted to explain either consumer product or service evaluation processes. In a retail context, however, consumers evaluate service quality as well as merchandise quality offered by the retailer (Mazursky & Jacoby, 1986; Sirohi, McLaughlin, & Wittink, 1998). Therefore, it is valuable to combine perspectives to examine consumer evaluation of both product and service qualities in an Internet apparel retailing environment.

There have been some studies that examined the impact of perceived risk of Internet shopping for apparel products (e.g., Kim & Lennon, 2001; Forsye & Shi, 2003). However, few studies have looked at the role of perceived risks of both apparel and service between perceptions of product and service quality and value of Internet apparel shopping. Therefore, exploration of the importance of perceived risk is necessary using a theoretical framework.

The perceived quality, value, and satisfaction model (Cronin et al., 2000) can be adopted to explain consumer shopping behavior in the Internet apparel retailing environment. The model posits perceived service quality and sacrifice as antecedents of perceived value as well as satisfaction and behavioral intention as consequences of perceived value. By incorporating perceived apparel quality as an important determinant of perceived value of Internet apparel shopping, the model can be more useful to predict apparel shopping behavior on the Internet.

Purpose

Many researchers have focused on the service quality offered by the Internet (Sohn, 2000; Yang & Jun, 2002; Zeithaml, Parasuraman, & Malhotra, 2000). However, little empirical research has been conducted to investigate quality perceptions of products and service offered through the Internet as a shopping channel for purchasing tangible products. The purpose of this study was to develop insights into the interrelationships among perceived quality, perceived sacrifices, perceived risks of product and service, satisfaction, and

behavioral outcomes as antecedents and consequences of perceived value of Internet shopping for apparel products. Specifically, relationships among consumer perceptions of risks, quality, and value in the Internet retailing context was explored in product and service levels.

The perceived quality-value-satisfaction (QVS) model (Cronin et al., 2000) was employed as a theoretical framework to explain the structural interrelationships among research variables. This study contributed to theoretical expansion of the QVS model by incorporating the perceived apparel quality construct. Investigating the relative importance of perceived apparel quality within the QVS model expanded its applicability to the relatively new research area, Internet retailing.

This study also attempted to contribute to increasing knowledge about the perceived value of Internet apparel shopping, based on the development and testing of its dimensionality. By examining perceived value of both apparel product and Internet shopping, the results of this study explained the dynamics among the sub-dimensions of the value of Internet apparel shopping.

Objectives of the Study

The objectives of this study are to increase understanding of consumer Internet shopping for apparel products. Specific objectives are to:

1. Conceptualize perceived apparel quality from a college-aged consumer's perspective and develop a quantitative measure of perceived apparel quality;
2. Conceptualize Internet retailer service quality from a college-aged consumer's perspective and develop a measure of Internet retailer service quality;
3. Conceptualize perceived value of Internet shopping from a college aged consumer's perspective and develop a measure of perceived value of Internet shopping;
4. Identify the dimensions of perceived quality of apparel in the context of Internet apparel retailing;
5. Identify the dimensions of Internet retailer service quality;
6. Identify the dimensions of perceived value of Internet apparel shopping;

7. Develop a causal model that interconnects antecedents and consequences of consumer's perception of value of Internet apparel shopping;
8. Expand the QVS model by incorporating the perceived apparel quality construct;
9. Examine the effects of determinants of consumer satisfaction and behavioral intentions of Internet apparel shopping;
10. Test the proposed causal models.

Definitions of Terms

Internet: "... a network of computer networks, which is capable of providing virtually instant access to a vast storehouse of information spanning the globe" (Henrichs, 1995, p. 4).

Internet shopping: "... a shopping mode transacting (promoting, offering, and purchasing) products through the Internet electronically" (Moon, 2000, p. 5).

Perceived product quality: "... the customer's judgment about a product's overall excellence or superiority" (Zeithaml, 1988, p. 3).

Perceived sacrifice: "... what the consumer gives up or sacrifices to obtain products or services" (Zeithaml, 1988, p. 3).

Perceived risk: "a subjective expectation of a loss" (Stone & Gronhaug, 1993, p. 42). Perceived risk includes five dimensions: 1) financial, 2) performance, 3) physical, 4) social and 5) psychological risks (Jacoby & Kaplan, 1972).

Perceived value: the utility derived from emotional, social, functional (monetary), and quality aspects of the product at the purchasing process (Sweeney & Soutar, 2001).

Satisfaction: "... an evaluative, affective, or emotional response in relation to product or service" (Oliver, 1989, p. 2).

Retail satisfaction: "... the consumer's overall, global sentiment of satisfaction or dissatisfaction of his/her experiences in the retail environment regarding experiences with not only store image or environmental aspects but also the merchandise quality selling in the store" (Westbrook, 1981, p. 72).

Shopping satisfaction: consumer's satisfaction with product and services offered during shopping in a retailing setting. This shopping satisfaction is different from satisfaction

usually experienced, based on the consumption of the product or service, because shopping satisfaction is focused on the satisfaction experienced at the pre-purchase stage.

Behavioral intention: the probability or likelihood of a consumer's behavior in the future.

CHAPTER 2: LITERATURE REVIEW

This chapter provides the relevant literature review and theoretical framework for the study. The first section discusses literature on the Internet as a shopping medium, benefits and barriers of Internet shopping, previous experience with the Internet, and Internet purchasers vs. non-purchasers. In the second section, perceived risk and its significance regarding Internet shopping and apparel product are presented. The third section provides a review of previous research focused on relationships among perceived quality, value, and satisfaction, and a discussion of the theoretical linkages and structure of the model is presented. In the fourth section, based on the literature review, a proposed theoretical model and research hypotheses are presented.

Internet as an Apparel Shopping Channel

Benefits and Barriers of Internet Shopping

Internet shopping is a relatively new format of non-store retailing. Generally, non-store retailing emphasizes convenience of shopping without leaving home as a major consumer benefit (Geissler & Zinkhan, 1998). This particularly applies to Internet shopping. The consumer can shop online 24 hours a day, seven days a week without traveling to the store and waiting in line. The convenience of Internet shopping is one of the major reasons why consumers purchase online (Donthu & Garcia, 1999; Eastlick & Lotz, 1999; Meuter et al., 2000; Phau & Poon, 2000; Reichheld & Schefter, 2000; Szymanski & Hise, 2000; Zeithaml et al., 2000). Other reasons are ease of searching for product information (Blackwell, Miniard, & Engel, 2001; Lorse, Bellman, & Johnson, 2000; Shim, Eastlick, Lotz, & Warrington, 2001), variety of merchandise (Phau & Poon, 2000), saving time and money (Meuter et al., 2000), avoiding interpersonal interaction (Dabholkar, 1996; Meuter et al., 2000), being in control (Dabholkar, 1996; Zeithaml et al., 2000), and online promotions (Phau & Poon, 2000).

Even though Internet shopping provides the consumer with convenience, service, and ease of browsing merchandise information, the lack of trial of actual garments is pointed out as a substantial barrier that the apparel online retailing industry faces (McCabe, 2001; Phau

& Poon, 2000). Other barriers to Internet shopping include security of credit card numbers (Fram & Grady, 1995, 1997; Gupta & Chatterjee, 1996; Leibrock, 1997; Miyazaki & Fernandez, 2001; Peterson et al., 1997; Phau & Poon, 2000) and customer privacy issues (Liebermann & Stashevsky, 2002; Miyazaki & Fernandez, 2001; Peterson et al., 1997). Slow downloading time or response time also has been discussed as a barrier to Internet shopping (Detweiler & Omanson, 1996; Fram & Grady, 1997; Liu et al., 2000; Moeller, 2001; Pew Research Center, 1998).

Previous Experience Using the Internet

Previous experience with the Internet may influence consumers' attitudes and shopping activities in relation to the Internet. Also, individuals with greater experience and skill with the Internet are more likely to use the Internet to help in their decision to buy products (Kehoe et al., 1999). The longer the number of years of a consumer's experience with the Internet, the more favorable attitudes toward the Internet they have (Bruner & Kumar, 2000).

Previous research finds that people who have prior experience and positive beliefs about in-home shopping—mail order or TV home shopping—have more positive attitudes toward Internet shopping (Kaufman-Scarborough & Lindquist, 2002; Yoh, Damhorst, Sapp, & Lazniak, 2003). In addition, Internet purchase experience is the most influential predictor of intention to search for information through the Internet (Shim et al., 2001).

Perceived Risk

Perceived risk is defined as the subjective expectation of a loss (Stone & Gronhaug, 1993) and has been originally conceptualized as a function of uncertainty and consequences of behavior (Bauer, 1967; Cunningham, 1967). Perceived risk is widely considered to have five dimensions—financial, performance, psychological, social, and physical risks (Jacoby & Kaplan, 1972; Kaplan, Szybillo, & Jacoby, 1974). Since Jacoby and Kaplan's (1972) study, additional dimensions such as source risk (McCorkle, 1990), convenience and time risks (Roselius, 1971) and fashion risk (Winakor, Canton, & Wolins, 1980) were investigated.

Fashion risk is a pertinent dimension for fashion goods such as clothing (Winakor et al., 1980).

Financial risk is defined as the probability of a net financial loss resulting from a purchase (Horton, 1976; Jacoby & Kaplan, 1972). Performance risk is defined as the probability of a failure of function of a purchased product (Jacoby & Kaplan, 1972). Both performance and financial risks are negatively related to perception of value of the product (Agarwal & Teas, 2001). Interestingly, performance and financial risks have more powerful and strong direct effects on perceived value than have either perceived product quality or perceived service quality (Sweeney et al., 1999). Furthermore, perceived risk, in general, is negatively related to the consumer's willingness to purchase (Agarwal & Teas, 2001; Bauer, 1967; Cunningham, 1967; Erevelles, Roy, & Yip, 2001; Shimp & Bearden, 1982; Wood & Scheer, 1996). Researchers found that non-shoppers of mail order apparel retailers perceived a higher level of financial risk and lower purchase intention regarding apparel purchase via mail order than did shoppers (Burgess, 2003; Simpson & Lakner, 1993).

Perceived risk is included in the perceived quality-perceived value model as a mediating variable between the relationship of perceived quality and perceived value (Agarwal & Teas, 2001; Sweeney et al., 1999). The price of the product, a part of sacrifice, influences the financial risk of the product, and perceived quality affects the performance risk of the product. For instance, the higher quality product is perceived to last longer and be more durable than the lower quality product. Therefore, consumers may perceive the higher quality product as having lower performance risk while using the product. Perceived value is a function of perceived product quality, perceived service quality, perceived sacrifice, and perceived risk.

Previous research has shown that perceived risk applies to both shopping medium and product type (Cox & Rich, 1964; Kim & Lennon, 2002; Kwon, Paek, & Arzeni, 1991; Spence, Engel, & Blackwell, 1970). The following sections include discussion of the perceived risk of non-store shopping, Internet shopping, and apparel products.

Perceived Risk of Non-Store Shopping

Perceived risk influences product purchase and store choice (Dowling, 1986). Consumers perceived a higher risk when they used non-store shopping channels (Akaah & Korgaonkar, 1988) such as mail-order (Jasper & Ouellette, 1994; Spence et al., 1970) and telephone (Cox & Rich, 1964) when compared to the risk involving purchases made at the retail store. Researchers found that perceived risk associated with the inability to physically inspect the garment was a reason for avoiding catalog shopping for apparel (Jasper & Ouellette, 1994; Kwon et al., 1991). Kwon et al. (1991) suggested that presentation of product information such as detailed descriptions of the garment (e.g. front and back view, enlarged view, style, fabric) and brand name would reduce perceived risk regarding apparel shopping via catalog. Kim and Lennon (2002) found that a greater amount of product and service information reduced perceived risk in television shopping for apparel and was positively related to purchase intention. Previous experience with non-store shopping may affect the level of perceived risk of non-store shopping media. Stanforth, Lennon, and Moore (2000) found that apparel catalog purchasers who had a positive previous experience with television shopping showed lower perceived risk in relation to television shopping than did the non-catalog purchasers. Burgess (2003) found that TV shoppers, who perceived low risk in TV shopping, purchased significantly more clothing and accessory items via TV shopping than did consumers who perceived high risk. Previous results suggest that individual's perceived risk in a shopping medium is negatively related to his/her apparel purchase via that shopping medium.

Perceived Risk in Internet Shopping

Perceived risk regarding the relatively new non-store shopping medium of Internet shopping is well recognized. Internet shopping is perceived as high risk because of its relative newness and non-store, computer based shopping mode (Tan, 1999). Vijayasathy and Jones (2000) found that Internet shopping was perceived as more risky than printed catalog shopping. In addition, researchers found that Internet shoppers are less risk adverse than Internet non-shoppers (Donthu & Garcia, 1999; Forsythe & Shi, 2003). These findings imply that Internet non-shoppers are more likely to perceive higher level of risk associated

with Internet shopping as compared to Internet shoppers. Internet users who are non-buyers perceived statistically higher risk of credit card fraud, privacy of personal information, lack of physical contact, performance failure of the shopping medium, trustworthiness of the Internet retailer (not supplying the product purchased), and lack of human contact in Internet shopping as compared to Internet users who are online purchasers (Liebermann & Stashevsky, 2002). Also, heavy Internet users perceive lower risk of privacy, lack of physical contact, and lack of human contact in Internet shopping as compared to light users (Liebermann & Stashevsky, 2002). Shi (2000) found that product performance and financial risks significantly influence the consumer's Internet search behavior. Park, Lennon, and Stole (2004) found that as the level of perceived risk on Internet shopping increased, the purchase intention of apparel via Internet shopping decreased.

Cases (2002) conducted interviews and a survey to explore dimensions of perceived risk in the Internet apparel shopping context. Among eight risk dimensions of Internet apparel shopping, privacy, source, performance, payment security, delivery, time, and financial risks were ranked high for purchasing a jacket on the Internet, while social risk was ranked at the bottom with a mean score of 2.46 using a 7-point scale. The series of risk relievers that she found can be categorized into three types: 1) Internet-related risk relievers (e.g., payment security, website reputation, past experience with website), 2) product or merchandise-related risk relievers (e.g., price, view of actual garment, fabric and fiber content, brand), and 3) customer service-related risk relievers (e.g., money-back guarantee, exchange policy).

Perceived Risk of Apparel Products

Apparel products have been associated with a higher level of perceived risk than other consumer products (Cunningham, 1967; Hawes & Lumpkin, 1986; Jacoby & Kaplan, 1972). Due to the visibility of clothing in public and the influence of fashion trends, inappropriate selection of clothing is associated with a high level of perceived risk (Kwon et al., 1991; Laurent & Kapferer, 1985; Winakor et al., 1980). Therefore, apparel purchasing is associated with perceptions of higher social and financial risks (Hawes & Lumpkin, 1986; Prasad, 1975) as well as fashion risk (Winakor et al., 1980). When the consumer purchases

apparel from non-store shopping channels, such as television, catalog, and Internet shopping, other risk factors can be involved. Aesthetic qualities of the apparel product such as color, style, fabric hand, and other attributes can be experienced through physical examination. In this situation, consumers are not able to evaluate these attributes and also they are unable to examine the fit of the garment. Kim and Lennon (2000) found that care instructions, fabric quality, price, fiber content, size, fit, and return policy were the most important information for an apparel purchase via television shopping. Previous research shows that shopping for a sweater over the Internet makes the consumer less confident in the product purchase due to the lack of experience of the tactile and haptic product attributes (i.e., texture, fabric feel, weight) before product delivery (Peck & Childers, 2003). Thus, purchasing apparel from non-store shopping channels, especially the Internet, may lead to a higher level of perceived risk resulting from both the product and the shopping mode.

Based on the findings from focus group interviews, Gaal and Burns (2001) suggested apparel catalog retailers provide a general sizing chart, detailed garment-specific measurements, customer service representatives for phone inquiries, and written product descriptions such as exact fiber content percentages and care instructions. Moreover, they recommended catalog retailers use clear, accurate, full-length, and close-up pictures of garments to assist catalog shoppers' visual evaluations of color and style of garments. Since catalogs and the Internet share common characteristics as a remote-shopping medium, these suggestions are also applicable to the Internet retailing environment to enhance the customer's shopping experience.

Perceived Quality, Perceived Value, and Satisfaction (QVS) Model

Numerous research studies adopted and tested the perceived quality-perceived value model in the consumer's pre-purchase product evaluation setting (e.g., Agarwal & Teas, 2001; Cronin et al., 1997). The traditional perceived quality-perceived value paradigm posits that perceived quality is positively related to perceived value, while perceived sacrifice is negatively related to perceived value (Monroe & Krishnan, 1985; Zeithaml, 1988). Numerous empirical studies supported these two relationships (e.g., Chen & Dubinsky, 2003; Cronin et al., 1997; Dodds, Monroe, & Grewal, 1991; Monroe & Chapman, 1987; Teas &

Agarwal, 2000). The positive relationship between perceived value and purchase intention has been proposed by several researchers (e.g., Bolton & Drew, 1991; Gale, 1994; Zeithaml, 1998) and empirical research also supports the positive relationship between perceived value and purchase intention (Chang & Wildt, 1994; Chen & Dubinsky, 2003; Cronin et al., 1997, 2000; Dodds et al., 1991; Forsythe, 1991, 1995; Monroe & Krishnan, 1985; Sweeney et al., 1999).

In the meantime, a great amount of research focused on the relationships between perceived quality and satisfaction (e.g., Anderson & Sullivan, 1993; Bei & Chiao, 2001; Brady, Cronin & Brand, 2002; Brady & Robertson, 2001; Cronin & Taylor, 1992, 1994; Dabholkar, Shepherd, & Thorpe, 2000; de Ruyter, Bloemer, & Peeters, 1997; Ennew & Binks, 1999; Rust & Oliver, 1994; Spreng & Mackoy, 1996). A positive relationship between service quality and satisfaction has been well recognized (e.g., Anderson, Fornell, & Lehmann, 1994; Brady & Robertson, 2001; Cronin et al., 2000; Janda, Trocchia, & Gwinner, 2002; Parasuraman et al., 1994).

There has been an effort to merge the two previously discussed models: perceived quality-perceived value model and perceived quality-satisfaction model. Spreng, Dixon, and Olshavsky (1993) proposed a satisfaction model that includes perceived sacrifice and perceived value as antecedents of consumer satisfaction. Oliver (1993) conceptualized the positive causal relationship between perceived value and satisfaction. In a conceptual model of the service-profit chain, Heskett, Jones, Loveman, Sasser, and Schlesinger (1994) proposed linear relationships among service value, customer satisfaction, and customer loyalty. Empirical research showed a positive causal relationship between perceived value and satisfaction (Butcher, Sparks, & O'Callaghan, 2001; Cronin et al., 2000; Fornell et al., 1996; Lapierre, Filiatrault, & Chebat, 1999; McDougall & Levesque, 2000; Ostrom & Iacobucci, 1995; Rust & Oliver, 1994). Recent research examined causal relationships among perceived service quality, perceived service value, satisfaction, and behavioral intention (Butcher et al., 2001; Lapierre et al., 1999; Sweeney et al., 1999). In addition, Cronin et al. (2000) found a positive causal relationship between service value and satisfaction and service value and behavioral intention. However, negative causal linkage between perceived sacrifice and service value was not supported in their study.

The next section discusses each component of the QVS model (Cronin et al., 2000). It includes perceived value, perceived quality in two levels—product and service, perceived sacrifice, satisfaction, and behavioral outcomes.

Perceived Value

Perceived value is defined as “the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given” (Zeithaml, 1988, p. 14). Value has also been defined as a tradeoff between quality/benefits and the sacrifice that consumers perceive in the product or service (Dodds & Monroe, 1985; Dodds et al., 1991). Monroe (1990) conceptualized customer value as a consequence of evaluating perceived quality and benefits in the product or service and perceived cost of acquiring and using them. Gale (1994) provided a narrower definition of value as the tradeoff between quality and price of the product. Zeithaml (1988) stressed that value is perceived by the consumer based on individual cognitive schema about the importance and weight of the product or service attributes. In summary, value is conceptualized as a consumer’s subjective overall evaluation of the benefit and sacrifice (or cost) of a product or service based on the consumer’s perception.

Perceived value is positively influenced by perceived product quality and service quality (Butcher et al., 2001; Cronin et al., 2000; Dodds et al., 1991; Lapierre et al., 1999; Parasuraman & Grewal, 2000; Sirohi et al., 1998; Sweeney et al., 1997, 1999; Teas & DeCarlo, 2004). In addition, perceived value was conceptualized to be an antecedent of willingness to buy or purchase intention (Monroe & Dodds, 1985; Zeithaml, 1988) or an antecedent of an actual purchase (Zeithaml, 1988). The positive relationship between perceived value and purchase intention and/or actual purchase was empirically supported by other researchers (e.g., Chang & Wildt, 1994; Cronin et al., 1997; Dodds et al., 1991; Grewal, Krishnan, Baker, & Borin, 1998; Monroe, 1990).

However, other researchers suggested that conceptualizing value as a trade-off between only quality and price was too simplistic (e.g., Bolton & Drew, 1991; Porter, 1990). Sheth, Newman, and Gross (1991a, 1991b) viewed value as a multidimensional concept including functional, conditional, epistemic utility, social, and emotional values. Based on

Sheth et al.'s (1991a, 1991b) conceptualization of consumer value, Sweeney and Soutar (2001) developed a multiple item scale for consumer perceived value. This scale has four dimensions: 1) emotional, 2) social, 3) monetary, and 4) quality values. They developed a 19-item PERVAL scale for consumer durable goods at brand level. Definitions of the sub-dimensions of PERVAL are the following:

“Emotional value is the utility derived from the feelings or affective states that a product generates. Social value is the utility derived from the product’s ability to enhance social self-concept. Functional (monetary) value is the utility derived from the product due to the reduction of its perceived short term and longer term costs. Quality value is the utility derived from the perceived quality and expected performance of the product” (Sweeney & Soutar, 2001, p. 211).

Sweeney and Soutar (2001) showed the feasibility of the PERVAL scale through a series of testing its reliability and validity in both pre- and post-purchase situations for a wide variety of product categories including clothing, footwear, furniture, cars, and household appliances.

Perceived Quality

Perceived quality is defined as “the customer’s judgment about a product’s overall excellence or superiority” (Zeithaml, 1988, p. 3). This definition also applies to perceived service quality, because the product includes tangible and intangible product and service attributes. Discussion of both perceived product quality and service quality follow.

Perceived Product Quality

The quality of the product has been discussed in two ways. One definition is objective quality, which is the actual technical superiority of the products and measurable excellence on some predetermined standards (Garvin, 1983; Zeithaml, 1988). The other is perceived quality, defined as the consumer’s judgment or evaluation about the superiority or excellence of a product (Zeithaml, 1988). Perceived quality is also viewed as a global assessment, a form of overall evaluation of a product, similar in some way to attitude (Olshavsky, 1985) and a relatively global value judgment (Holbrook & Coffman, 1985).

The importance of product quality in the consumer decision-making process has been well emphasized (e.g., Cronin et al., 2000). The perceived quality of the product plays a crucial role affecting purchase intention or choices (Brucks, Zeithaml, & Naylor, 2000; Teas & Agarwal, 2000). Furthermore, in the satisfaction model proposed by Parasuraman et al. (1994), product quality has the same importance in affecting consumer satisfaction as does service quality.

The study by Chen and Dubinsky (2003) found positive relationships between 1) perceived product quality and perceived value and 2) perceived value and purchase intention in an e-commerce setting. They supported a negative relationship between perceived product quality and perceived risk; on the other hand, their data did not support the negative relationship between perceived risk and perceived value.

Apparel product quality. There are two kinds of product attributes/cues signaling or influencing product quality: Intrinsic and extrinsic cues (Olson, 1977; Olson & Jacoby, 1972; Zeithaml, 1988). Intrinsic cues involve the physical composition of the product, inherent to the product. These cues cannot be changed without altering the nature of the product itself (Olson & Jacoby, 1972). In the case of apparel products, fiber content, fabric structure, texture, and color can be intrinsic cues. On the other hand, extrinsic cues are product-related but not part of the physical product (Olson & Jacoby, 1972; Zeithaml, 1988). They are the externally attached or labeled product characteristics such as brand name, price, store name or reputation, and country-of-origin.

For the apparel product, the relationship between perceived quality and intrinsic cues of the apparel product were explored (Abraham-Murali & Littrell, 1995a, 1995b; Davis, 1985; Fiore & Damhorst, 1992; Hatch & Roberts, 1985). Aesthetic cues of apparel were the most influencing factors for perception of apparel quality (Lennon & Fairhurst, 1994) and for purchase intention (Fiore & Damhorst, 1992). Hines and O'Neal (1995) found that fabric-related attributes were the main determinant of apparel quality, which was also related to social, psychological, economic, physiological, and aesthetic attributes. Davis (1987) also found that garment construction was an important determinant of apparel quality perception. Researchers found that intrinsic characteristics of a garment such as garment construction or

fiber content affected consumer's perception of garment quality significantly (Davis, 1985; Forsythe, 1991).

Extrinsic cues such as store image (Baugh & Davis, 1989; Sternquist & Davis, 1986), brand name (Behling & Wilch, 1988; Davis, 1985; Forsythe, 1991), and price (Heisey, 1990) were examined and found to be closely related to perceived quality of apparel. Sternquist and Davis (1986) found that store prestige was a significant factor explaining a consumer's perception of quality, while country of origin was insignificant. Baugh and Davis (1989) found that store image affected the rating of private label shirts, but not that of the designer brand label. Davis (1985) and Forsythe (1991) found that brand name does not significantly influence a shopper's perception of apparel quality. These findings, in relation to the effect of brand name on the consumer perception of apparel quality, contrast to those of Behling and Wilch (1988), who found a positive association between well-known brand names and the quality of a garment among male consumers. In summary, the findings about the effect of brand names on apparel quality perception are mixed. In addition, the inconclusive findings suggest a potential gender difference in the perception of apparel quality and the use of product attributes in the evaluation process of apparel quality.

Dimensions of apparel quality. Many researchers investigated the dimensions of apparel quality (Abraham-Murali, & Littrell, 1995a, 1995b; Forsythe, Presley, & Caton, 1996; Lennon & Fairhurst, 1994; O'Neal, 1992-93). Forsythe (1991) measured perceived quality using four items: 1) Quality of fabric, 2) quality of notions, 3) quality of construction, and 4) quality of design.

O'Neal (1992-93) developed a model of consumer's perception of clothing quality and reported search and experience attributes influencing apparel product quality evaluation. Search attributes were defined as "those used to evaluate the product in pre-purchase situations" (p.10), and they are: 1) physical and intrinsic, including fiber content, fabric structure, and hand; 2) connotative and extrinsic, including price, store brand, warranty, and country of origin; and 3) aesthetic, including garment style, color, and pattern. Experience attributes were defined as "those used to evaluate the product after purchase and/or use" (p.

11) and are associated with the actual physical performance of the product (performance attributes) and the consumer's emotional experiences with the product (affective attributes).

Lennon and Fairhurst (1994) used open-ended questions about apparel product quality and found four dimensions of quality—*aesthetic*, *usefulness*, *performance*, and *extrinsic*—to categorize the apparel quality concept. The *aesthetic* dimension contained descriptions of apparel as stylish, fashionable, attractive, looks good on the person, and patterns matching. The *performance* dimension included descriptions such as launders well, holds its shape, colorfast, doesn't shrink, durable, and doesn't pill. The *usefulness* dimension contained descriptions such as fits in wardrobe well, versatile, and useable. The *extrinsic* dimension included attributes such as price, designer labels, brand name, store where purchased, and hang tags. These four dimensions are very similar to the findings of Eckman et al. (1990) who conducted interviews about apparel evaluative criteria in the apparel retailing setting.

Abraham-Murali and Littrell (1995a) discovered four themes of apparel quality from focus group interviews, such as physical appearance, physical performance, expressive and extrinsic. Abraham-Murali and Littrell (1995b) also examined consumers' perceptions of apparel quality over time. They (1995b) reported that 1) during the pre-purchase evaluation of apparel products, four dimensions of quality—fabric and garment construction; care, value, and style; appearance of body; and individuality and expression—were used, and 2) during the post-purchase evaluation, expressive, fabric, care, and individuality were used.

Forsythe, Presley and Caton (1996) found three dimensions of apparel quality such as *sturdiness/durability*, *style/aesthetics*, and *lasting/care*. The *sturdiness/durability* factor had four items related to the construction and durability of a garment. The *style/aesthetic* factor contained four items related to design and style of garment and fabric touch. The *lasting/care* factor included three items related to cost and time for care, easiness of care, and performance of the garment (e.g., fabric will not stretch out during wear and care). They found that the first two factors, *sturdiness/durability* and *style/aesthetics*, significantly predicted consumer perceptions of garment quality. In summary, dimensions of apparel quality can be categorized into four dimensions: 1) Aesthetics, 2) performance and durability, 3) extrinsic, and 4) usefulness.

Perceived Service Quality

Service quality has received great attention in marketing. Service quality leads to satisfaction (Brady, Cronin, & Brand, 2002; Caruana, Money, & Berthon, 2000; Cronin & Taylor, 1992, 1994; Parasuraman et al., 1994; Teas & DeCarlo, 2004), value (Andreassen & Lindestad, 1998; Butcher et al., 2001; Cronin et al., 2000; Enner & Binks, 1999; Fornell et al., 1996; Sweeney et al., 1999), purchase intention (Brady et al., 2002; Boulding, Karla, Staelin, & Zeithaml, 1993; Parasuraman et al., 1988; Richardson, Dick, & Jain, 1994; Teas & DeCarlo, 2004; Zeithaml, 2000; Zeithaml, Berry, & Parasuraman, 1996), repatronage intention (Lee & Cunningham, 2001), willingness to recommend (Boulding, Kalra, Staelin, & Zeithaml, 1993; Parasuraman et al., 1988; Zeithaml et al., 1996) or brand loyalty (Bei & Chiao, 2001; Zeithaml et al., 1996). In addition, researchers found a positive relationship between retail service quality and product quality (Sirohi et al., 1998; Sweeney et al., 1997). In a focus-group study, Sweeney et al. (1997) discovered that aspects of service can have a positive effect on perceptions of merchandise quality. In a study of supermarket retailers, Sirohi et al. (1998) found that service quality of a supermarket retailer had a positive causal relationship with overall merchandise quality perception, perceived value, and store loyalty intention.

The measurement issue of service quality has been debated by several researchers. Parasuraman et al. (1985) developed a SERVQUAL scale with ten dimensions and later (1988) refined the original scale into a five-dimensional scale of reliability, responsiveness, empathy, assurance, and tangibility. SERVQUAL assesses service quality by measuring expectations and perceptions of the five dimensions. Service quality is defined and measured by perception-minus-expectation in the SERVQUAL approach (Parasuraman et al., 1985, 1988, 1994). From its introduction, this scale has been the dominant measurement paradigm in the service marketing literature. In the mean time, there has been increasing support for modeling service quality as a function of perception only (Barbakus & Boller, 1992; Cronin & Taylor, 1992, 1994), rather than as a gap between perception and expectation. The flaws of SERVQUAL have been reported by showing its insignificant explanatory power and inconsistent dimensional problems (Cronin & Taylor, 1992, 1994; Teas, 1993, 1994). The SERVPERF scale is based on the performance-only measure of service quality (Cronin &

Taylor, 1992, 1994). In the cross-sectional empirical test, SERVPERF is shown to outperform SERVQUAL, weighted SERVQUAL, and weighted SERVPERF (Cronin & Taylor, 1992).

Service quality in the technology-based service encounter. Most research in consumer evaluations of service quality has been conducted in relation to services delivered through personal interactions between customers and service providers (e.g., Bitner, Booms, & Tetreault, 1990; Hartline & Ferrell, 1996); however, much less research has investigated customer interactions with technology-based self-service (Bitner, Brown, & Meuter, 2000; Dabholkar, 1996). Examples of self-service technologies include automatic teller machines (ATMs), automated hotel checkout, telephone banking, online retail purchasing, online brokerage/financial services and package tracking services (Meuter et al., 2000). Previous research suggested that service quality in the Internet shopping context needs to be understood from a self-service technology perspective.

Gronoos et al. (2000) proposed that traditional service concepts consisting of core, facilitating, and supporting services need to be extended by including the user interface to better understand the services offered over the Internet, a non-personal interaction-based service environment. In the Internet shopping context, especially for apparel products, core service can provide a wide assortment of apparel. Facilitating service could include search facilities, an invoice archive, and security payment methods, and supporting services can include previous customer feedback and personal recommendations of the product (van Riel, Liljander, & Jurriens, 2001).

In the context of Internet shopping, a positive relationship between service quality of the retailer and willingness to purchase via the Internet has been found. Liao and Cheung (2001) found that willingness to shop online was positively related to consumer perceptions of the Internet service quality retailer. They (2001) suggested that increased convenience and promptness of purchase, more dedicated after-sales service, and perceived value for the money represent important quality dimensions. In the context of online service providers, Montoya-Weiss, Voss and Grewal (2003) found a positive association between perceived online channel service quality and overall satisfaction with the service provider.

Internet retail service quality. The concept of service quality has been applied to the online retailing environment, and, as a result, several researchers have worked on development of Internet service quality measures. The summary of previous research on the dimensionality of Internet retail service quality is presented in Table 2.1. Previous research revealed various dimensions, which can be organized in two ways. One is website-related dimensions; the other is service-related dimensions.

Website-related dimensions may include site design and aesthetics, ease of use and navigation, access, personalization, interactivity, and convenience. Site design and aesthetics were frequently discussed as an important dimension of Internet retail service quality (e.g., Kaynama & Black, 2000; Liljander et al., 2002; Loiacono et al., 2002; Ranganathan & Ganapathy, 2002; Wolfinbarger & Gilly, 2003; Yoo & Donthu, 2001; Zeithaml et al., 2000). Researchers found that site design positively influenced customer satisfaction with Internet shopping experience (Szymanski & Hise, 2000) and online purchase intention (Ranganathan & Ganapathy, 2002; Yoo & Donthu, 2001; Wolfinbarger & Gilly, 2003). Many studies suggested that ease of use and navigation are also important site-related aspects of Internet retail quality (Kaynama & Black, 2000; Sohn, 2000; Yang & Jun, 2002; Yoo & Donthu, 2001; Zeithaml et al., 2000, 2002). Ease of use of an Internet retail site also positively influenced revisit intention and purchase intention (Yoo & Donthu, 2001).

Service-related dimensions can include security, information and its quality, performance/reliability, responsiveness, privacy, trust, and customer service. Security is one of the most critical dimensions in Internet retail quality (e.g., Janda et al., 2002; Loiacono et al., 2002; Ranganathan & Ganapathy, 2002; Wolfinbarger & Gilly, 2003; Zeithaml et al., 2000). Researchers found a significant impact of security of financial and personal information on 1) attitude toward a site and 2) revisit intention (Yoo & Donthu, 2001), and 3) purchase intention (Ranganathan & Ganapathy, 2002; Yoo & Donthu, 2001; Wolfinbarger & Gilly, 2003). Szymanski and Hise (2000) found that security was the one of the major determinants of online shopping satisfaction. Security was the most important attribute to Internet non-purchasers (Yang & Jun, 2002). Information and its quality on the site was also an important dimension (e.g., Janda et al., 2002; Kaynama & Black, 2000; Loiacono et al., 2002; Ranganathan & Ganapathy, 2002; Sohn, 2000; Szymanski & Hise, 2000; Zeithaml et

Table 2.1. Dimensions of Internet retailer service quality

| Authors | Name of measure | Number of dimensions | Name of dimensions |
|----------------------------------|---------------------------------|----------------------|--|
| Janda, Trocchia & Gwinner (2002) | Internet retail service quality | 5 | Performance; access; security; sensation; information |
| Kaynama & Black (2000) | | 7 | Content; access; navigation; design; response; background; personalization |
| Liljander et al. (2002) | e-quality | 4 | Site design and content; trust; empathy; security |
| Loiacono et al. (2002) | WebQual™ | 9 | Ease of understanding; intuitive operation; information quality; interactivity; trust; response time; visual appeal; innovativeness; flow |
| Ranganathan & Ganapathy (2002) | | 4 | Information quality; design; security; privacy |
| Sohn (2000) | | 6 | Trust; interactivity; ease of use; content/functionality; reliability; speed of delivery |
| Szymanski & Hise (2000) | | 4 | Convenience; merchandise information; site design; financial security |
| Wolfenbarger & Gilly (2003) | eTailQ | 4 | Website design; customer service; fulfillment/reliability; security/privacy |
| Yang & Jun (2002) | E-Service quality | 4 | Reliability; personalization; ease of use; access; security |
| Yoo & Donthu (2001) | SITEQUAL | 4 | Ease of use; design; speed; security |
| Zeithaml et al. (2000) | eSQ | 11 | Efficiency; reliability; access; security/privacy; ease of navigation; responsiveness; flexibility; personalization; assurance/trust; site aesthetics; price information |
| Zeithaml et al. (2002) | eSQ | 8 | Efficiency; reliability; fulfillment; privacy; customer service; responsiveness; compensation; contact |

al., 2000). Information content on a retail website had an impact on online purchase intention (Ranganathan & Ganapathy, 2002) and Internet shopping satisfaction (Szymanski & Hise, 2000). The information content dimension has included customer service-related and merchandise-related information (e.g., Szymanski & Hise, 2000; Zeithaml et al., 2000).

Perceived Sacrifice

Perceived sacrifice is defined as what the consumer gives up or sacrifices to acquire products and/or services (Kunz, 1998; Zeithaml, 1988). Perceived sacrifice consists of two distinct dimensions, monetary and non-monetary sacrifices. Monetary sacrifice includes purchase price and other costs to obtain the product (i.e., tax, shipping and handling) and other costs during consumption of the product (i.e., preparation costs, repair costs), while non-monetary sacrifice includes time and energy required regarding purchasing, preparing or repairing the product (Spreng et al., 1993) and effort and other resources that consumers input to acquire the product or service (Kunz, 1998; Zeithaml, 1998).

Price of the product or service negatively influenced consumers' perceived sacrifice of product or service (Dodds & Monroe, 1985; Dodds et al., 1991; Zeithaml, 1988). Perceived sacrifice or price of product or service positively impacted perceived risk (Agarwal & Teas, 2001; Chen & Dubinsky, 2003; Erevelles et al., 2001) and negatively influenced the perceived value of product or service (Cronin et al., 1997; Dodds et al., 1991; Lapierre et al., 1999; Zeithaml, 1988).

In the present study, the operational conceptualization of perceived sacrifice of apparel product was based on the perception of merchandise price. Other research also looked at the sacrifice based on the price of product or service (Chapman & Whalers, 1999) or the relationship between perceived product price and perceived value of merchandise (Chang & Wildt, 1994; Chen & Dubinsky, 2003; Grewal et al., 1998; Kerin, Jain, & Howard, 1992; Sirohi et al., 1998; Sweeney et al., 1997, 1999).

The inherent perceived sacrifices of the service provided by Internet shopping are the lack of the product trial/trying on, shipping and handling costs, and effort and time regarding Internet shopping. When the consumer perceives these sacrifices, they may perceive a higher financial risk of service level due to the monetary and non-monetary costs involving the

purchase. Thus, these service sacrifices may lead to a higher level of perceived service risk of Internet shopping. Also, the perceived sacrifices and risks of service negatively impact the consumer's overall value perception of Internet shopping.

Satisfaction

Consumer satisfaction with a purchased product and/or a service is a fundamental goal for marketers in any type of business. Satisfied customers often exhibit their brand and store loyalty through frequent purchase of the products (Bloemer, Kasper, & Lemmink, 1990; Kincade, Redwine, & Hancock, 1992). Often satisfied consumers share their experience with their family and friends, encouraging them to try the product or service (Blackwell et al., 2001).

Oliver (1981) showed how the satisfaction process was repeated for store, product, and consumption levels in a model of the satisfaction process in retail settings. He suggested that consumers respond to in-store purchase experience and post-purchase customer service experiences in the same way they respond to product-consumption experiences. He asserted three different satisfaction stages: store/purchase, product consumption, and redress activities. At the first stage—store/purchase setting—consumers experience satisfaction or dissatisfaction depending on store factors such as ease of parking, crowdedness (Eroglu & Machleit, 1990; Machleit et al., 1994, 2000), merchandise availability, store personnel interactions, and checkout waiting times. Oliver (1981) and Westbrook (1981) suggested that consumer's evaluation of the service/product attributes is an important factor influencing satisfaction or dissatisfaction with retail outlets.

Retail satisfaction is defined as “the consumer's overall, global sentiment of satisfaction or dissatisfaction of his/her experiences in the retail environment regarding experiences with not only store image or environmental aspects but also the merchandise quality selling in the store” (Westbrook, 1981, p. 72). Retail satisfaction has a valuable contribution in relation to assessing retailer performance. Several factors influencing consumer's satisfaction with retail stores are store salespersons (service level), store environment, merchandising quality and policy, service orientation, value of product and service, and promotional events (Westbrook, 1981). Factors affecting the consumer's

satisfaction with retail stores are categorized as: 1) Trustworthiness, 2) price/value, 3) product assortment, 4) personal service, and 5) in-store convenience (Rodgers & Sweeney, 1979).

Relationship between Quality and Satisfaction

There has been a debate about the direction of causation between service quality and satisfaction. Some researchers supported the argument that customer satisfaction leads to perceived service quality (Bitner, 1990; Bolton & Drew, 1991). In contrast to this perspective, researchers conceptualized and empirically exhibited the effect of service quality on satisfaction. For instance, Monroe and Krishnan (1985) defined perceived product quality as “the perceived ability of a product to provide satisfaction ‘relative’ to available alternatives” (p. 212). This definition implies there is a causal linkage between service quality and consumer satisfaction. In addition to this conceptualization of the causation between quality and satisfaction, many empirical studies showed that service quality is an antecedent of consumer satisfaction (Anderson, Fornell, & Lehmann, 1994; Andreassen & Lindestad, 1998; Anderson & Sullivan, 1993; Bitner & Hubbert, 1994; Brady & Robertson, 2001; Brady et al., 2002; Butcher et al., 2001; Caruana et al., 2000; Cronin & Taylor, 1992, 1994; Cronin et al., 2000; Dabholkar, Shepherd, & Thorpe, 2000; Ennew & Binks, 1999; Montoya-Weiss et al., 2003; Oliver, 1997; Ostrom & Iacobucci, 1995; Parasuraman et al., 1985; Reidenbach & Sandifer-Smallwood, 1990; Rust & Oliver, 1994; de Ruyter et al., 1997; Spreng & Mackoy, 1996; Taylor & Baker, 1994; Teas & DeCarlo, 2004; Voss et al., 1998; Woodside, Frey, & Daly, 1989).

Since Churchill and Surprenant (1982) found perceived performance to be a strong determinant of consumer satisfaction, research showed that perceived performance of a product or service had a direct influence on consumer satisfaction (Anderson & Sullivan, 1993; Bolting & Woodruff, 1988; Brady et al., 2002; Cronin et al., 2000).

Most scholarly investigation focused on the relationship between service quality and satisfaction. There are a few studies that empirically showed the relationship between product quality and satisfaction along with a relationship between service quality and

satisfaction. Bei and Chiao (2001) found a positive causal direction from product quality to satisfaction.

Relationships Among Quality, Value, and Satisfaction

Since Rust and Oliver (1994) discussed a need for research on the interrelationships among perceived quality, perceived value, and satisfaction, research has been conducted to find the causal relationship among these variables. Numerous studies empirically tested relationships among service quality, value, and satisfaction (Brady, Cronin, & Taylor, 2002; Butcher et al., 2001; Caruana et al., 2000; Cronin et al., 2000; Fornell et al., 1996; Lapierre et al., 1999; Sweeney, Soutar, & Johnson, 1999; Teas & DeCarlo, 2004).

There are mixed findings on the causal relationships among these three variables. Lapierre et al. (1999) empirically supported a linear causal relationship among service quality, perceived value, and satisfaction. They also suggested that service quality does not influence satisfaction directly, but it does through perceived value. Caruana et al. (2000) supported the moderating role of perceived value on the relationship between service quality and satisfaction, and showed that perceived value does not have a strong independent effect on satisfaction. McDougall and Levesque (2000) treated service quality and perceived value as antecedents of satisfaction and assumed no relationship exists between service quality and value.

Cronin et al. (2000) empirically tested three competing models among these three variables and concluded that service quality leads to both perceived value and satisfaction and in the mean time, perceived value mediates the relationship between service quality and satisfaction. The finding of Butcher et al.'s (2001) study also supported the mediating effect of perceived value between these two variables.

Behavioral Outcomes

Purchase or search intentions are the main interests of most of the consumer behavior studies of Internet shopping. However, it is necessary to have a broader perspective of behavioral intentions to investigate Internet shopping behavior. In other words, not only purchase and search intentions regarding Internet shopping, but also other behavioral

intentions, such as store loyalty intentions, need to be examined to obtain insight about future consumer behaviors via the Internet as a shopping medium.

Zeithaml et al. (1996) suggested that favorable behavioral intentions result from positively perceived service quality. Favorable behavioral intentions include customer's willingness to 1) say positive things about the service provider, 2) recommend them to other consumers, 3) remain loyal to them (i.e., repurchase from them), 4) spend more money with the company, and 5) pay a price premium (Zeithaml et al., 1996). Sirohi et al. (1998) conceptualized store loyalty intentions as 1) customers' intent to continue purchasing, 2) their intent to increase future purchase, and 3) their intent to recommend the store to others.

Research showed that consumers who had prior experience with Internet shopping had more intention to use the Internet for information search (Klein, 1998; Shim et al., 2001). Consumers' previous online purchase experiences had a direct impact on their online purchase intentions (Eastlick, 1996; Shim et al., 2001).

Proposed Model

Based on previous research, the overall proposed model (see Figure 2.1) is generated to examine the antecedents—perceived quality, perceived sacrifice, and perceived risk—and consequences—satisfaction and behavioral intentions—of perceived value of Internet apparel shopping. The QVS model (Cronin et al., 2000) provided a fundamental basis for this proposed model.

Previous empirical research showed that consumers' perceived value of a product or service is based on a combined assessment of all three antecedents—perceived quality, perceived sacrifice, and perceived risk (Agarwal & Teas, 2001; Sweeney et al., 1999). Adopting these empirical findings, the perceived risk construct has been added to the proposed model as a mediating variable. Direct and indirect effects of perceived risk on perceived value, satisfaction, and behavioral intentions was investigated.

Since consumers evaluate both service and product qualities in a retail setting (Mazursky & Jacoby, 1986), perceived quality, sacrifices, and risks of Internet shopping are conceptualized to be evaluated at two levels—product and service levels. To test the causal relationship among research variables, the overall proposed model is broken down into four

sub-models. Sub-model 1 focuses on a product evaluation phase (Figure 2.2) and Sub-model 2 focuses on a service evaluation phase (Figure 2.3). The mediating role of perceived risk is proposed in Sub-model 1 and Sub-model 2. Sub-model 3 examines the application of the QVS model in an Internet apparel shopping context (Figure 2.4). Finally, Sub-model 4 investigates the modified QVS model by incorporating perceived apparel quality as a predictor variable of perceived value, satisfaction, and behavioral outcomes (Figure 2.5). Behavioral outcomes with Internet shopping include purchase intention via online retailer, product search intention via Internet shopping, intention to revisit the online retailer, intention to recommend the product or online retailer to others, and intention to say positive things about the retailer to others.

Research Hypotheses

Based on review of the previous literature, the following hypotheses were generated.

Sub-model 1: Product Evaluation Phase

- H_{1a}: The level of service quality treatment has a positive direct effect on the perceived quality of apparel featured on an Internet site.
- H_{1b}: The level of service quality treatment has a positive direct effect on the perceived value of apparel shopping via the site.
- H₂: The perceived quality of apparel featured on an Internet site has a negative direct effect on the perceived risk of purchasing that apparel (*Agarwal & Teas, 2001; Chen & Dubinsky, 2003; Sweeney et al., 1999*).
- H₃: The perceived sacrifice of apparel featured on an Internet site has a positive direct effect on the perceived risk of purchasing that apparel (*Agarwal & Teas, 2001; Grewal et al., 1994*).
- H₄: The perceived quality of apparel featured on an Internet site has a positive direct effect on the perceived value of apparel shopping via the site (*Chang & Wildt, 1994; Chapman & Whalers, 1999; Chen & Dubinsky, 2003; Dodds et al., 1991; Monroe & Krishnan, 1985; Sirohi et al., 1998; Sweeney et al., 1997, 1999; Teas & Agarwal, 2000; Zeithaml, 1988*).
- H₅: The perceived risk of apparel featured on an Internet site has a negative direct effect on the perceived value of apparel shopping via the site (*Agarwal & Teas, 2001; Sweeney et al., 1999*).

H₆: The perceived sacrifice of apparel featured on an Internet site has a negative direct effect on the perceived value of apparel shopping via the site (*Chapman & Whalers, 1999; Dodds et al., 1991; Monroe & Krishnan, 1985; Teas & Agarwal, 2000; Zeithaml, 1988*).

Sub-model 2: Service Evaluation Phase

H_{1c}: The level of service quality treatment has a positive direct effect on the perceived service quality of an Internet apparel site.

H_{1d}: The level of service quality treatment has a negative direct effect on the perceived service sacrifice of an Internet apparel site.

H_{1e}: The level of service quality treatment has a negative direct effect on the perceived service risk of an Internet apparel site.

H₇: The perceived service quality of an Internet apparel site has a negative direct effect on the perceived service risk of the site (*Sweeney et al., 1999*).

H₈: The perceived service sacrifice of an Internet apparel site has a positive direct effect on the perceived service risk of the site (*Grewal et al., 1994*).

H₉: The perceived service quality of an Internet apparel site has a positive direct effect on the perceived value of apparel shopping via the site (*Anderson & Lindestad, 1998; Butcher et al., 2001; Cronin et al., 1997, 2000; Lapierre et al., 1999; McDougall & Levesque, 2000; Sirohi et al., 1998; Sweeney et al., 1997, 1999; Teas & DeCarlo, 2004*).

H₁₀: The perceived service risk of an Internet apparel site has a negative direct effect on the perceived value of apparel shopping via the site (*Sweeney et al., 1997*).

H₁₁: The perceived service sacrifice of an Internet apparel site has a negative direct effect on the perceived value of shopping via the site (*Cronin et al., 1997; Lapierre et al., 1999*).

Sub-model 3: QVS Model

H_{1c}: The level of service quality treatment has a positive direct effect on the perceived service quality of an Internet apparel site.

H_{1d}: The level of service quality treatment has a negative direct effect on the perceived service sacrifice of an Internet apparel site.

H_{1f}: The level of service quality treatment has a positive direct effect on satisfaction with apparel shopping via the site.

H₉: The perceived service quality of an Internet apparel site has a positive direct effect on the perceived value of apparel shopping via the site (*Anderson & Lindestad, 1998*;

Butcher et al., 2001; Cronin et al., 1997, 2000; Lapierre et al., 1999; McDougall & Levesque, 2000; Sirohi et al., 1998; Sweeney et al., 1997, 1999; Teas & DeCarlo, 2004).

- H₁₁: The perceived service sacrifice of an Internet apparel site has a negative direct effect on the perceived value of shopping via the site (*Cronin et al., 1997; Lapierre et al., 1999*).
- H₁₂: The perceived service quality of an Internet apparel site has a positive direct effect on satisfaction with apparel shopping via the site (*Anderson, Fornell, & Lehmann, 1994; Brady & Robertson, 2001; Brady et al., 2002; Butcher et al., 2001; Caruana et al., 2000; Cronin & Taylor, 1992, 1994; Cronin et al., 2000; Montoya-Weiss et al., 2003; Oliver, 1997; Parasuraman et al., 1985, 1994; Rust & Oliver, 1994; de Ruyter et al., 1997; Spreng & Mackoy, 1996; Teas & DeCarlo, 2004; Voss et al., 1998*).
- H₁₃: The perceived value of shopping via an Internet apparel site has a positive direct effect on satisfaction with shopping via the site (*Butcher et al., 2001; Cronin et al., 2000; Lapierre et al., 1999; McDougall & Levesque, 2000; Rust & Oliver, 1994; Spreng et al., 1993*).
- H₁₄: The perceived service quality of an Internet apparel site has a positive direct effect on behavioral intentions to shop via the site (*Boulding et al., 1993; Brady et al., 2002; Cronin et al., 2000; Liao & Cheung, 2001; Sirohi et al., 1998; Sweeney et al., 1997; Teas & DeCarlo, 2004; Zeithaml, 2000*).
- H₁₅: The perceived value of shopping via an Internet apparel site has a positive direct effect on behavioral intentions to shop via the site (*Chang & Wildt, 1994; Chapman & Whalers, 1999; Chen & Dubinsky, 2003; Cronin et al., 1997, 2000; Dodds et al., 1991; Leung, Li, & Au, 1998; Monroe & Chapman, 1987; Monroe & Krishnan, 1985; Sirohi et al., 1998; Sweeney et al., 1999; Zeithaml, 1988*).
- H₁₆: Satisfaction with apparel shopping via an Internet site has a positive direct effect on behavioral intentions to shop via the site (*Brady & Robertson, 2001; Brady et al., 2002; Comegys & Brennan, 2003; Cronin & Taylor, 1992; Cronin et al., 2000; Lapierre et al., 1999*).

Sub-model 4: Modified QVS Model

- H_{1a}: The level of service quality treatment has a positive direct effect on the perceived quality of apparel featured on an Internet site.
- H_{1c}: The level of service quality treatment has a positive direct effect on the perceived service quality of an Internet apparel site.
- H_{1d}: The level of service quality treatment has a negative direct effect on the perceived service sacrifice of an Internet apparel site.

- H_{1f}: The level of service quality treatment has a positive direct effect on satisfaction with apparel shopping via the site.
- H₄: The perceived quality of apparel featured on an Internet site has a positive direct effect on the perceived value of apparel shopping via the site (*Chang & Wildt, 1994; Chapman & Whalers, 1999; Chen & Dubinsky, 2003; Dodds et al., 1991; Monroe & Krishnan, 1985; Sirohi et al., 1998; Sweeney et al., 1997, 1999; Teas & Agarwal, 2000; Zeithaml, 1988*).
- H₉: The perceived service quality of an Internet apparel site has a positive direct effect on the perceived value of apparel shopping via the site (*Anderson & Lindestad, 1998; Butcher et al., 2001; Cronin et al., 1997, 2000; Lapierre et al., 1999; McDougall & Levesque, 2000; Sirohi et al., 1998; Sweeney et al., 1997, 1999; Teas & DeCarlo, 2004*).
- H₁₁: The perceived service sacrifice of an Internet apparel site has a negative direct effect on the perceived value of shopping via the site (*Cronin et al., 1997; Lapierre et al., 1999*).
- H₁₂: The perceived service quality of an Internet apparel site has a positive direct effect on satisfaction with apparel shopping via the site (*Anderson, Fornell, & Lehmann, 1994; Brady & Robertson, 2001; Brady et al., 2002; Butcher et al., 2001; Caruana et al., 2000; Cronin & Taylor, 1992, 1994; Cronin et al., 2000; Montoya-Weiss et al., 2003; Oliver, 1997; Parasuraman et al., 1985, 1994; Rust & Oliver, 1994; de Ruyter et al., 1997; Spreng & Mackoy, 1996; Teas & DeCarlo, 2004; Voss et al., 1998*).
- H₁₃: The perceived value of shopping via an Internet apparel site has a positive direct effect on satisfaction with shopping via the site (*Butcher et al., 2001; Cronin et al., 2000; Lapierre et al., 1999; McDougall & Levesque, 2000; Rust & Oliver, 1994; Spreng et al., 1993*).
- H₁₄: The perceived service quality of an Internet apparel site has a positive direct effect on behavioral intentions to shop via the site (*Boulding et al., 1993; Brady et al., 2002; Cronin et al., 2000; Liao & Cheung, 2001; Sirohi et al., 1998; Sweeney et al., 1997; Teas & DeCarlo, 2004; Zeithaml, 2000*).
- H₁₅: The perceived value of shopping via an Internet apparel site has a positive direct effect on behavioral intentions to shop via the site (*Chang & Wildt, 1994; Chapman & Whalers, 1999; Chen & Dubinsky, 2003; Cronin et al., 1997, 2000; Dodds et al., 1991; Leung et al., 1998; Monroe & Chapman, 1987; Monroe & Krishnan, 1985; Sirohi et al., 1998; Sweeney et al., 1999; Zeithaml, 1988*).
- H₁₆: Satisfaction with apparel shopping via an Internet site has a positive direct effect on behavioral intentions to shop via the site (*Brady & Robertson, 2001; Cronin & Taylor, 1992; Cronin et al., 2000; Lapierre et al., 1999*).

- H₁₇: The perceived quality of apparel featured on an Internet apparel site has a positive direct effect on satisfaction with shopping via the site (*Bei & Chiao, 2001; Churchill & Surprenant, 1982; Oliver, 1980, 1981, 1997; Oliver & DeSarbo, 1988; Parasuraman et al., 1985, 1994; Tse & Wilton, 1988*).
- H₁₈: The perceived quality of apparel featured on an Internet site has a positive direct effect on behavioral intentions to shop via the site (*Chang & Wildt, 1994; Erevelles et al., 2001; Sirohi et al., 1998*).

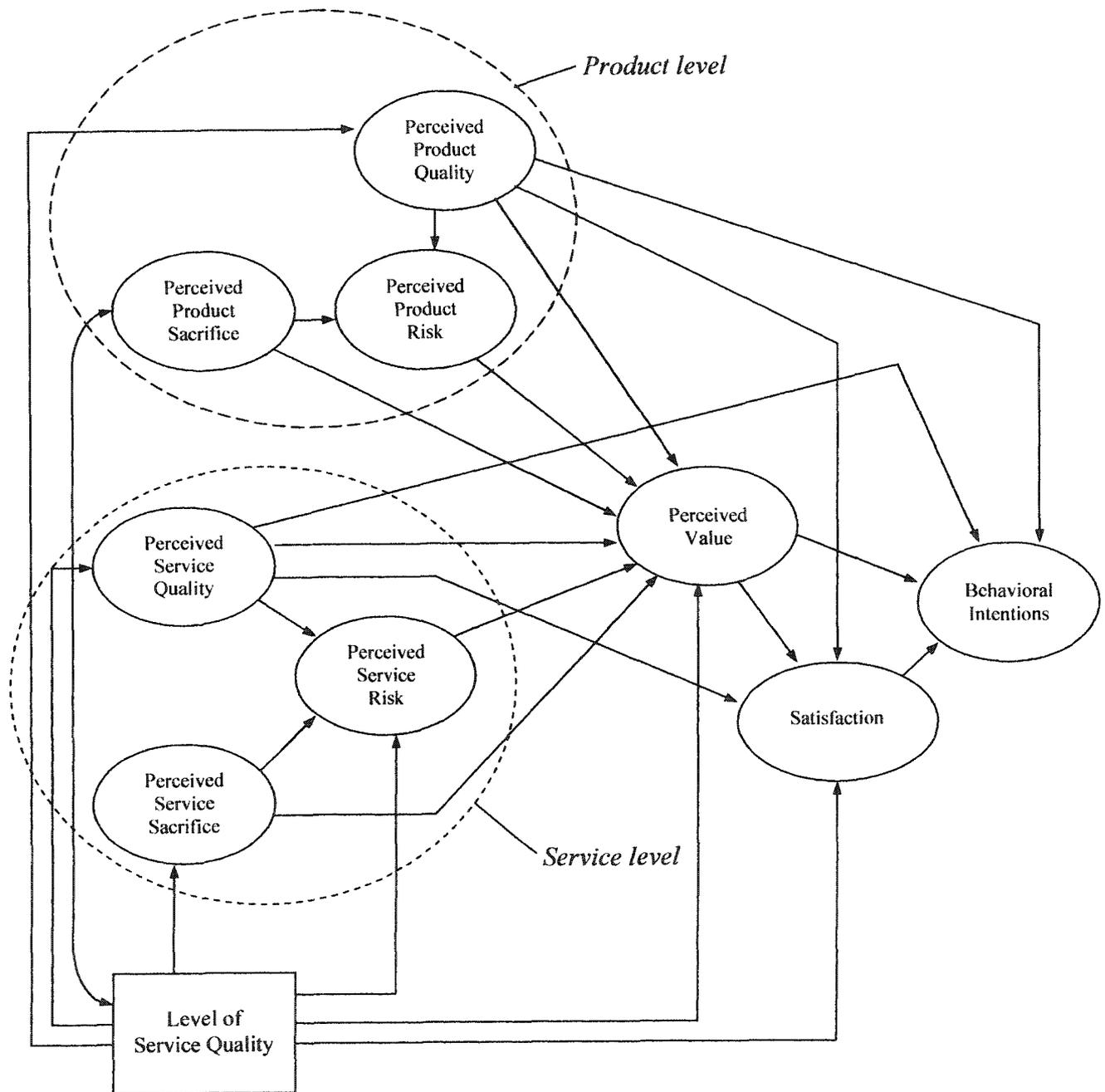


Figure 2.1. Proposed overall model of antecedents and consequences of perceived value of Internet apparel shopping

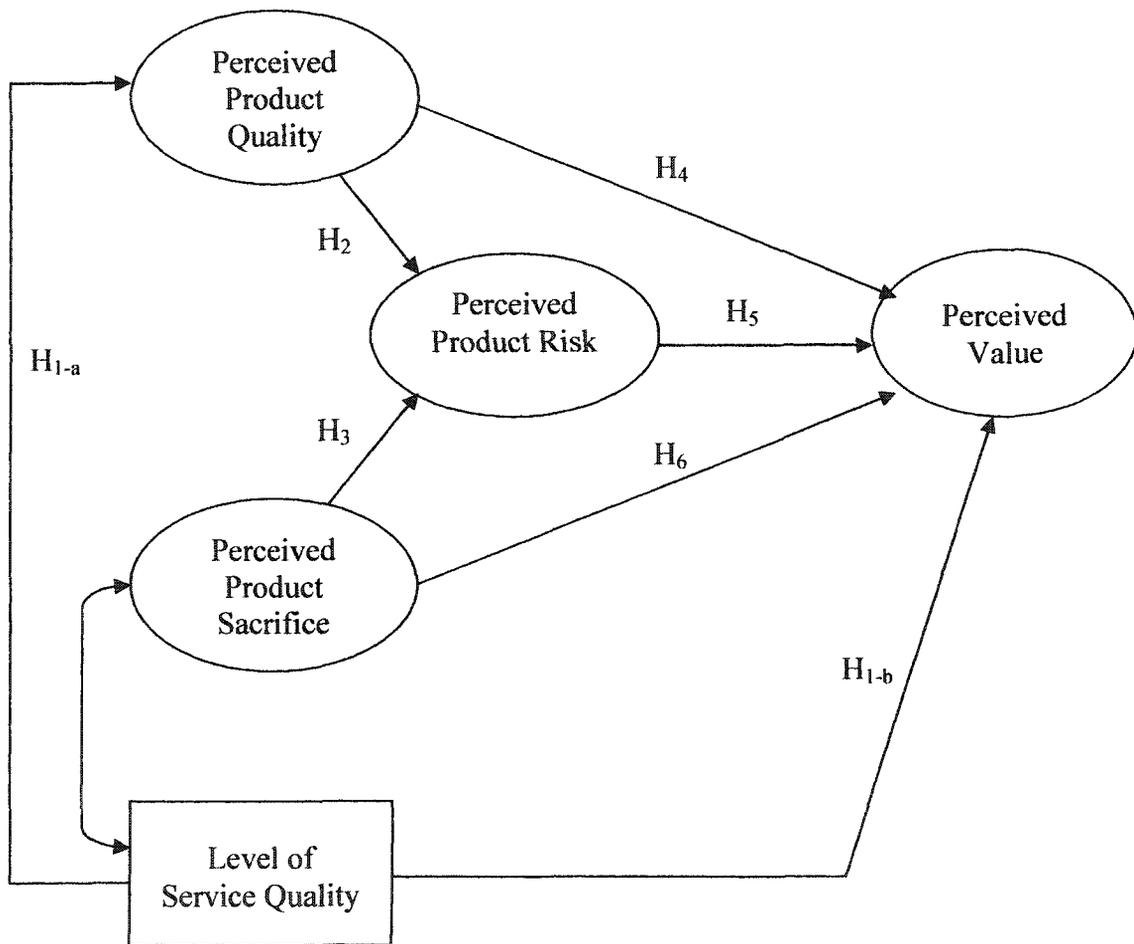


Figure 2.2. Proposed Sub-model 1: Product evaluation phase

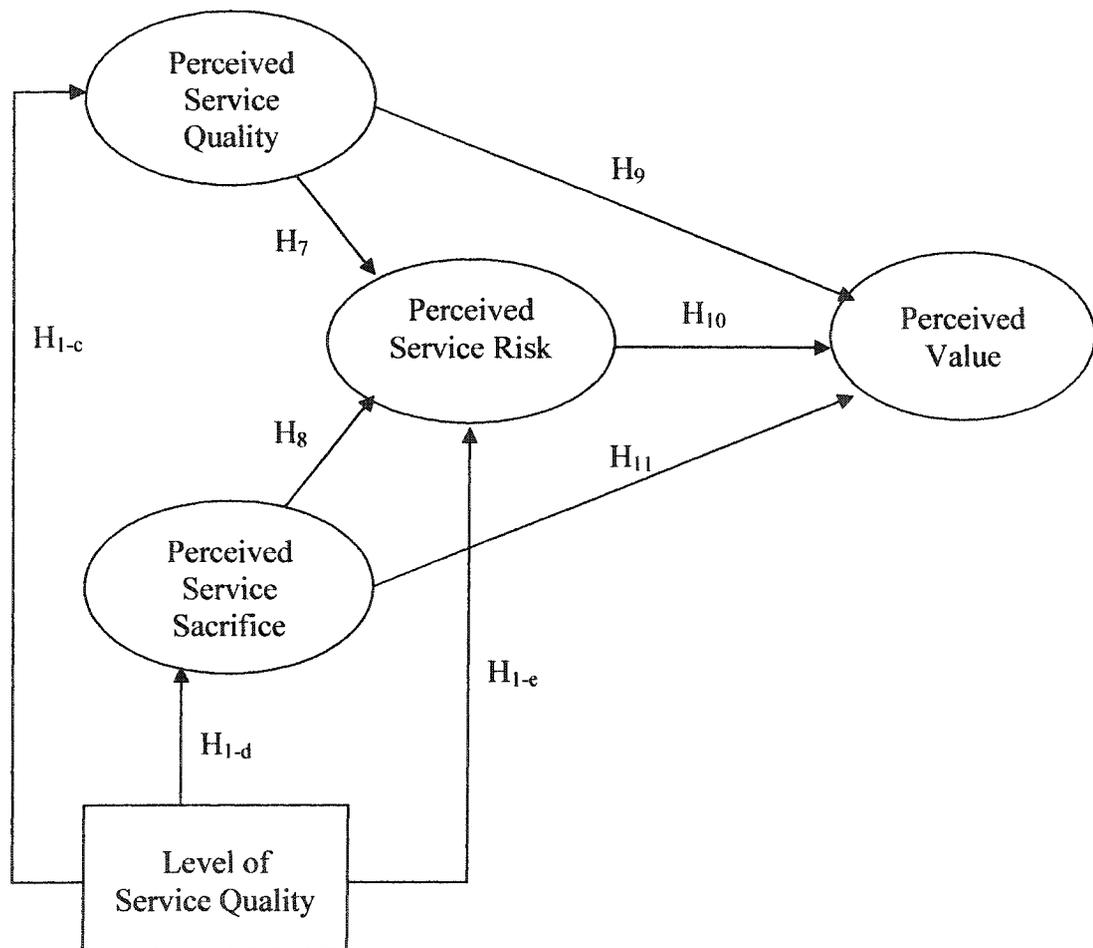


Figure 2.3. Proposed Sub-model 2: Service evaluation phase

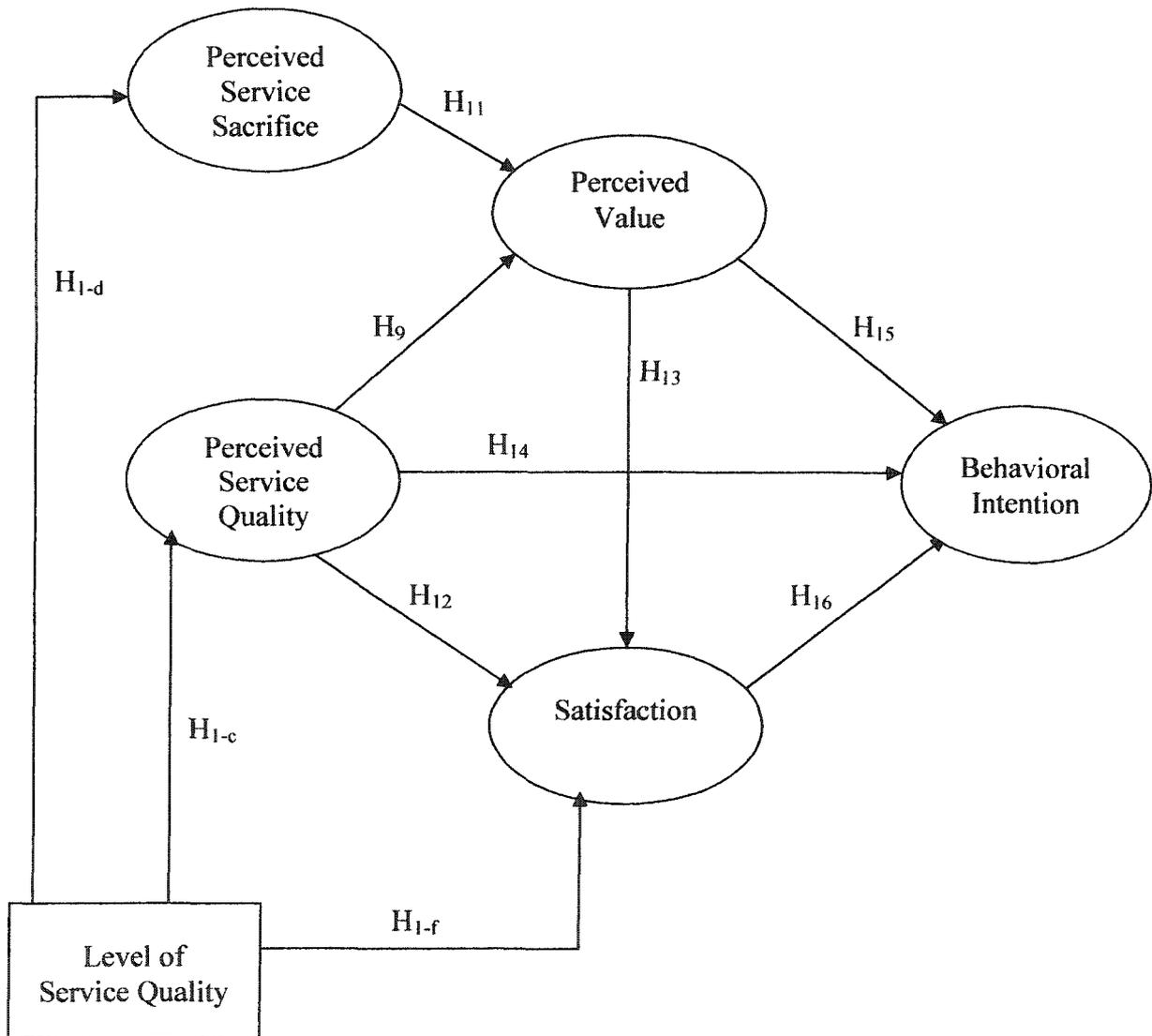


Figure 2.4. Proposed Sub-model 3: QVS model for Internet apparel shopping

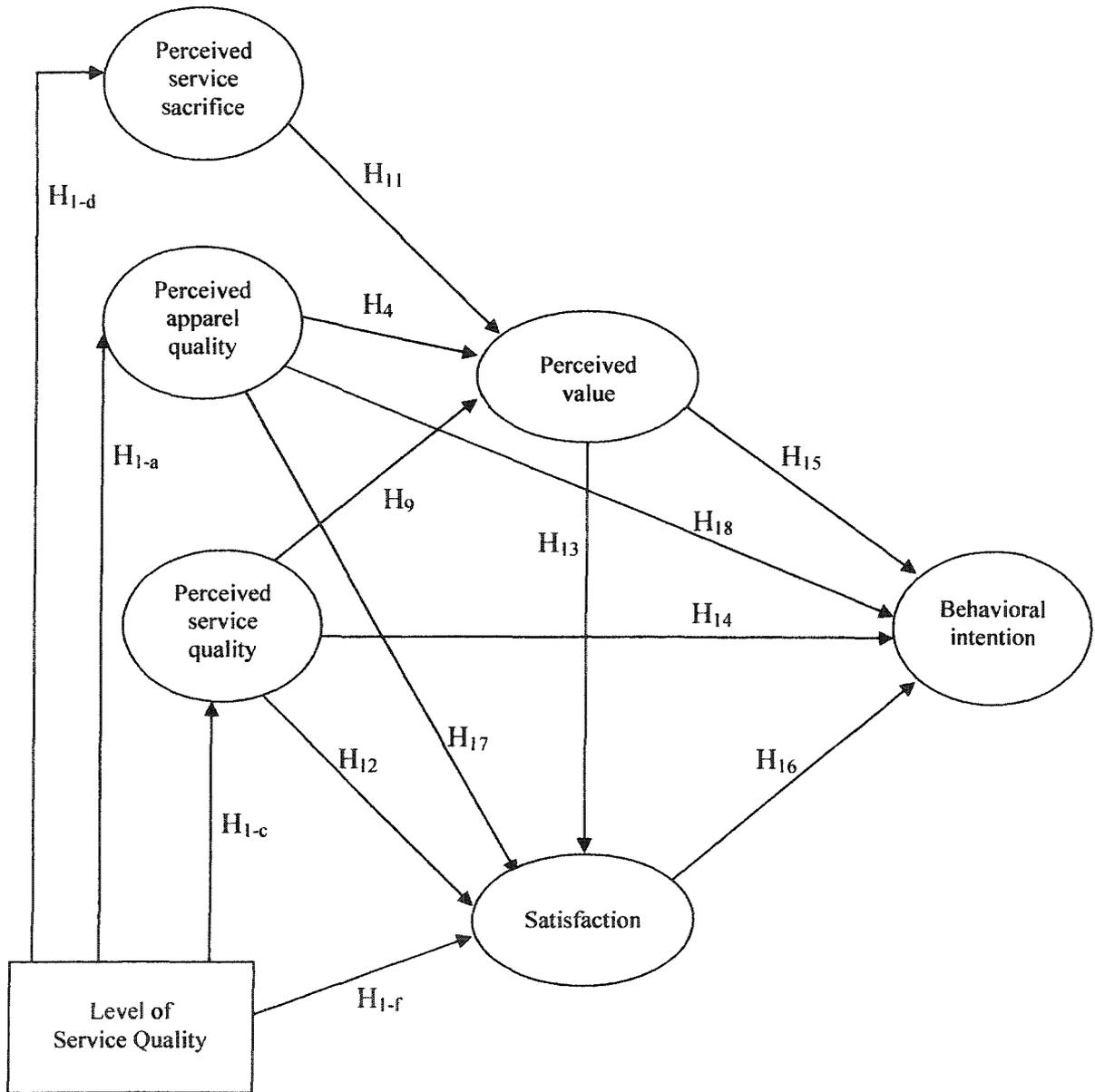


Figure 2.5. Proposed Sub-model 4: Modified QVS model for Internet apparel shopping

CHAPTER 3: METHOD

This section provides a description of methods and procedures of two phases of this study. Focus group interviews were the first phase of the study conducted to develop the measures for constructs in the proposed model and to create treatments for the experimental study. The method chapter includes descriptions of participants, instruments, interview procedures, qualitative data analysis, and credibility.

The second phase of this study involved experimental design. The chapter presents the description of study design, treatment development, questionnaire development, data collection procedure, and data analysis.

Phase I: Focus Group Interviews

To generate insights about perceived quality of apparel products and service quality of Internet retailers from a college-aged consumer perspective, the researcher conducted two focus group interviews. Focus group interviews increase the probability of producing valid measures (Churchill, 1979).

Participants

The participants in the focus group interviews were female undergraduate students, who had at least one purchase experience through Internet shopping for apparel products during the last 12 months. A purposive sampling method was used to select the participants for the interview. The number of participants in each session was fewer than 8, based on suggestions from the literature on focus group interviews (Berg, 1998; Churchill, 1999; Neuman, 1997). The total of interview participants was 15. The student participants received extra class credit as a reward for their participation.

Instruments

Interview Schedule

The interview schedule was semi-structured with open-ended questions. The semi-structured interview schedule yielded some benefits over structured and unstructured

interviews (Berg, 1998). By implementing a number of predetermined questions and topics, the interviewer could ask each question in a systematic and consistent order as well as have some flexibility to probe beyond the answers, as compared to the fully structured format (Berg, 1998).

A series of open-ended questions were developed based on the review of literature on perception of apparel quality (e.g., Abraham-Murali & Littrell, 1995a, 1995b; Eckman et al., 1990; Fiore & Damhorst, 1992) and service quality of Internet retailers (e.g., Janda, Trocchia, & Gwinner, 2002; Liljander, van Riel, & Pura, 2002; Zeithaml et al., 2000). Participants were asked to explore and describe in their own words product quality attributes and service quality components that were offered by retailers on the Internet. In addition, participants' Internet apparel shopping experience and their perceptions of the value of Internet apparel shopping were explored. The focus group interview question protocol is presented in Appendix A.

Short Survey

After participating in the focus group interview, a structured-questionnaire was administered to collect background information of the participants, such as demographics (e.g., age, ethnicity, year in school), Internet usage, reasons for Internet use, Internet shopping experience, and amount of money spent through Internet apparel shopping over the last 12 months. In addition, clothing purchase criteria (Lee & Burns, 1993) were collected but not included in further analysis. The short survey is presented in Appendix B.

Alternative Survey

To provide an alternative opportunity to students who could not participate in the focus group interview, the researcher designed a short form of the questionnaire that contained the open-ended questions from the focus group interviews (see Appendix C). A total of 31 students filled out the survey and received extra credit for the course from which they were recruited. Participants were asked to visit and browse an Internet apparel retail site of their own selection and then provide responses in a questionnaire. They had two days to a week to complete the questionnaire at home or any other place they could access the Internet. Qualitative data from the alternative survey was analyzed with the focus group interview data.

Pretest of Interview Schedule and Short Survey

Pre-testing of the interview schedule was conducted by an expert in the field of Textiles and Clothing who was familiar with the subject matter of this study. This facilitated the content validity of the interview schedule and short survey (Berg, 1998; Neuman, 1997; Strauss & Corbin, 1998). Modifications of the interview schedule and the survey were made based on the results of the pretests.

Interview Procedures

Potential participants were contacted in a classroom setting through verbal announcements. Participants were introduced to the purpose of the study and assured about confidentiality of any information they would provide for this study. They were asked to sign informed consent forms prior to the focus group interview or alternative survey, as suggested by Berg (1998). The focus group interview participants were asked to complete the short survey after the interview session. Each interview session lasted one to one and one-half hours. The researcher served as an interview moderator who introduced issues and encouraged discussion.

Throughout the interview session, it was ensured that no one participant dominated the interview session. Both interviews were conducted and audio-recorded in a small classroom setting with some refreshments. The interview started with easy and comfortable questions to build rapport with participants (Berg, 1998; Carson et al., 2001). Throughout the interviews, participants were probed for elaboration of initial responses. This probing process provided the researcher with chances to gain a deeper understanding of the participants.

The researcher conducted both interviews to accomplish a more reliable interviewing procedure by eliminating the interviewer effect that may result from the inconsistency among multiple interviewers. The researcher read the open-ended questions to each participant and recorded answers in writing and on audio-tape. Some quick notes about the facial and nonverbal expressions of participants during the interviews were taken as a reminder of the context of the interview for later interpretation of the interview content (Lincoln & Guba, 1985).

Qualitative Data Analysis

Analyses of Focus Group Interviews

This researcher transcribed the results of the interviews for further data analysis. Qualitative data from the interviews were analyzed by the researcher, using systematic categorizing and labeling to find emerging themes from the data obtained from the interviews and the open-ended questions in the alternative survey questionnaire. For each question, units of meaning (i.e., phrases or sentences encompassing one idea or belief in an answer to a question) were sorted into groups of units with common themes. Then, key patterns or relationships of themes, which emerged from the data, were identified and interpreted.

Use of Quantitative Data from the Short Survey

For the analysis of quantitative data from the short survey, the researcher used descriptive statistics including frequencies, means, and standard deviations. The quantitative findings from the survey were useful to describe the characteristics of participants, and to group and categorize the participants in their interview responses.

Credibility

Credibility can be established through member checking (Lincoln & Guba, 1985). The researcher performed member checking after interview sessions with selected participants to ensure the credibility of data, analytic categories, interpretations, and conclusions that the researcher had drawn from the interview data.

Phase II: Experimental Study

Research Design

The second phase of this study had a between-subjects design. The experimental manipulations involved two service quality levels (high and low) provided by the Internet apparel retail site. In ensuring the validity of the findings from this research, the design of the questionnaire and stimuli development followed the principles of instrument design. The instrument design started with a series of focus group interviews to 1) understand the product quality of apparel, service quality of Internet apparel retailers, and value of Internet apparel shopping from a college-aged consumer perspective and 2) generate ideas for stimulus

development. The process was followed by generating items from the literature to tap the research variables and assess their representativeness. Then, an expert judge (from a pool of active consumer behavior researchers in Textiles and Clothing) was invited to assess the content and face validity of the instrument and survey refinement. A pilot test, using a small group of five female college students, was performed to ensure the readability of the survey and to perform the manipulation check of treatment stimuli.

Sampling

College students from two major midwestern universities were recruited for participation in this experiment. Convenience sampling methods were used by contacting instructors of various Textiles and Clothing related classes to recruit the participants. From the originally recruited 532 students, 425 students from various majors participated in the experiment. Included were 48 male and 377 female respondents; however, responses from the male respondents were excluded from analysis. A total of 368 female students provided usable responses. Among those, seven international students were excluded from data analysis, resulting in 183 in the low service quality and 178 in the high service quality treatment cells.

There are three justifications for using a student sample. First of all, college students are among the most active online buyers. According to the National Association of College Stores, more than 70 percent of U.S. college students are Internet purchasers (Shop.org, 2003). Their Internet experience and actual online purchases qualify them as a sample for online shopping research. Second, students are generally accepted for theory testing research in which the multivariate relationships among constructs are tested (Calder, Philips, & Tybout, 1981). Third, consumer behavior studies comparing students and non-students reveal that students do not behave differently from non-students (Lichtenstein & Burton, 1989; Yavas, 1994). The age range studied could have substantial impact on the findings, however.

Treatment Development

To create treatment the stimuli of two levels of service quality offered by an Internet apparel retail site, focus group interviews with female college-aged students were conducted in April 2003. The focus group interview method was chosen as a primary means to obtain insight into the perceptions of apparel quality and definitions and dimensions of Internet apparel retail service quality from a college student's perspective. For the results of the focus group interviews, see results in Chapter 4.

Internet Shopping Site Stimulus Development

Internet shopping site stimuli were developed by the researcher to manipulate the treatment combinations and control the variables. New creation of the stimuli would prevent the disadvantage of using an existing apparel shopping site; participants may have an attitude toward an existing Internet shopping site. To create more realistic stimuli, the researcher reviewed and adopted the common design and navigational attributes of current Internet apparel shopping sites that students mentioned as desirable during the focus group interviews and short survey data analyses. For instance, Gap.com, Polo.com, BananaRepublic.com, and AmericanEagle.com were reviewed for the navigational design and overall site structural design.

The higher service quality treatment site offered more intensive customer service (e.g., flexible exchange and return policy, expedited shipping and handling option, high security of online purchasing, more various payment options), while a lower service quality site provided limited customer service (e.g., limited exchange or return policy, regular shipping methods, no security or privacy policy, limited payment options). Moreover, the higher service quality retail site offered multiple views of products (e.g., small and large images for all available colors of sweaters), verbal product description (e.g., fiber content/percentage, texture, fabric feel, size, measurement), and diverse size ranges (e.g., misses, petite, tall, and plus sizes for all sweaters) as a part of service quality. The lower service quality retail site only offered one product image per sweater and only one size range (e.g., misses). Both websites featured the same 10 sweaters made of various fibers/materials and designs. All other information about the product, which may signal the perceived quality of merchandise (e.g., price, fiber content), and Web site design were consistent across the two treatment

conditions. No brand name was given to sweaters to eliminate the brand effect. For examples of the website pages, please see Appendix D and E. Other web site design elements such as background color and font size were held as constants. Microsoft® FrontPage® and Macromedia® Dreamweaver® were used to develop the Internet shopping site stimuli.

Data Collection Questionnaire

A self-administered data collection questionnaire was developed, based on the background literature and objectives. The questionnaire included two separate sets of questions. The first set of questions consisted of three sections: 1) previous shopping experiences, 2) reduced “need for touch (NFT)” scale as an individual characteristic, and 3) Internet belief, use, and purchase.

The second set of questions included six sections: 1) Apparel product evaluation (perceived quality, sacrifice, and risk of apparel), 2) Internet retailer’s site evaluation (perceived quality, sacrifice, and risk of service of Internet shopping site), 3) perceived value of Internet apparel shopping, 4) satisfaction with shopping experience, 5) future behavioral outcomes, and 6) demographic information. The questionnaire is presented in Appendix F.

Questionnaire I

Before participants were exposed to one of two stimuli, Questionnaire I was administered in order to measure participants’ previous apparel shopping experiences and Internet use, individual characteristic of NFT, and Internet beliefs.

Apparel Shopping Experiences and Internet Use

Three items measured experience with various shopping modes such as department/specialty store, discount store/outlet mall, mail order catalog, Internet and TV shopping channels. The items asked about: 1) the length of experience with a particular apparel shopping mode, 2) use of a mode for product information search during the past 12 months, and 3) the level of satisfaction with a particular shopping mode. Product information search items were included in an attempt to examine the use of the shopping mode or media as an information source.

All the items, except for the level of satisfaction with shopping modes, were rated on ordinal scales. For example, the length of apparel shopping experience question was measured on an ordinal scale: *Never* (1), *Less than six months* (2), *Six months to one year* (3), *One to two years* (4), and *More than two years* (5). For the satisfaction question, a five-point Likert-type scale ranging from *Very Dissatisfied* (1) to *Very Satisfied* (5) was used. Additionally, the *Not applicable* (6) option was given to indicate when respondents had never used shopping modes.

Internet use was measured using three items. The first item was about the length of Internet experience. In the second item, respondents were asked how much time they used the Internet weekly for any reason. Finally, respondents were asked to indicate how long they have been using the Internet for shopping. The first and third items were measured on a scale of *Don't use* (1), *Less than a year* (2), *One to two years* (3), *Two to three years* (4), *Three to four years* (5), and *Over four years* (6). The second item was measured on a scale of *Don't use* (1), *Less than one hour* (2), *One to five hours* (3), *Six to ten hours* (4), and *more than ten hours* (5). Expenditures on clothing purchases via various shopping modes were asked using an open-ended question.

Need of Tactile Experience of Products

Six items were adopted from the NFT measure (Peck & Childers, 2003) to tap consumers' perception of importance of their tactile experience in their decision-making about the product. To capture the essence of the NFT scale, the researcher and an expert in the Textiles and Clothing program examined the content validity of each item and chose the best six items, which represent the NFT scale without diluting the original conceptual definition of the scale. The questions were asked on a seven-point Likert-type scale: *Strongly Disagree* (1) to *Strongly Agree* (7). Only descriptive statistics of this scale will be analyzed and reported in the study.

Beliefs about Internet Shopping

To measure participants' beliefs about Internet shopping, 20 items were adopted and modified from previous studies (Moon, 2001; Yoh, 1999). After revision of items by an expert from the Textiles and Clothing program, the final set of 16 items were asked on a seven-point Likert-type scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7).

Questionnaire II

Questionnaire II was administered after participants viewed one of two Internet apparel retail sites. The questionnaire included evaluations of apparel products and the Internet retailer's service, the perception of value of apparel shopping from the Internet site, satisfaction with the sweater shopping experience on the Internet site, evaluation of the overall shopping experience on the site, possible future behavior regarding the site, and demographics.

Apparel Product Evaluation

Perceived quality of apparel products. A total of fourteen perceived apparel quality items were included in the data collection questionnaire. To measure consumer perception of apparel product quality, nine items were identified based on the findings of the focus group interviews and previous research (e.g., Abraham-Murali & Littrell, 1995a; Eckman et al., 1990; Forsythe et al., 1996; Lennon & Fairhurst, 1994). In addition, four items were adopted from the apparel quality-related literature (Griffin & O'Neal, 1992; Scheller & Kunz, 1998) to tap the ease of care and attractiveness of the apparel. Moreover, one item from Oliver (1997) was modified to measure the overall perceived quality of sweaters. All items were rated on a seven-point Likert-type scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7).

Perceived sacrifice of apparel products. Two items were adopted from Teas and Agarwal (2000) to assess perceived product sacrifice. Items were measured using a 7-point Likert-type scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7). One item was "The prices of the sweaters are too high" and the other was "If I purchased a sweater from this site for the indicated price, I would have to reduce the amount of money I spend on other things for a while."

Perceived risk of apparel products. To measure perceived risk of apparel products, five items from the study of Cronin et al. (1997) were adopted. Items included financial, physical, performance, social, and psychological risks. One item was generated to tap fashion risk (Winakor et al., 1972). Items were rated on a 7-point Likert-type scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7).

Internet Retailer's Site Evaluation

Perceived service quality of Internet retailer. To measure perceived service quality offered by the Internet shopping site, a total of 22 items were identified from the findings of focus group interviews and previous research (e.g., Janda et al., 2002; Kaynama & Black, 2000; Liljander et al., 2002; Ranganathan & Ganapathy, 2002; Szymanski & Hise, 2000; Wolfenbarger & Gilly, 2003; Yang & Jun, 2002; Yoo & Donthu, 2001; Zeithaml et al., 2000). Based on the findings of focus group interviews, three dimensions were found: Merchandise offering, service, and website. As shown in Table 3.1, the merchandise dimension had six items, the service dimension had ten items, and the website dimension had six items. All items were measured using a seven-point Likert-type scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7).

Table 3.1. Items measuring perceived Internet retailer service quality

| Dimensions and items |
|---|
| <u>Website</u> |
| 1. This Internet site is well-organized. |
| 2. This Internet site has easy navigation. |
| 3. This Internet site has an easy layout (e.g., list of links). |
| 4. This Internet site has pleasing overall site design. |
| 5. This Internet site is convenient to use. |
| 6. This Internet site performs consistently (e.g., links). |
| <u>Service</u> |
| 7. This Internet site offers reliable transactional security. |
| 8. This Internet site has a privacy policy that will protect my personal information. |
| 9. This Internet site offers various shipping methods and shipping destinations. |
| 10. This Internet site has detailed customer service information. |
| 11. This Internet site has a very good return/exchange policy. |
| 12. This Internet site charges reasonable shipping and handling fees. |
| 13. This Internet site provides company contact information. |
| 14. This Internet site offers very good customer service (e.g., 24/7 availability). |
| 15. This Internet site provides detailed product information. |
| 16. This Internet site shows detailed pictures of the sweaters. |
| <u>Merchandise planning</u> |
| 17. This Internet site provides good quality sweaters. |
| 18. This Internet site offers a wide selection of sweaters. |
| 19. This Internet site offers various size ranges of sweaters. |
| 20. This Internet site offers a range of styles of sweaters. |
| 21. This Internet site offers a good variety of colors of sweaters. |
| 22. This Internet site offers very acceptable price ranges for the sweaters. |

Perceived sacrifice of Internet retailer service. The three-item perceived sacrifice measure from Cronin et al. (2000) was adopted to assess perceived service sacrifice. The measure includes items about the price, time, and effort required to purchase the product, rated on a 7-point Likert-type scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7).

Perceived risk of Internet retailer's service. A total of seven items were used to measure perceived risk of Internet retailer service. The four items used in the study by Cronin et al. (1997) were adopted and modified. They included financial, performance, psychological, and overall risks. Instead of adopting two original social and physical risks, the researcher adopted and modified three items—transactional risk, privacy invasion risk (Cases, 2002), and time risk (Cunningham, 1967) in order to fit the Internet apparel retailing context better. Items were measured on a 7-point Likert scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7).

Perceived Value of Apparel Products and Internet Shopping

To measure perceived value of Internet shopping, a 19-item measure, PERVAL, from Sweeney and Soutar (2001) was adopted. This measure was developed to assess customers' perceptions of the value of a consumer durable good (e.g., clothing) at a brand level in a retail purchase situation. In addition, the PERVAL measure includes both utilitarian and hedonic perspectives of consumer value in a retail purchasing environment. Sweeney and Soutar (2001) reported that the four distinct value dimensions of PERVAL, emotional, social, quality/performance, and price/value for money, were found to be valid and reliable for prepurchase and postpurchase situations. They (2001) found that the explanatory power of PERVAL outperformed the "value for money" perceived value measure (Dodds et al., 1991) on predicting purchase and loyalty intentions. The reliabilities of the dimensions ranged from 0.84 to 0.95, with a total scale reliability of 0.95 for both prepurchase and post purchase situations.

In this study, perceived value of Internet apparel shopping was conceptualized to have two dimensions—an apparel merchandise dimension and a shopping experience dimension—based on the findings of the focus group interviews. Therefore, to tap the merchandise dimension of the perceived value of Internet apparel shopping, emotional

(hedonic), price/value for money (monetary), and social dimensions were adopted and modified. To assess the shopping experience dimension of the perceived value of Internet apparel shopping, hedonic, monetary, and social value were adopted and modified. The findings of focus group interviews revealed that Internet apparel shopping not only offers monetary value but also provides instrumental values such as convenience, time-saving, and variety of product choices. Therefore, three items were created and added to the monetary dimension. The dimension was renamed “instrumental,” and included monetary values as well as other instrumental values offered by Internet apparel shopping. The quality/performance dimension of PERVAL was not adopted for either dimension, because it is almost identical to the measure of perceived quality. All 27 items were measured on a 7-point Likert-type scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7).

Satisfaction with Shopping Experience

Satisfaction with the shopping experience, via the Internet site, had three dimensions: Website, service offerings and quality, and apparel offerings and quality. To tap the respondent’s satisfaction level with site navigation and design of the Internet site, five items were used from the Internet retailer service quality scale (Items 1, 2, 3, 4, and 6) developed in this study. One overall satisfaction with quality of site design and navigation item was developed.

To assess the level of satisfaction with the service offering from the site, ten items were adopted and modified from the Internet retailer service quality scale (Items 7 through 16). Two items measuring satisfaction with overall customer service offerings and overall quality of customer service were developed.

To measure a satisfaction with apparel product dimension, four items were adopted from Shim and Kotsiopulos (1991). These items were modified for the Internet apparel shopping context. The items were “size ranges available,” “variety in style selection,” “variety of price range,” and “variety of colors available.” One satisfaction item regarding merchandise offering was adopted and modified from Szymanski and Hise (2000). The item was “how satisfied are you with the selection of sweaters from the Internet site.” One item was adopted from the Internet retailer service quality scale (Item 17) and two additional

items were created by the researcher to tap the respondent's satisfaction level with overall sweater offerings and overall quality of sweaters. One last item was added to the satisfaction measure, "How satisfied are you with the overall sweater shopping experience at the Internet site" was developed and added to the list. All 27 items were assessed using a 7-point Likert type scale ranging from *Very Dissatisfied* (1) to *Very Satisfied* (7). To establish content validity of the measures, an expert judge from Textiles and Clothing examined the content of the items.

A summary disconfirmation measure by Oliver (1977, 1980, 1993) and other researchers (Oliver & DeSabro, 1988; Rust & Oliver, 1994) was adapted to assess the overall satisfaction with the apparel shopping experience from the Internet site. The disconfirmation measure was used to assess four dimensions: overall sweater availability, overall customer service availability, overall site design and navigation of the site, and overall sweater shopping experience on the Internet site. Items were measured on a 7-point bipolar scale ranging from *Worse than expected* (1) to *Better than expected* (7).

Future Behavioral Outcomes

A total of seven items about behavioral intentions were adopted from Dodds et al. (1991) and Zeithaml et al. (1996). Items were modified to fit the Internet apparel shopping context. One item about future search intention for apparel product information from the site was developed by the researcher. Items were measured on a 7-point bipolar scale ranging from *Highly Unlikely* (1) to *Highly Likely* (7).

Demographic Information

Respondents' personal information was obtained through five questions to examine demographic characteristics. Participants were requested to check self descriptive categories regarding gender, ethnicity, and year in school. In addition, open-ended questions were used to ask age and major. The researcher coded information regarding academic major as a categorical variable for the purpose of descriptive analysis.

Pretest and Manipulation Check

Before the study, a pretest was conducted with eight female college students in Textiles and Clothing at a large Mid-western university to examine the wording of the questionnaire. The questionnaire was modified based on their comments. Based on the pretest, the items and the instructions for using the web sites and questionnaires were revised. Timing of participation was also measured.

A manipulation check was conducted to investigate if the manipulation of the two site treatments would work. A total of 25 female students were recruited and participated in the small scale experiment to test the treatment effects of the two levels of service quality provided by a mock Internet apparel retailer. Thirteen participants browsed the lower service quality Internet apparel retailer site, and 12 browsed the higher service quality Internet apparel retailer site. This between-subject manipulation check revealed that the higher service quality Internet apparel retail site had a higher mean score of 6.46 than did the lower service quality site (a mean of 4.33) to a question, “this apparel retail site provides high service quality,” on the 7-point Likert-type scale—*Strongly disagree* (1) to *Strongly agree* (7). The result of a *t*-test of the mean difference of perceived service quality of the two retail sites was statistically significant ($t = 4.38; p < .01$). During manipulation checks, “appropriateness of the styles of the sweaters for college students” was also asked and was found to be positive (mean score of 5.5, using a 7-point Likert scale—*Strongly disagree* (1) to *Strongly agree* (7)). Respondents who participated in the pretest and manipulation check were excluded from the later main data collection.

Approval of the Use of Human Subjects

Prior to collecting data, the Human Subjects Review Committee at Iowa State University and University Committee of Research Institute of Human Subjects at Michigan State University reviewed the proposed study and approved the use of human subjects (Appendix G). The rights and welfare of the human subjects were assured by voluntary participation, procedures of minimal risk to participants, and confidential data reporting procedures.

Consent Forms

Participants were given consent forms that described the activity they would be engaging in and that guaranteed voluntary participation, that the procedures were of minimal risk to research participants, and the confidentiality of data reporting. The consent form also provided a space for them to sign. To meet different requirements of the two universities, two different consent forms were developed (see Appendix H).

Data Collection Procedure

After obtaining approvals from human subject committees of two universities, recruitment from two major midwestern universities occurred. The researcher verbally described the purpose of the current study and the data collection procedure to the potential participants and provided them a sign-up sheet for their participation. When participants arrived at the computer lab, they were given a consent form to review and sign before participating in the current study. Once they gave their consent, they were asked to fill out the first part of the questionnaire. After completing the first part of the questionnaire, participants were randomly assigned and exposed to one of two treatment web sites. After clicking the icon of the experiment stimulus website, they were encouraged to navigate the site. After exposure to the treatment for ten minutes, respondents were requested to fill out the second part of the questionnaire. The student participants received extra class credit as a reward for their participation. Data collection occurred between November 2003 and February 2004.

Data Analysis

For data analysis, descriptive statistics, *t*-tests, and correlation analyses were utilized. For confirmatory factor analysis and causal model analysis of the proposed model, structural equation modeling was employed.

Descriptive Statistics

Descriptive analysis focused on respondents' demographic profile, previous shopping experiences, and research variables in proposed Sub-models. Frequencies, percents, means, and standard deviations were used for descriptive statistics.

Construct Validity and Internal Reliability

Construct validity was assessed using factor analysis (Cronbach & Meehl, 1955). Principal components factor analysis was conducted to determine whether multiple indicators for each variable included one or more factor dimensions. Factor loadings above .55 (Nunnally & Bernstein, 1994) were considered as evidence for construct validity. A series of factor analyses using maximum likelihood extraction method and varimax rotation were employed with SPSS version 11.0. Internal reliability was assessed using Cronbach's standardized *alpha* (Cronbach, 1951). High *alpha* values are evidence of high reliability of multiple item measures within a factor. A Cronbach's *alpha* of .70 or higher was considered an acceptable indicator of internal consistency (Peterson, 1994). After examining the dimensionality of multiple item measures, the means of the sums of multiple items were entered into data analysis.

Correlation Analysis

Pearson correlations were used to explore response differences related to continuous demographic variables such as age, education, and income. Correlation analysis was used to examine whether there was a relationship among variables of previous shopping experiences, perceived apparel quality, perceived service quality, perceived apparel sacrifice, perceived apparel risk, perceived service risk, perceived service sacrifice, perceived value, satisfaction and behavioral intentions. Having high correlations among indicators within one dimension was evidence of convergent validity (Churchill, 1999). A low to moderate correlation between two different measures was considered evidence of discriminant validity (Churchill, 1999).

Structural Equation Modeling

The proposed dimensions of constructs were tested through structural equation modeling (SEM) that allows the researcher to examine both path structures of the latent model and the factor loadings of the measurement model. In addition, measurement errors can be accounted for when using SEM. Confirmatory factor analysis was used to examine the dimensional structure of research variables.

The proposed models were analyzed using maximum-likelihood estimation procedure with analysis of moment structures (AMOS) 4.0. No measurement errors were allowed to

keep the models simple and to have single indicators of the research constructs measured by their relative summated scales. For the overall fit of the model as a whole to the data, *chi-square* statistics, goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), root mean square residual (RMSR), and relative fit index (RFI) were used. For the statistical significance of parameter estimates *t*-values were used. A *t*-statistic value greater than 2.00 was considered an indicator of statistical significance. For model testing, structural path coefficients were used to test hypotheses. In order to examine indirect effects in the proposed model, decomposition of effects were conducted.

CHAPTER 4: FOCUS GROUP INTERVIEW RESULTS

This chapter presents results of two focus group interviews and qualitative survey data. The chapter is organized into four parts: 1) quality and purchase criteria regarding apparel products, 2) Internet apparel shopping behavior, 3) service quality of an Internet apparel retailer, and 4) values, benefits, and sacrifices of Internet apparel shopping. A presentation of the major themes and sub-themes organized around the research questions follows.

Quality and Purchase Criteria of Apparel

The following questions are relevant to understanding the perceptions of the participants. These questions are adopted and modified from previous research on the perceptions of apparel quality (Abraham-Murali & Littrell 1995a) and evaluative criteria (Abraham-Murali & Littrell 1995b; Eckman et al., 1990; Lee & Burns, 1993).

In your opinion, what is the definition of “quality” of apparel?

For the definition of apparel quality, a primary theme emerged from focus group interview data: Intrinsic characteristics of garments. Intrinsic aspects consist of three sub-themes: 1) durability and performance of the garment, 2) construction, and 3) materials and fabric hand. Durability of the garment was the major sub-theme and most often discussed by participants. Comments included, “lasts through washing it,” “washing more than fifty times and still wears and looks good,” or “You should be able to wash it numerous times.... Jeans should last me until they are falling apart.” These comments reflected the importance of durability to college-aged consumers. Another aspect of performance of the garment discussed was color fastness (e.g., no fading or bleeding). Also, participants mentioned garments unraveling as performance of the garment. Construction of the garment is highly correlated with the durability and performance of the garment. If the garment is not well constructed, it will not be durable or perform well. Materials and fabric hand also significantly contributed to the definition of apparel quality. Fit and color were also mentioned in the definition of quality of apparel.

Survey participants reported they would think about intrinsic quality cues—durability, construction, and performance of the garment—to define the quality of apparel. Aesthetic and functional concerns of apparel (e.g., fabrics and materials, and fabric hand) were mentioned frequently. On the other hand, extrinsic quality cues—price, reputation, and value—were mentioned minimally.

How do you evaluate apparel quality? What criteria do you use?

Interviews revealed that the evaluation of apparel quality was grounded on the tactile and visual information of intrinsic characteristics of apparel by having direct interactions with apparel. The majority of the participants mentioned that they evaluate the quality of a garment “by looking at it (garments and/or labels)” or “by touching it (garments).” Intrinsic characteristics they focused on during evaluating the quality of a garment were performance, fiber content/materials used, appearance, fabric hand, style, uniqueness, comfort, and how the garment hangs. In addition, they reported that they evaluate apparel quality by construction (i.e., stitches, seams), which is crucial for evaluation of a garment. A few participants mentioned they use durability of the garment for evaluation. This may be because durability is something they will find out about after using or wearing the garment for a longer period. Therefore, they may rely more on the fabrics/materials and construction in a garment as indicator of the durability of apparel during the post-purchase use phase.

Extrinsic cues of apparel, including brand name, store name, and price, were also used to evaluate the quality of a garment. The importance of brand as criteria for assessing apparel quality emerged from the interview. One stated, “Brand means a lot.” In addition, most of the participants provided affirmative answers for a probing question, “Does brand tell you about the quality of apparel?” Monetary value of apparel in relation to quality was also revealed. For instance, a participant commented, “It should be high quality but still not so expensive.” This comment reflected the expectation of the value-conscious consumer on the relationship between quality and price of a garment. Another respondent stated, “You get what you paid for. So, if it is cheap, then, you know, in a couple of months I do not expect that it would last that long.” This comment is parallel to Zeithaml’s (1988) definition of

perceived value. Moreover, the comment shows the consumer's expectation of a positive correlation between price and quality of apparel.

Interviews also revealed that college-aged consumer's expectations of the durability of a garment are related to the price as well as the quality of a garment. They expected the higher priced garment should last longer and expected the garment to perform well for a while. On the other hand, they did not expect that lower priced clothing will last as long, since the low price signals the low quality of the garment. They also mentally calculated the number of times wearing of the garment in relation to the price of the garment, and concluded they would be able to get only a few times of use out of the low priced garment. Moreover, the fashionability or style of garment can be a major criterion, especially when the price of garment is low. One commented,

“Sometimes like if I see it... like a cute top or something, then I know it's not that high quality. (But) I get it anyway because I can wear it a couple of times. And I mean if it's like 15 bucks or something, and I am not out that much money, and I know I can get at least a couple of use out of it. So if it went like ravel or I have to get rid of it, you know, it is not that big a deal because it wasn't that expensive.”

College-aged consumer's willingness to pay for apparel seems to depend on how long the product will be worn (e.g., durability and performance) and uniqueness or rareness of the product. In answer to the question, “For a high quality sweater, how much would I like to pay?” one commented, “It depends on the materials and brands. Ninety bucks and I can keep it for many years. Then 30 dollars, a year....” And the other stated, “Also, it depends on how many people have it.”

The majority of the survey participants reported that intrinsic cues of the apparel (e.g., fabrics, fiber content, materials and trims, construction method, and craftsmanship) are important criteria to assess apparel quality. In addition, participants used information on care and washing instructions to evaluate the quality of the garment. On the other hand, others reported they used extrinsic cues—brand, store name/reputation, or price.

Some of the participants reported that they assess the quality of apparel by interacting with apparel such as trying on garments, touching the fabrics, and feeling fabric hand and texture. Moreover, through their own physical interactions with apparel such as fit and appearance on themselves, they assess the quality of the apparel.

These responses lead to a conclusion that college-age participants use intrinsic and extrinsic cues of the apparel product to evaluate quality, and, in the mean time, they physically examine and interact with the actual garment to evaluate quality.

What consists of high quality apparel?

Interview data provided detailed insights about respondents assessed quality of apparel. They considered cashmere wool as a high quality fiber for a sweater; and merino wool also was mentioned as a good quality fiber. Most of the participants had experienced wearing a cotton sweater. A cotton sweater was considered less warm and heavier in weight, but more comfortable than a wool sweater due to the lack of skin irritation (i.e., itchiness). However, the possible occurrence of thread pulling in a cotton sweater was pointed out as a negative aspect of cotton sweaters. High quality brands, such as Ralph Lauren, Burberry, Banana Republic, and J. Crew, were mentioned. Wool sweaters with a price range of \$70 to \$90 and cotton sweaters with a price range of \$40 to \$60 were considered high quality sweaters.

Two recurring themes from a majority of the survey respondents were 1) advanced intrinsic and 2) extrinsic characteristics of apparel. The first theme was more often discussed in-depth than the second one. Three sub-themes appeared under the intrinsic characteristics of a garment: 1) fabrications and construction, 2) aesthetic quality, and 3) fit and comfort of a garment. A majority of the respondents commented, “good fabrics and materials” and the others mentioned “well-constructed,” or “sewn together well.” Comments like “all finished edges,” “precision,” or “no defect” implied that importance of craftsmanship was considered as a high quality apparel attribute. In addition, sturdy or durable apparel was mentioned as one of the attributes of high quality apparel. The second sub-theme of high quality was aesthetic design issues of apparel, such as “unique style” and “fashionable.” The final sub-theme was subjective perceptions due to interactions with apparel. For instance, “fits well” and “comfortable” were mentioned as contributors to high quality apparel.

The second main theme that emerged was extrinsic characteristics of apparel as an attribute of high quality apparel. A few respondents commented “higher priced” and three mentioned “reasonably priced” as characteristics of high quality apparel.

What consists of low quality apparel?

Assessment of low quality apparel also was grounded in the intrinsic characteristics of apparel. For instance, respondents' comments, such as "seams are sewn poorly," "improper stitching" and "sloppy techniques" reflect that the poor construction and craftsmanship of the garment contributes the most to low apparel quality. Cheap fabrics and materials were also mentioned frequently by the respondents. A low level of durability and performance of the garment was mentioned frequently. For instance, comments included, "(fabric/material) shrinks or stretches," "rips easily," "fragility," and "pilling." Poor style, fit, and comfort of garment were also discussed as attributes of low apparel quality.

Another theme that emerged from survey data was monetary value of apparel. Price or value of the garment was the only attribute mentioned. However, respondents used price of a garment as an indicator of the level of apparel quality.

What are the major criteria you use when you purchase apparel?

A major emerging theme for this question was the price of the garment. This may be due to their limited disposable income. The other emerging theme was apparel-body interactions, such as "fit," "how it looks on me," "appearance," and "comfort," related to the outcome of an individual's physical trial of a garment. A third theme, design elements of apparel, also emerged from the survey data. Respondents mentioned "style," "color," "design," "fabric hand/texture" and "uniqueness" as purchase criteria. Instrumental attribute was the fourth theme emerging from the data. Comments for instrumental attributes included, "usefulness," "wardrobe coordination," and "care/washability" for their criteria of purchasing apparel.

Finally, a fifth theme emerged from the data, "quality of garment." This theme was directly commented upon and discussed by several respondents as a purchase criterion. The "quality" theme has two sub-themes, intrinsic and extrinsic characteristics. Intrinsic characteristics consist of fabrics, construction, and durability of the garment; and extrinsic characteristics include brand name and store reputation/name. The quality of garment theme was a relatively small portion of the apparel purchase criteria.

Internet Apparel Shopping Behavior

Before moving on to a discussion about Internet retailer service quality, participants' Internet apparel shopping behaviors were explored to obtain base information on their Internet shopping. This information was used to check whether focus group participants had diverse backgrounds in terms of Internet shopping.

Internet apparel shopping experience

All but one participant responded that they had apparel purchase experience on the Internet. The participant who never purchased apparel on the Internet pointed out that the security concerns of using a credit card on the Internet was the major reason for not making a purchase on the Internet. All participants responded they had credit or debit cards for making a payment for Internet purchases.

Internet browsing/searching behavior

The frequency of Internet browsing for products varied among participants. "Everyday" or "a couple of times a week" to keep up with trends were the most often mentioned comments. "Once a month to once every six months" and "especially holidays" were also mentioned occasionally.

Some researchers contended that Internet shoppers are task-oriented rather than experiential (Wolfenbarger & Gilly, 2001). However, the interviews revealed this might not be true for all Internet shoppers, especially college-aged consumers. There were two types of search behaviors regarding Internet shopping. One behavior was searching for a specific product in mind; and the other type of behavior was browsing for hedonic reasons.

One participant stated,

"I only go on the Internet only if I am looking to buy. I never browse. When I am browsing, I am looking for specific pairs of jeans. I look and browse for that pair of jeans. I never go for browsing without buying anything."

This comment reflected more planned searching and purchase behavior. On the other hand, the following comments are about browsing behavior for fun/hedonic reasons.

“When I really get bored and talking on the phone or something, I just go on the computer and look around, but usually I do not intend to buy anything.”

“When I am talking on the phone or just look at my favorite store and see what’s there.”

In addition, similar to the physical retail shopping environment, unplanned or impulse buying behavior also emerged from the interviews. One participant stated, “Basically, just browse to keep up with the trends. I ran into something even if I was just browsing I may purchase... .” This comment further revealed the effectiveness of the web presence of the brick-and-mortar retailer for not only promotional but also transactional purposes.

Internet purchasing behavior

Two themes emerged from the interviews about the frequency of Internet purchasing. The first theme was the use of Internet apparel retailers’ sites as a complimentary shopping medium to physical retailers. One participant commented, “Only time I would purchase is like if I go to the store and I can’t find it in the store. That is when you go online to look.” The other participant commented, “If the store does not have it and I know my size, then I would go to online.” Another participant responded, “I only got on the Internet like maybe four or five times ever. It is usually like if I go to stores. They have my size there and different colors online. Then, I usually try on to make sure that I do really want it... .”

The second theme is the use of Internet retailers for compensating limited physical retailer choices or limited choices about merchandise assortment and brand name products. Participants’ comments included,

“I probably (purchased) last year five to six times. And the reasons were just because in Iowa there are no major department stores. They don’t sell Burberry. So I have to get online, go to Bluefly or Sephora.com and purchase items over there.”

“I would probably only buy things from the Internet once a year, and it is just... if they don’t have my size at the store or there is no nearby (store) location like Abercrombie. Then, I go online (for purchase).”

The third theme is the use of Internet apparel retailers for gift purchases for others. One commented, “For my sister, she and I are in different towns. Sometimes it is easier because they ship it and you can get it gift-wrapped with a card.”

Service Quality of an Internet Apparel Retailer

This section will discuss the college-age consumers’ perceptions of the quality of service provided by an Internet apparel retailer. Interview questions focused on how they assessed the service quality of an Internet apparel retailer and attributes of high and low service quality of an Internet apparel retailer. Participants’ responses on these questions were used to develop web site stimuli for the second phase of this research.

How do you assess quality of service of an Internet apparel retail site?

Three major themes emerged from the interviews and survey data. The first theme was merchandise-related quality provided by the Internet apparel retailer. This theme includes four sub-themes: 1) presentation and amount of detailed product information (i.e., both verbal and visual), 2) merchandise offerings (e.g., selection and in-stock/availability), 3) extrinsic cues of merchandise (e.g., price, company reputation), and 4) previous experience with the store.

The second theme was site quality provided by the Internet retailer. This theme included two major sub-themes—usability of the site and secure payment method. The first sub-theme, usability of the site, consisted of four categories: 1) ease of navigation and access, 2) site organization (list of available garment categories and easy layout), 3) ease of shopping/purchasing, and 4) appearance/aesthetic presentation of site.

The third theme was service-related quality of the retailer. This theme had three sub-themes: 1) company information and general service, 2) shipping and return policy (e.g., shipping cost and information), and 3) customer service (e.g., customer service via phone, help page, satisfaction guarantee).

Survey responses were more focused on the first two themes—merchandise-related quality and site quality provided by the Internet retailer—especially verbal and visual product

information in the merchandise-related quality theme. Interview data were more grounded on merchandise-related and service-related quality of the Internet retailer.

What consists of “high service quality” of an Internet apparel site?

Three themes emerged from the survey data for high service quality of an Internet apparel site. Recurring themes were similar in terms of content and structure as shown for the previous question. The first theme was merchandise-related quality carried by the Internet apparel retailer. This theme included four sub-themes: 1) detailed description of product information, 2) visual presentation of merchandise (e.g., enlarged pictures, clear and accurate pictures), 3) merchandise offerings (e.g., diverse assortment and in-stock/availability), and 4) extrinsic cues of merchandise (e.g., price, company reputation).

Among sub-themes, the in-depth product information seemed very important criteria to judge the quality of the Internet retailer. One commented,

“On the Internet I probably won’t buy anything from an online retailer unless they have a lot of information about the product, even including like “fit” and everything.... I just have to see it on the models that I think it has my build... .”

Another stated,

“One of the most important things I think, Internet service is product information because as a consumer you are not there physically to try clothes on. So, basically I am thinking about how it fits and you know, materials made out of... Product information is the most important thing. ”

The second theme was site quality provided by the Internet retailer. This theme included two major sub-themes: 1) good usability of the site and 2) easy and secure payment method. The first sub-theme consists of four categories: 1) easy to navigate and browse, 2) easy to find/search, 3) easy to shop/purchase, and 4) intuitive design of the site. Usability and navigational issues of the Internet retailer site is critical for the consumer to shop online and to evaluate the quality of the Internet retailer. One commented,

“Yesterday I was looking for swimsuits online. I went to (one of the Internet apparel stores) and I could not click on the things that I wanted to click on the Internet. It was not working very good... so I got really frustrated.”

Clear navigation and organization of the site also seemed very important to draw the customer to the Internet retailer. One stated,

“...information like—clearance here and markdowns here—give that information to draw the customers to the web site....”

The third theme was the Internet retailer service quality. This theme had three sub-themes emerge: 1) shipping and return/exchange policy (e.g., fast and low-cost shipping/delivery), 2) online customer support (e.g., contactability, 24-hour customer service, help page, email confirmation, printable receipt, prompt responses on inquiries). For instance, participants commented on the importance of customer service for accurate product evaluation. One stated, “When description isn’t enough (on the Internet retailer), I would like to be able to call them and have them send me swatches.” Others agreed with this comment.

For the question about the Internet retailer providing a really good service, Sephora.com, Bluefly.com, and Gap.com were discussed. Detailed visual and verbal product information and the interactive live chat available at Neiman Marcus.com were also discussed as high quality service provided by the Internet retailer.

What consists of “low service quality” of an Internet apparel site?

Low service quality of an Internet apparel site also had three major themes similar to the previous two questions. The first theme was merchandise-related quality carried by the Internet apparel retailer. This theme included three sub-themes: 1) inaccurate or insufficient product information, 2) poor flexibility and quality of visual presentation of merchandise (e.g., no options to enlarge, no alternative pictures, and inaccurate pictures), and 3) merchandise offerings (e.g., narrow assortment and out-of-stock). In addition, prompt update of product information and offerings (e.g., stock availability information) were also pointed out. Moreover, for the case of a click-and-mortar retailer, consistent assortment availability between offline and online store was mentioned.

The second theme was site quality of the Internet retailer. This theme included three major sub-themes: 1) poor usability of the site, 2) risky payment method, and 3) unpleasing aesthetics and design elements. The first sub-theme, poor usability of the site, consisted of

four categories: 1) poor navigation design (e.g., poor organization/categorization, inaccessibility, hard to browse and search, no search tool available), 2) poor transactional design (e.g., hard to shop/purchase from), 3) slow speed of downloading the site, and 4) non-intuitive design of the site (e.g., confusing to use).

The third theme was service quality of the Internet retailer. This theme had three sub-themes emerge: 1) shipping-related issues (e.g., high-cost shipping, slow delivery, no guarantee on delivery time), 2) bad return policy (e.g., no option to return, non-refundability), and 3) no customer service contact information.

Value, Benefits, and Sacrifices of Internet Apparel Shopping

This section reports the college-age consumers' perceptions of value, benefits, and sacrifices of Internet apparel shopping. The following questions are relevant to understanding the participants' overall perceptions of value of Internet apparel shopping. Questions were based on a cost-benefit analysis perspective.

What is the "value" of apparel shopping via the Internet?

The three major themes that emerged from the data were convenience of shopping, time-saving, and value for money.

The convenience of shopping theme included four sub-themes: 1) convenience of in-home shopping (e.g., access, location, and time convenience), 2) search and transactional convenience of shopping, 3) merchandise variety and selection convenience (e.g., more color, sizes, volume), and 4) updating product information and trends convenience.

The second theme was "time-saving" for apparel shopping. One commented, "You don't have to go to New York, but still approach the New York atmosphere and product offerings from New York and also save some time."

The third theme was "value for the money." A respondent commented "you can avoid crowds getting the same prices." This comment reflects the individual's instrumental values obtained by shopping via the Internet. Other respondents mentioned "quality and cost." An important point of these comments was the mechanism to mentally calculate the value. In other words, the respondent was comparing what she gets from Internet apparel

shopping with what she pays (price of the product). This result confirmed previous findings on consumer perceived value using the general population (Zeithaml, 1988).

What are the “benefits” of Internet apparel shopping?

Respondents saw the perceived benefits of Internet apparel shopping as similar to the value of Internet shopping. The benefits of Internet apparel shopping resulted in three major themes: 1) convenience, 2) time-saving, and 3) monetary value driven by Internet shopping. The sub-dimensions of convenience of Internet apparel shopping were as follows.

Convenience

Convenience of in-home shopping. This dimension included five sub-categories of convenience: 1) access convenience, 2) location convenience, 3) time convenience, 4) interaction convenience, and 5) delivery convenience.

Access convenience refers to easier access to more choices for stores and sizes involved in Internet shopping compared to in-store shopping. Participants' comments included “more stores” and “more sizes.” *Location convenience* refers to the convenience of in-home shopping. For instance, participants stated, “(I can shop) without ever leaving home.” *Time convenience* refers to the convenience that consumers have flexible shopping hours and/or control over the timing for the shopping involved in Internet shopping compared to in-store shopping. Since Internet retailers are available 24/7, consumers have more flexibility in their timing of shopping on the Internet than when shopping at a physical retailer with fixed store hours. *Interaction convenience* refers to the less hassle involved in Internet shopping compared to traditional store shopping. For instance, participants commented, “no crowds” and “no hassle from sales person.” *Delivery convenience* taps the convenience of product delivery to the door of the shopper or another recipient as a gift. Comments included, “Internet shopping, they deliver the package right to my door.”

Merchandise assortment convenience. Merchandise assortment convenience refers to the more diverse selection of apparel merchandise available via Internet retailers. Due to Internet retailers, respondents can have more choices of retailers without geographical barriers. In addition, an increased number of retailers may also broaden the selection and variety of apparel merchandise. One respondent commented, “(I) can see all of the colors

offered may not all be in the store,” which reflected an expectation of a wider assortment of merchandise on the Internet versus the physical retailer.

Product information and trend convenience. Product information and trend convenience refers to the ease and convenience to access the details of product information and updates on trends in fashion using the Internet as a shopping medium. The first sub-category of this theme was access of verbal information of product attributes. One respondent commented, “Being able to compare prices to different stores by the click of a button.” This comment reflects the ease of search for product information and comparison of product attributes. In addition, a previous comment is closely related to utilitarian shopping value with a specific purpose of shopping on the Internet.

The second sub-category of product information and trend convenience is ease of seeing garments; in other words, access of visual product information. One participant commented, “Benefits (of Internet shopping) may include seeing it on a model online and comparing it with other trends that are coming out.” Product information acquired from an Internet apparel retailer is one of the most often discussed benefits of Internet shopping. Other comments included, “styles are easier to view than in the store” or “easy to view.” These comments imply a positive feedback to online apparel retailers, because consumers enjoy viewing the latest fashion online. Comments about the access of visual information are closely related to hedonic shopping value, when comparing previously discussed access of verbal information of product attributes. In addition, participants’ comments on the access of visual product information emphasized the importance of visual merchandising strategy of the Internet apparel retailer, including visual presentation of garments and an assortment of merchandise offered via the online store. In the meantime, a more diverse assortment provided by the online version or pure online store attracts customers to the site to make a purchase from it. Differentiation of the product assortment for Internet apparel retailers is strongly suggested from the findings.

Time-saving

The second theme of benefits from Internet apparel shopping was saving time in shopping. Participants commented “quicker” and “fast.” Respondents were mainly between 19 and 25 years of age, a technologically savvy consumer segment. The result reflected

positive evaluation of the time taken for transactional procedures required for purchasing apparel on the Internet. This may be very critical for the other segments, such as dual income family members, who have busy life schedules, also.

Monetary value

The third theme for benefits from Internet apparel shopping was the monetary value driven by Internet shopping. Respondents directly mentioned “value,” “deal,” and “sometimes cheaper,” and “being able to compare prices to different stores by the click of a button.” The last comment implies the importance of comparing prices before making purchase decisions. This result may reflect increasing consumer adoption of the Internet retailer for price comparison.

What are the “costs/sacrifices” of Internet apparel shopping?

One recurring major theme, non-store retailing-related sacrifices, was found from the interviews and survey data for the sacrifices of Internet apparel shopping. Non-store retailing sacrifices refer to sacrifices derived by the characteristics of the distance shopping medium. These sacrifices can be applied to not only Internet retailers but also other non-store based retailing channels, such as television shopping and catalog shopping. Non-store retailing sacrifices consisted of three major sub-themes: 1) transactional costs, 2) experiential costs, and 3) customer service sacrifices.

Transactional costs included four categories: 1) monetary costs for shipping and handling, 2) psychological costs when returning the items, 3) security risk of using credit cards, and 4) time cost of consumption delay (e.g., duration of time from purchase to the receipt via mail for use).

Experiential costs included two categories: 1) sacrifice due to not having physical examinations of garments and 2) sacrifice due to not having instant gratification of in-store shopping. Participants’ comments included, “Garment might not fit since you can’t try on,” “May not like the way it looks (on the Internet),” “You can’t feel the fabrics,” and “You can’t see how the clothing actually falls/fits on your body.” These comments reflect their perceived sacrifices derived by limited multi-sensory interactions between body and apparel to examine the fit and quality of a garment. These experiential costs are related to the

purpose of hedonic (e.g., fun to try on) as well as utilitarian shopping value (e.g., fit and style examination of the garment). On the other hand, the second types of experiential cost focused on lack of instant gratification experience from the purely hedonic shopping value. Comments for this cost included, “No excitement of browsing for the perfect look,” “Don’t get the shopping experience,” and “Don’t have instant results (of purchasing a garment).”

Customer service sacrifice on the Internet for apparel shopping refers to the sacrifices resulting from not having a salespersons’ help or opinion. This sacrifice is mentioned as one of the sacrifices when shopping for apparel products online. Table 4.1 summarized themes found in focus group interviews.

Table 4.1. Summary of focus group interviews

| Topics | Themes and sub-themes |
|---|--|
| Apparel quality perception | <ol style="list-style-type: none"> 1. Intrinsic <ul style="list-style-type: none"> ▪ Durability and performance of a garment ▪ Construction ▪ Materials and fabric hand 2. Aesthetic and functional 3. Extrinsic |
| Purchasing criteria for apparel products | <ol style="list-style-type: none"> 1. Price 2. Apparel-body interactions (e.g., fit, appearance, comfort) 3. Design elements (e.g., style, color, design, fabric hand, uniqueness) 4. Instrumental attributes (e.g., usefulness, wardrobe coordination, care/washability) 5. Quality of garment <ul style="list-style-type: none"> ▪ Intrinsic attributes: fabrics, construction, durability of garment ▪ Extrinsic attributes: brand name, store reputation/name |
| Service quality of an Internet apparel retailer | <ol style="list-style-type: none"> 1. Merchandise-related quality <ul style="list-style-type: none"> ▪ Accurate and detailed description of product information ▪ Visual presentation of merchandise (e.g., enlarged, clear, accurate pictures) ▪ Merchandise offerings (e.g., variety in assortment, stock availability) ▪ Extrinsic attributes of merchandise (e.g., price, company reputation) ▪ Previous experience with store 2. Website-related quality <ul style="list-style-type: none"> ▪ Usability of the site <ol style="list-style-type: none"> a. Ease of navigation and access b. Site organization (e.g., list of garment, easy layout) c. Ease of shopping/purchase d. Appearance/aesthetic presentation of site ▪ Secure and easy transaction 3. Service-related quality <ul style="list-style-type: none"> ▪ Company information and general service ▪ Shipping and return/exchange policy (e.g., shipping costs and information) ▪ Customer service (e.g., customer service available via phone, help page, satisfaction guarantee) |

Table 4.1. (Continued)

| Topics | Themes and sub-themes |
|---|---|
| Value/benefits of Internet apparel shopping | <ol style="list-style-type: none"> 1. Convenience of shopping <ul style="list-style-type: none"> ▪ Convenience of in-home shopping <ol style="list-style-type: none"> a. Access convenience b. Location convenience c. Time convenience d. Interaction convenience e. Delivery convenience ▪ Search and transactional convenience ▪ Merchandise assortment convenience ▪ Product information and trend convenience <ol style="list-style-type: none"> a. Ease of product attribute comparisons b. Ease of viewing garments 2. Time-saving 3. Value for the money |
| Sacrifice of Internet apparel shopping | <ol style="list-style-type: none"> 1. Transactional costs <ul style="list-style-type: none"> ▪ Monetary costs for delivery ▪ Psychological costs when returning items ▪ Security costs of using credit cards ▪ Time costs of consumption delay 2. Experiential costs <ul style="list-style-type: none"> ▪ Sacrifice due to not having direct interactions of garments ▪ Sacrifice due to not having instant gratification of in-store shopping 3. Customer service costs (e.g., not having salespersons' assistance) |

CHAPTER 5: EXPERIMENTAL RESULTS

This chapter presents results of the experimental study and consists of sample descriptions, descriptive statistics of research variables, reliability and validity assessment of perceived apparel quality, perceived Internet retailer service quality, perceived value of Internet apparel shopping measures, and testing of the proposed four sub-models. Reliability of the perceived apparel quality measure was examined using Cronbach's standardized *alpha*. Pearson correlation coefficients were used to examine associations among variables. Structural equation modeling was employed to conduct confirmatory factor analysis and to test the proposed models of product level, service level, the QVS model and a modified QVS model.

Demographic Description of the Sample

A total of 377 female students participated in the experiment and 368 students provided usable questionnaires. Only questionnaires completed by students with U.S. citizenship were used for data analysis in order to draw a conclusion based on a homogeneous cultural background. This led to a deletion of seven questionnaires filled out by international students. Final sample size was 361. Description of the sample includes respondents' demographic profiles, previous apparel shopping experiences, and prior experience with the Internet.

Demographic Profiles of Participants

In Table 5.1, a demographic profile of the sample is summarized. Among 361 respondents, 143 were from Michigan State University (39.6%) and 218 were from Iowa State University (60.4%). All the participants were female. Ages ranged from 18 to 28, averaging 20.8 years. Due to student sampling, most of the respondents were between 18 to 23 years (96.7%). Most respondents were White or European American (84.8%). About 5.8% of respondents were Black or African American; 6.6% were Asian American. About 43.5% of the respondents were college seniors; 31.6% were juniors; 16.9% were sophomores; and 8.0% were freshmen. There were no non-degree or graduate students. Respondents

majored in various departments. The majority of the participants were majoring in Textiles and Clothing or related fields (75.9%), followed by Business (10%), Art and Design (3.6%), and Education (3.6%).

Table 5.1. Demographic characteristics of the sample ($n = 361$)

| Variable | Description | Frequency | Percent ^a (%) |
|-----------|---------------------------------|-----------|--------------------------|
| State | Michigan | 143 | 39.6% |
| | Iowa | 218 | 60.4% |
| Sex | Female | 361 | 100% |
| Age | 18-19 | 63 | 17.5% |
| | 20-21 | 193 | 53.5% |
| | 22-23 | 93 | 25.8% |
| | 24-25 | 9 | 2.5% |
| | 26-28 | 3 | 0.9% |
| Ethnicity | White or European American | 306 | 84.8% |
| | Black or African American | 21 | 5.8% |
| | Latino or Hispanic American | 4 | 1.1% |
| | Asian American | 24 | 6.6% |
| | Native American | 0 | 0% |
| | Multi-ethnic American | 6 | 1.6% |
| Majors | Social Science and Humanities | 345 | 95.6% |
| | Art and Design | 13 | 3.6% |
| | Business | 36 | 10% |
| | Education | 13 | 3.6% |
| | Textiles and Clothing | 274 | 75.9% |
| | Social Science and Humanities | 9 | 2.5% |
| | Physical and Biological Science | 10 | 2.8% |
| | Engineering | 4 | 1.1% |
| | Physical science | 6 | 1.7% |
| | Undeclared | 4 | 1.1% |
| | Missing | 2 | 0.6% |
| | Class standing | Freshmen | 29 |
| Sophomore | | 61 | 16.9% |
| Junior | | 114 | 31.6% |
| Senior | | 157 | 43.5% |

^a Sum of percents may not be equal to 100 due to missing data.

^b Percentage was calculated by the total population.

Previous Experience with Apparel Shopping

Participants' previous apparel shopping experiences with department and specialty stores, discount stores and outlet malls, mail order catalogs, Internet, and TV shopping channels were studied. The specific descriptions of each shopping mode experiences are presented in Table 5.2, Table 5.3, Table 5.4, Table 5.5, and Table 5.6, respectively.

Length of shopping experience

As expected, more than 96.7 percent and 87.5 percent of participants had shopped for apparel products via department and specialty stores and discount stores and outlet malls for more than two years, respectively. About 58 percent and 32.4 percent had purchased apparel via mail order catalogs and the Internet for more than two years. Most reported that they had never purchased apparel items via TV shopping channels.

Table 5.2. Experience with department and specialty stores

| Variables and description | Frequency | Percent | Mean | <i>SD</i> |
|---|-----------|---------|------|-----------|
| <u>Length of shopping experience</u> | | | 4.93 | .396 |
| 1 = Never | 0 | 0 | | |
| 2 = Less than six months | 5 | 1.4 | | |
| 3 = Six months to one year | 2 | .6 | | |
| 4 = One to two years | 5 | 1.4 | | |
| 5 = More than two years | 349 | 96.7 | | |
| <u>Shopping satisfaction</u> | | | 4.46 | .718 |
| 1 = Very dissatisfied | 2 | .6 | | |
| 2 = | 3 | .8 | | |
| 3 = | 27 | 7.5 | | |
| 4 = | 124 | 34.3 | | |
| 5 = Very satisfied | 205 | 56.8 | | |
| 6 = Not applicable | 0 | 0 | | |
| <u>Money spent on apparel shopping (past 12 months)</u> | | | 4.14 | 1.39 |
| 1 = None | 1 | .3 | | |
| 2 = \$1-100 | 33 | 9.1 | | |
| 3 = \$101-300 | 85 | 23.5 | | |
| 4 = \$301-600 | 108 | 29.9 | | |
| 5 = \$601-1000 | 92 | 25.5 | | |
| 6 = More than \$1000 | 42 | 11.7 | | |

Satisfaction with shopping modes

Whereas about 91 percent of the participants were somewhat or very satisfied with clothing shopping via department and specialty stores, only 66 percent were somewhat or very satisfied with discount stores and outlet malls. In addition, only 62.9 percent and 59.3 percent were somewhat or very satisfied with mail order catalogs and Internet apparel shopping, respectively. Moreover, 16.6 percent and 9.5 percent were somewhat to very dissatisfied with mail order catalogs and Internet apparel shopping, respectively.

Table 5.3. Experience with discount stores and outlet malls

| Variables and description | Frequency | Percent | Mean | SD |
|---|-----------|---------|------|-------|
| <u>Length of shopping experience</u> | | | 4.74 | .806 |
| 1 = Never | 7 | 1.9 | | |
| 2 = Less than six months | 11 | 3.0 | | |
| 3 = Six months to one year | 7 | 1.9 | | |
| 4 = One to two years | 20 | 5.5 | | |
| 5 = More than two years | 316 | 87.5 | | |
| <u>Shopping satisfaction</u> | | | 3.86 | 1.004 |
| 1 = Very dissatisfied | 6 | 1.7 | | |
| 2 = | 26 | 7.2 | | |
| 3 = | 92 | 25.5 | | |
| 4 = | 129 | 35.7 | | |
| 5 = Very satisfied | 104 | 28.8 | | |
| 6 = Not applicable | 4 | 1.1 | | |
| <u>Money spent on apparel shopping (past 12 months)</u> | | | 2.55 | 1.142 |
| 1 = None | 55 | 15.2 | | |
| 2 = \$1-100 | 140 | 38.8 | | |
| 3 = \$101-300 | 110 | 30.5 | | |
| 4 = \$301-600 | 36 | 10.0 | | |
| 5 = \$601-1000 | 15 | 4.2 | | |
| 6 = More than \$1000 | 5 | 1.4 | | |

Expenditure on clothing purchase

The most often reported category of money spent on apparel shopping during the past 12 months was less than \$100 (38.8%) for discount stores and outlet malls. About 30 percent

of the respondents had spent between \$301 and \$600 on clothing purchases from department/specialty stores. For Internet shopping, the largest portion of the respondents (33.5%) had spent less than \$100. From these findings, female college students had a large expenditure on clothing purchases from department and specialty stores.

Table 5.4. Experience with mail order catalogs

| Variables and description | Frequency | Percent | Mean | SD |
|---|-----------|---------|------|-------|
| <u>Length of shopping experience</u> | | | 3.84 | 1.601 |
| 1 = Never | 68 | 18.8 | | |
| 2 = Less than six months | 24 | 6.6 | | |
| 3 = Six months to one year | 15 | 4.2 | | |
| 4 = One to two years | 45 | 12.5 | | |
| 5 = More than two years | 209 | 57.9 | | |
| <u>Frequency of shopping mode use as an information source (past 12 months)</u> | | | 3.3 | 1.258 |
| 1 = Never | 35 | 9.7 | | |
| 2 = Once or twice | 71 | 19.7 | | |
| 3 = Every few months | 76 | 21.1 | | |
| 4 = Every month | 108 | 29.9 | | |
| 5 = At least once a week | 71 | 19.7 | | |
| <u>Shopping satisfaction</u> | | | 3.63 | 1.229 |
| 1 = Very dissatisfied | 11 | 3.0 | | |
| 2 = | 49 | 13.6 | | |
| 3 = | 112 | 31.0 | | |
| 4 = | 115 | 31.9 | | |
| 5 = Very satisfied | 37 | 10.2 | | |
| 6 = Not applicable | 37 | 10.2 | | |
| <u>Money spent on apparel shopping (past 12 months)</u> | | | 1.79 | 1.055 |
| 1 = None | 179 | 49.6 | | |
| 2 = \$1-100 | 107 | 29.6 | | |
| 3 = \$101-300 | 54 | 15.0 | | |
| 4 = \$301-600 | 16 | 4.4 | | |
| 5 = \$601-1000 | 4 | 1.1 | | |
| 6 = More than \$1000 | 1 | .3 | | |

Shopping mode use as an information source

One hundred thirty-three participants (36.8%) reported they had used the Internet at least once a week and 101 participants (28%) said they had used the Internet every month to search for clothing product information. About 30 percent had used mail order catalogs every month, and 21 percent used mail order catalogs every few months to search for clothing product information.

Table 5.5. Experience with Internet shopping

| Variables and description | Frequency | Percent | Mean | <i>SD</i> |
|---|-----------|---------|------|-----------|
| <u>Length of shopping experience</u> | | | 3.60 | 1.381 |
| 1 = Never | 48 | 13.3 | | |
| 2 = Less than six months | 39 | 10.8 | | |
| 3 = Six months to one year | 39 | 10.8 | | |
| 4 = One to two years | 118 | 32.7 | | |
| 5 = More than two years | 117 | 32.4 | | |
| <u>Frequency of shopping mode use as an information source (past 12 months)</u> | | | 3.79 | 1.209 |
| 1 = Never | 18 | 5.0 | | |
| 2 = Once or twice | 46 | 12.7 | | |
| 3 = Every few months | 63 | 17.5 | | |
| 4 = Every month | 101 | 28.0 | | |
| 5 = At least once a week | 133 | 36.8 | | |
| <u>Shopping satisfaction</u> | | | 3.98 | 1.124 |
| 1 = Very dissatisfied | 6 | 1.7 | | |
| 2 = | 28 | 7.8 | | |
| 3 = | 80 | 22.2 | | |
| 4 = | 134 | 37.1 | | |
| 5 = Very satisfied | 81 | 22.4 | | |
| 6 = Not applicable | 32 | 8.9 | | |
| <u>Money spent on apparel shopping (past 12 months)</u> | | | 2.48 | 1.263 |
| 1 = None | 84 | 23.3 | | |
| 2 = \$1-100 | 121 | 33.5 | | |
| 3 = \$101-300 | 91 | 25.2 | | |
| 4 = \$301-600 | 39 | 10.8 | | |
| 5 = \$601-1000 | 18 | 5.0 | | |
| 6 = More than \$1000 | 8 | 2.3 | | |

Table 5.6. Experience with TV shopping channels

| Variables and description | Frequency | Percent | Mean | SD |
|---|-----------|---------|------|-------|
| <u>Length of shopping experience</u> | | | 1.25 | .847 |
| 1 = Never | 324 | 89.8 | | |
| 2 = Less than six months | 12 | 3.3 | | |
| 3 = Six months to one year | 5 | 1.4 | | |
| 4 = One to two years | 10 | 2.8 | | |
| 5 = More than two years | 10 | 2.8 | | |
| <u>Frequency of shopping mode use as an information source (past 12 months)</u> | | | 2.53 | 1.464 |
| 1 = Never | 123 | 34.1 | | |
| 2 = Once or twice | 86 | 23.8 | | |
| 3 = Every few months | 48 | 13.3 | | |
| 4 = Every month | 47 | 13.0 | | |
| 5 = At least once a week | 57 | 15.8 | | |
| <u>Shopping satisfaction</u> | | | 4.11 | 2.131 |
| 1 = Very dissatisfied | 71 | 1.7 | | |
| 2 = | 46 | 7.8 | | |
| 3 = | 43 | 22.2 | | |
| 4 = | 6 | 37.1 | | |
| 5 = Very satisfied | 2 | 22.4 | | |
| 6 = Not applicable | 193 | 8.9 | | |
| <u>Money spent on apparel shopping (past 12 months)</u> | | | 1.06 | .273 |
| 1 = None | 344 | 95.3 | | |
| 2 = \$1-100 | 15 | 4.2 | | |
| 3 = \$101-300 | 1 | .3 | | |
| 4 = \$301-600 | 1 | .3 | | |
| 5 = \$601-1000 | 0 | 0 | | |
| 6 = More than \$1000 | 0 | 0 | | |

Prior Experience with the Internet

Respondents' prior experience with the Internet was examined. The detailed description is exhibited in Table 5.7. About 92 percent of the respondents had been using the Internet for more than two years. All respondents had used the Internet, and about three-fourths of the respondents used the Internet more than six hours a week.

Table 5.7. Experience with the Internet

| Variables and description | Frequency | Percent | Mean | <i>SD</i> |
|---|-----------|---------|------|-----------|
| <u>Length of Internet use experience</u> | | | 5.87 | .517 |
| 1 = Don't use | 0 | 0 | | |
| 2 = Less than a year | 2 | .6 | | |
| 3 = One to two years | 2 | .6 | | |
| 4 = Two to three years | 6 | 1.7 | | |
| 5 = Three to four years | 19 | 5.3 | | |
| 6 = More than four years | 332 | 92.0 | | |
| <u>Time using the Internet (weekly)</u> | | | 4.14 | .815 |
| 1 = Don't use | 0 | 0 | | |
| 2 = Less than one hour | 3 | .8 | | |
| 3 = One to five hours | 89 | 24.7 | | |
| 4 = Six to ten hours | 124 | 34.3 | | |
| 5 = More than ten hours | 145 | 40.2 | | |
| <u>Length of Internet shopping for any products</u> | | | 3.48 | 1.560 |
| 1 = Never | 47 | 13.0 | | |
| 2 = Less than a year | 48 | 13.3 | | |
| 3 = One to two years | 100 | 27.7 | | |
| 4 = Two to three years | 68 | 18.8 | | |
| 5 = Three to four years | 45 | 12.5 | | |
| 6 = More than four years | 53 | 14.7 | | |

Beliefs about Internet Apparel Shopping

Respondents' general beliefs about Internet apparel shopping were examined. The detailed description is exhibited in Table 5.8. About three-fourths of the participants reported that they planned to purchase apparel products on the Internet during the year of data collection. Specifically, 41 percent of the respondents were very certain about their plan to purchase apparel online. Most believed that Internet apparel shopping is convenient and easy. More than half of the participants reported that Internet apparel shopping fits their lifestyles, allows great deals on apparel purchases, saves time, and offers very good values. Also, more than two-thirds of the participants enjoyed Internet apparel shopping, liked being able to make price comparisons for apparel products, and considered that more styles and sizes of apparel are available on the Internet. Finally, more than half felt safe using credit cards for online apparel purchases. On the other hand, more than one-half of the participants

believed that apparel is not easy to return when shopping online, while only 20 percent of the participants thought it is easy.

Table 5.8. Descriptive statistics of participants' beliefs about Internet apparel shopping

| Items | Mean | SD |
|---|------|------|
| Internet shopping for apparel fits my lifestyle. | 4.64 | 1.77 |
| Internet shopping for apparel is convenient. | 5.50 | 1.50 |
| I can find great deals for apparel on the Internet. | 5.12 | 1.48 |
| I feel safe using my credit card to make purchases of apparel via the Internet. | 4.63 | 1.81 |
| I like being able to make price comparisons for apparel on the Internet. | 5.15 | 1.41 |
| Purchasing apparel online saves my time. | 4.98 | 1.46 |
| Online apparel shopping is easy. | 5.48 | 1.30 |
| I enjoy apparel online shopping. | 5.11 | 1.58 |
| Considering everything, Internet apparel shopping offers very good values. | 4.89 | 1.23 |
| As compared to stores, more styles of apparel are available on the Internet. | 5.08 | 1.57 |
| Apparel is easy to return when shopping online. | 3.43 | 1.39 |
| As compared to stores, more sizes are available online. | 5.05 | 1.44 |
| Apparel purchased online is delivered quickly. | 4.54 | 1.30 |
| Internet apparel retailer sites offer good customer service. | 4.29 | 1.22 |
| Shipping and handling cost for online apparel shopping is too high. | 5.48 | 1.18 |

Need of Tactile Experience of Products

Reduced “need for touch” (Peck & Childers, 2003) items were examined. Six items had two factors—*autotelic* and *instrumental*, as found in Peck and Childers’s (2003) study. The detailed description is presented in Table 5.9. Participants in this study had higher *autotelic* need (e.g., enjoying the tactile experience for its sake) than *instrumental* need (e.g., having specific demand of tactile experience to make a decision). However, it is worth mentioning that over 90 percent agreed that they feel more confident making a purchase after physical examination of a product. These findings suggested that Internet apparel retailers and marketers should compensate for the most significant limitation of its shopping modes, no direct interaction with actual garments, by providing more realistic indirect experience of the product online (e.g., 3-D interactive product presentation using vivid photographic images and multiple views of a garment).

Table 5.9. Results of factor analysis and descriptive statistics of “Need for Touch” scale

| Items | Factor loading | Mean | SD |
|---|----------------|------|------|
| <u>Autotelic</u> | | | |
| When walking through stores, I can't help touching all kinds of products. | .869 | 5.39 | 1.50 |
| I like to touch products even if I have no intention of buying them. | .909 | 5.03 | 1.67 |
| When browsing in stores, I like to touch lots of products. | .905 | 5.31 | 1.55 |
| Cronbach's $\alpha = .91$ Total percent of variance explained = 57.6 | | | |
| <u>Instrumental</u> | | | |
| The only way to make sure a product is worth buying is to actually touch it. | .888 | 4.54 | 1.55 |
| If I can't touch a product, I am reluctant to purchase the product. | .803 | 4.07 | 1.60 |
| I feel more confident making a purchase after physically examining a product. | .688 | 6.07 | 1.11 |
| Cronbach's $\alpha = .76$ Total percent of variance explained = 20.0 | | | |

Testing of the Dimensionalities of Constructs

Perceived Apparel Quality Scale

Reliability

Cronbach's standardized α was tested on the three dimensions of perceived apparel quality. One item out of 13 was deleted in order to improve reliability estimates. The deleted item was “The sweaters are easy to care for.” The final perceived apparel quality measure consisted of four *construction/materials* factor items, four *style/design* factor items, and four *durability/performance* factor items. The final list of the 12 items along with means, standard deviations, and reliabilities of each factor are provided in Table 5.10.

Reliability coefficient estimates for the three factors were in an acceptable range of .74 to .87. Nunnally and Bernstein (1994) suggested acceptable α values of .70 or higher. All three dimensions met Nunnally and Bernstein's (1994) criteria. The mean scores of items ranged from 4.12 to 5.68 on a seven-point Likert-type scale. One of the *style/design* factor items, “The colors of the sweaters are attractive,” had the highest mean score. One of the *durability/performance* items, “The sweaters are likely to not have much pilling,” scored

lowest. All item means were higher than the mid-point of the seven-point Likert-type scale, indicating positive responses.

Table 5.10. Final perceived apparel quality scale items ($n = 361$)

| Factor Title and Items | Mean ^a | SD |
|---|-------------------|------|
| <u>Construction/materials</u> | | |
| 1. The sweaters seem to be well-constructed. | 5.67 | 0.93 |
| 2. The workmanship of the sweaters meets high standards. | 5.21 | 1.02 |
| 4. The sweaters are made of high quality materials/fabrics. | 5.40 | 1.07 |
| 8. The materials of the sweaters are likely to be soft and comfortable to wear. | 5.32 | 1.03 |
| Cronbach's $\alpha = .81$ | | |
| <u>Style/design</u> | | |
| 5. The styles of the sweaters are fashionable. | 5.45 | 1.27 |
| 6. The designs of the sweaters are unique. | 4.10 | 1.54 |
| 10. The colors of the sweaters are attractive. | 5.68 | 1.12 |
| 11. The overall appearance of the sweaters is attractive. | 5.56 | 1.22 |
| Cronbach's $\alpha = .85$ | | |
| <u>Durability/performance</u> | | |
| 3. The sweaters are likely to be durable during wear and care. | 5.11 | 1.07 |
| 7. The sweaters are not likely to stretch out during wear and care. | 4.15 | 1.03 |
| 12. The sweaters would last a long time. | 4.70 | 1.03 |
| 13. The sweaters are likely to not have much pilling. | 4.12 | 1.01 |
| Cronbach's $\alpha = .74$ | | |

^a Item scores range from 1 to 7.

Confirmatory factor analysis

In order to determine the extent to which items measured dimensions of perceived apparel quality, confirmatory factor analysis with maximum-likelihood estimation procedures using AMOS was conducted. Unlike exploratory factor analysis designed for situations where the relationship between the observed items and latent factors are unknown, confirmatory factor analysis is used for situations in which the latent structure is theoretically known. Because the questionnaire items were initially developed from the domain of three subdimensions of perceived apparel quality, the confirmatory method was appropriate.

In order to examine the factor structure, a hierarchical model comparison was conducted. Four nested models were created: Model 1 with complete independent items, Model 2 with three independent factors, Model 3 with three related factors, and Model 4 with three related factors with measurement errors. The summary statistics of these nested models are shown in Table 5.11. The *chi*-square difference from Model 1 to Model 2 was significant at the .001 level ($\Delta\chi^2 = 1520.47$, $\Delta df = 11$). However, it showed poor fit indices (GFI = .77, AGFI = .67). When factor correlation was introduced, the model showed a significant improvement of *chi*-square ($\Delta\chi^2 = 393.45$, $\Delta df = 4$, $p < .001$). Although the improvement was significant, the fit indices were still unsatisfactory (GFI = .86, AGFI = .79). When the measurement errors were introduced (Model 4), the fit indices were very good (GFI = .98, AGFI = .96). Thus, it was concluded that perceived apparel quality consisted of three correlated factors shown in Figure 5.1.

Table 5.12 and Figure 5.1 present parameter estimates and other statistics of Model 4. All factor loadings in this model were statistically significant ($t > 2.00$). Among *durability/performance* factor items, Item 13 (D13) and Item 7 (D7) had low factor loadings ($\lambda_{D13} = .37$ and $\lambda_{D7} = .53$, respectively). All factor loadings of *construction/materials* factor items and *style/design factor* items were above .60.

Table 5.11. Nested model comparisons for perceived apparel quality scale

| Model description | $\chi^2(df)$ | $\Delta\chi^2(\Delta df)$ | GFI | AGFI | RFI |
|--|--------------|---------------------------|-----|------|-----|
| M1: Complete independence | 2212.94 (66) | ----- | | | |
| M2: Three independent factors | 692.47 (55) | 1520.47 (11)*** | .77 | .67 | .62 |
| M3: Three related factors | 299.02 (51) | 393.45 (4) *** | .86 | .79 | .83 |
| M4: Three related factors with measurement error | 47.89 (38) | 251.13 (13)*** | .98 | .96 | .96 |

Note: *** $p < .001$

In Table 5.12, correlations among the three factors are presented. Correlation between *construction/materials* and *durability/performance* dimensions were extremely high (.92). This may be due to the nature of association of these two dimensions. When construction and materials of the apparel product meets high standards, consumers can easily expect that the durability and performance of the product will be very good.

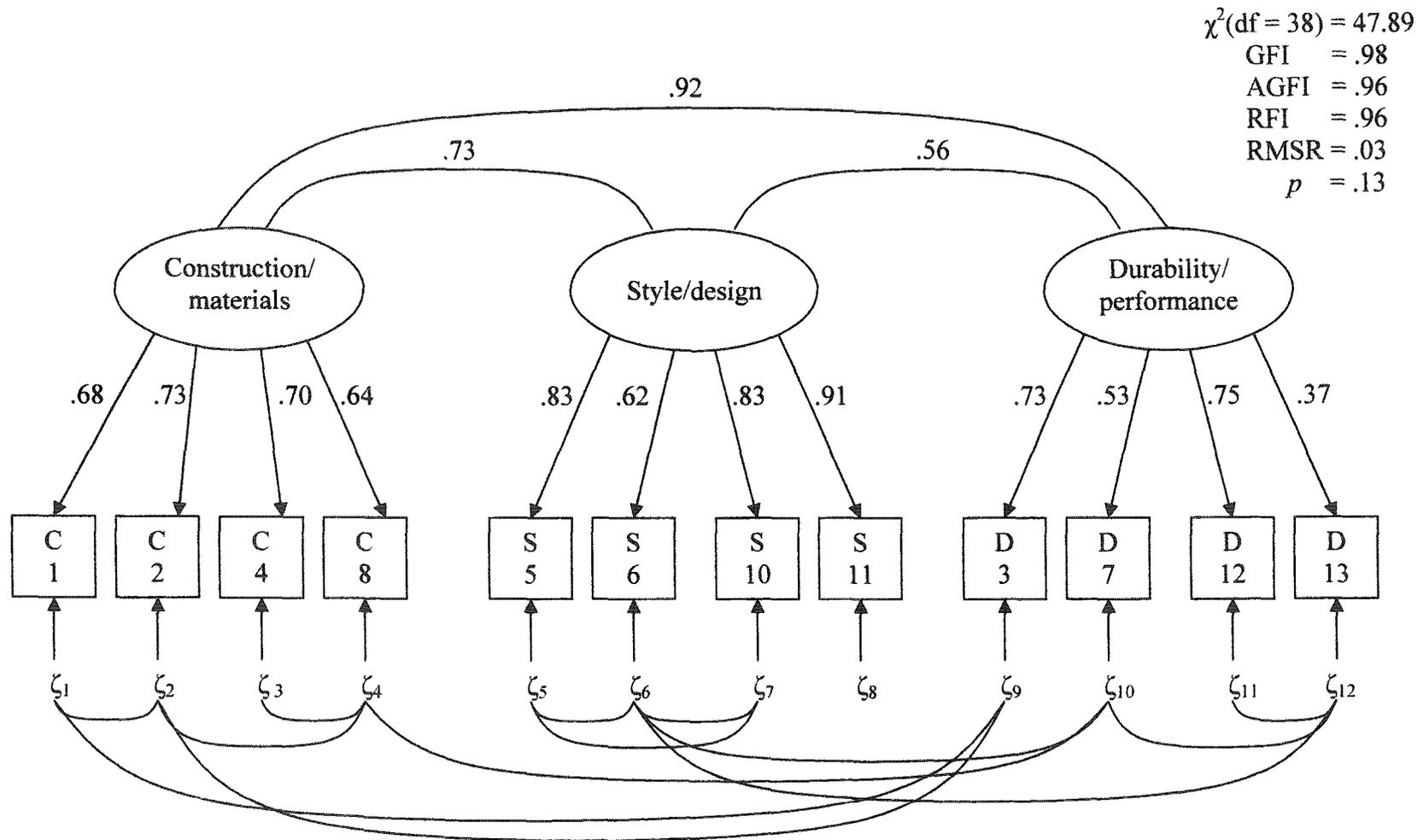


Figure 5.1. Confirmatory factor analysis representation of perceived apparel quality scale: Three-correlated factors

Note: Parameters shown are standardized estimates, and t -values for all estimates are > 2.00

Table 5.12. Results of confirmatory factor analysis of perceived apparel quality scale

| Items | Factor 1 Construction/materials | Factor 2 Style/design | Factor 3 Durability/performance |
|---------------------------|------------------------------------|--------------------------|------------------------------------|
| Factor loading | | | |
| C1 | .68 | | |
| C2 | .73 | | |
| C4 | .70 | | |
| C8 | .64 | | |
| S5 | | .83 | |
| S6 | | .62 | |
| S10 | | .83 | |
| S11 | | .91 | |
| D3 | | | .73 |
| D7 | | | .53 |
| D12 | | | .75 |
| D13 | | | .37 |
| Factor correlation | | | |
| Factor 1 | 1.00 | | |
| Factor 2 | .73 | 1.00 | |
| Factor 3 | .92 | .56 | 1.00 |

Perceived Internet Retailer Service Quality Scale

Reliability

Cronbach's standardized *alpha* was tested on the three dimensions of perceived Internet retailer service quality. All 22 items were used in the reliability test. The final perceived Internet retailer service quality measure consisted of ten *service* factor items, six *Website* factor items, and six *merchandise planning* factor items. The complete list of the 22 items along with means, standard deviations and reliabilities of each factor are provided in Table 5.13.

Reliability coefficient estimates for the three factors were in an acceptable range of .86 to .91. All three dimensions met Nunnally and Bernstein's (1994) criteria of .70. The mean scores of items ranged from 4.18 to 5.99 on a seven-point Likert-type scale. One of the Website factor items, "This Internet site performs consistently (e.g., links)," had the highest

mean score. One of the service items, “This Internet site charges reasonable shipping and handling fees,” scored lowest. All item means were higher than the mid-point of the seven-point Likert-type scale, indicating positive responses.

Table 5.13. Final perceived Internet retailer service quality scale items ($n = 361$)

| Factor Title and Items | Mean ^a | SD |
|---|---------------------------|------|
| <u>Service</u> | | |
| 7. This Internet site offers reliable transactional security. | 5.14 | 1.37 |
| 8. This Internet site has a privacy policy that will protect my personal information. | 4.68 | 1.90 |
| 9. This Internet site offers various shipping methods and shipping destinations. | 4.37 | 2.08 |
| 10. This Internet site has detailed customer service information. | 5.07 | 1.55 |
| 11. This Internet site has a very good return/exchange policy. | 4.22 | 2.13 |
| 12. This Internet site charges reasonable shipping and handling fees. | 4.18 | 1.62 |
| 13. This Internet site provides company contact information. | 5.90 | 1.17 |
| 14. This Internet site offers very good customer service (e.g., 24/7 availability). | 4.76 | 2.01 |
| 15. This Internet site provides detailed product information. | 4.86 | 1.59 |
| 16. This Internet site shows detailed pictures of the sweaters. | 5.17 | 1.52 |
| | Cronbach's $\alpha = .91$ | |
| <u>Website</u> | | |
| 1. This Internet site is well-organized. | 5.74 | 1.06 |
| 2. This Internet site has easy navigation. | 6.01 | 0.97 |
| 3. This Internet site has easy layout (e.g., list of links). | 6.03 | 0.96 |
| 4. This Internet site has pleasing overall site design. | 5.20 | 1.37 |
| 5. This Internet site is convenient to use. | 5.94 | 0.95 |
| 6. This Internet site performs consistently (e.g., links). | 5.99 | 1.00 |
| | Cronbach's $\alpha = .91$ | |
| <u>Merchandise planning</u> | | |
| 17. This Internet site provides good quality sweaters. | 5.08 | 1.09 |
| 18. This Internet site offers a wide selection of sweaters. | 4.54 | 1.49 |
| 19. This Internet site offers various size ranges of sweaters. | 5.91 | 1.13 |
| 20. This Internet site offers a range of styles of sweaters. | 5.20 | 1.31 |
| 21. This Internet site offers a good variety of colors of sweaters. | 5.58 | 1.32 |
| 22. This Internet site offers very acceptable price ranges for the sweaters. | 4.99 | 1.29 |
| | Cronbach's $\alpha = .86$ | |

^a Item scores range from 1 to 7.

Confirmatory Factor Analysis

In order to determine the extent to which items measured dimensions of perceived Internet service quality, confirmatory factor analysis was conducted. Because the questionnaire items were initially developed from the domain of three subdimensions of perceived Internet service quality, the confirmatory method was appropriate.

In order to examine the factor structure, a hierarchical model comparison was conducted. Four nested models were created: Model 1 with complete independent items, Model 2 with three independent factors, Model 3 with three related factors, and Model 4 with three related factors with measurement errors. The summary statistics of these nested models are shown in Table 5.14. The *chi-square* difference from Model 1 to Model 2 was significant at the .001 level ($\Delta\chi^2 = 4302.33$, $\Delta df = 22$). However, it showed poor fit indices (GFI = .76, AGFI = .71). When factor correlation was introduced, the model showed a significant improvement of *chi-square* ($\Delta\chi^2 = 200.33$, $\Delta df = 3$, $p < .001$). Although the improvement was significant, the fit indices were still unsatisfactory (GFI = .79, AGFI = .75). When the measurement errors were introduced (Model 4: $\Delta\chi^2 = 594.13$, $\Delta df = 34$, $p < .001$), the fit indices were moderately acceptable (GFI = .91, AGFI = .87). Thus, it was concluded that perceived Internet service quality consisted of three correlated factors shown in Figure 5.2.

Table 5.14. Nested model comparisons for perceived Internet retailer service quality scale

| Model description | $\chi^2(df)$ | $\Delta\chi^2(\Delta df)$ | GFI | AGFI | RFI |
|--|---------------|---------------------------|-----|------|-----|
| M1: Complete independence | 5478.36 (231) | ----- | | | |
| M2: Three independent factors | 1176.03 (209) | 4302.33 (22)*** | .76 | .71 | .76 |
| M3: Three related factors | 975.70 (206) | 200.33 (3)*** | .79 | .75 | .80 |
| M4: Three related factors with measurement error | 381.57 (172) | 594.13 (34)*** | .91 | .87 | .91 |

Note: *** $p < .001$

Table 5.15 and Figure 5.2 describe parameter estimates and other statistics of Model 4. All factor loadings in this model were statistically significant ($t > 2.00$). Among *service* factor items, Item 12 (S12) and Item13 (S13) had low factor loadings ($\lambda_{S12} = .49$ and λ_{S13}

= .41, respectively). All factor loadings of *Website* factor items and *merchandise planning* factor items were above .60. In Table 5.15, correlations among the three factors are presented. All three factors were moderately correlated.

Table 5.15. Results of confirmatory factor analysis of perceived Internet retailer service quality scale

| Items | Factor 1 Website | Factor 2 Service | Factor 3 Merchandise planning |
|---------------------------|---------------------|---------------------|----------------------------------|
| Factor loading | | | |
| W1 | .77 | | |
| W2 | .79 | | |
| W3 | .81 | | |
| W4 | .61 | | |
| W5 | .91 | | |
| W6 | .75 | | |
| S7 | | .63 | |
| S8 | | .69 | |
| S9 | | .76 | |
| S10 | | .81 | |
| S11 | | .76 | |
| S12 | | .49 | |
| S13 | | .41 | |
| S14 | | .84 | |
| S15 | | .76 | |
| S16 | | .69 | |
| M17 | | | .74 |
| M18 | | | .68 |
| M19 | | | .68 |
| M20 | | | .78 |
| M21 | | | .79 |
| M22 | | | .57 |
| Factor correlation | | | |
| Factor 1 | 1.00 | | |
| Factor 2 | .57 | 1.00 | |
| Factor 3 | .54 | .65 | 1.00 |

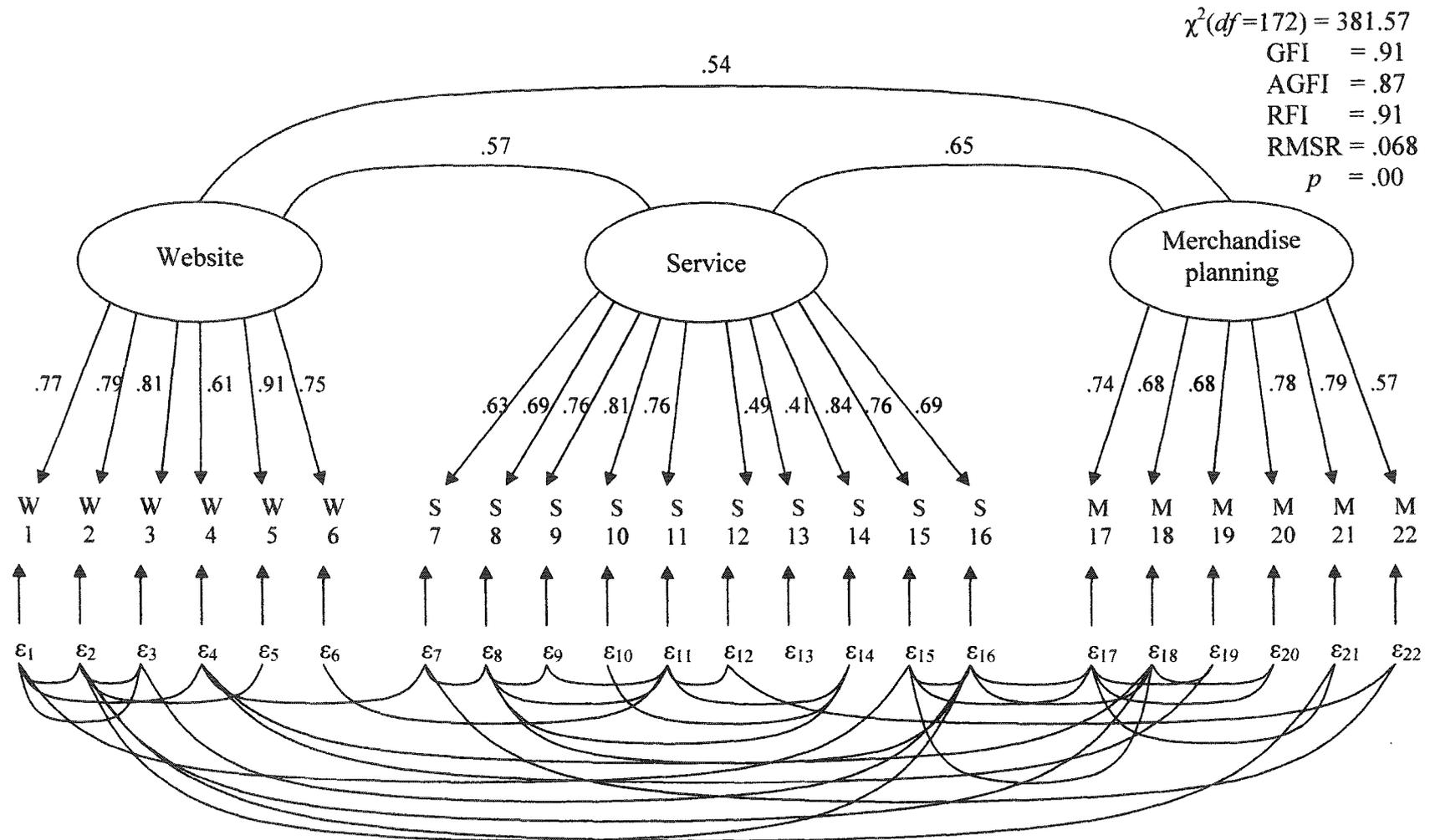


Figure 5.2. Confirmatory factor analysis representation of Internet retailer perceived service quality scale: Three-correlated factors

Note: Parameters shown are standardized estimates, and t -values for all estimates are > 2.00

Perceived Value of Internet Apparel Shopping Scale

As previously mentioned in the Method section, the perceived value of Internet apparel shopping scale was conceptualized as having two dimensions—apparel merchandise dimension and shopping experience dimension—based on the findings of focus group interviews. In the testing of the dimensionality of the construct, two dimensions were separately analyzed.

Apparel Merchandise Dimension

Reliability. Cronbach's standardized *alpha* was tested on the three dimensions of perceived value of apparel merchandise. The scale consists of three sub-subdimensions: hedonic, monetary, and social value. All 13 items were used in the reliability test. The final perceived apparel product value measure consisted of five *hedonic value* factor items, four *monetary value* factor items, and four *social value* factor items. The complete list of the 13 items along with means, standard deviations, and reliabilities of each factor are provided in Table 5.16.

Reliability coefficient estimates for the three factors were in an acceptable range of .92 to .96. All three dimensions met Nunnally and Bernstein's (1994) criteria of .70. The mean scores of items ranged from 3.65 to 4.99 on a 7-point scale. One of the *hedonic value* items, "The site offers sweaters that I would enjoy," scored the highest mean score. Two of the *social value* factor items, "The site offers sweaters that would improve the way I am perceived" and "The site offers sweaters that would give me social approval" had the lowest mean scores below the mid-point.

Confirmatory factor analysis. In order to determine the extent to which items measured dimensions of perceived value of apparel merchandise, confirmatory factor analysis was conducted. Because the questionnaire items were initially developed from the domain of three sub-dimensions of the perceived value of apparel merchandise, the confirmatory method was appropriate.

In order to examine the factor structure, a hierarchical model comparison was conducted. Four nested models were created: Model 1 with complete independent items, Model 2 with three independent factors, Model 3 with three related factors, and Model 4 with

three related factors with measurement errors. The summary statistics of these nested models are shown in Table 5.17. The *chi*-square difference from Model 1 to Model 2 was significant at the .001 level ($\Delta\chi^2 = 4372.23$, $\Delta df = 13$). However, it showed poor fit indices (GFI = .79, AGFI = .70). When factor correlation was introduced, the model showed a significant improvement of *chi*-square ($\Delta\chi^2 = 360.54$, $\Delta df = 3$, $p < .001$). Although the improvement was significant, the fit indices were still unsatisfactory (GFI = .89, AGFI = .83). When the measurement errors were introduced (Model 4), the fit indices were very good (GFI = .95, AGFI = .92) with a significant *chi*-square improvement ($\Delta\chi^2 = 178.48$, $\Delta df = 7$). Thus, it was concluded that perceived Internet service quality consisted of three correlated factors.

Table 5.16. Final perceived value of apparel merchandise dimension items ($n = 361$)

| Factor Title and Items | Mean ^a | SD |
|---|-------------------------------|------|
| <u>Hedonic value</u> | | |
| 1. The site offers sweaters that I would enjoy. | 4.99 | 1.45 |
| 2. The site offers sweaters that would make me want to wear them. | 4.87 | 1.48 |
| 3. The site offers sweaters that I would feel relaxed about wearing. | 5.19 | 1.29 |
| 4. The site offers sweaters that would make me feel good. | 4.91 | 1.40 |
| 5. The site offers sweaters that would give me pleasure. | 4.72 | 1.44 |
| | Cronbach's <i>alpha</i> = .92 | |
| <u>Monetary value</u> | | |
| 6. This site offers sweaters that are reasonably priced. | 4.66 | 1.37 |
| 7. This site offers sweaters that have a very good value for the money. | 4.51 | 1.35 |
| 8. This site offers sweaters that are good quality for the price. | 4.56 | 1.27 |
| 9. This site offers sweaters that are economical to own. | 4.49 | 1.25 |
| | Cronbach's <i>alpha</i> = .92 | |
| <u>Social value</u> | | |
| 10. The site offers sweaters that would help me feel acceptable. | 4.12 | 1.52 |
| 11. The site offers sweaters that would improve the way I am perceived. | 3.65 | 1.51 |
| 12. The site offers sweaters that would make a good impression on other people. | 4.24 | 1.43 |
| 13. The site offers sweaters that would give me social approval. | 3.94 | 1.57 |
| | Cronbach's <i>alpha</i> = .96 | |

^a Item scores range from 1 to 7.

Table 5.17. Nested model comparisons for perceived value of apparel merchandise dimensions

| Model description | $\chi^2(df)$ | $\Delta\chi^2(\Delta df)$ | GFI | AGFI | RFI |
|--|--------------|---------------------------|-----|------|-----|
| M1: Complete independence | 5037.61 (78) | ---- | | | |
| M2: Three independent factors | 665.38 (65) | 4372.23 (13)*** | .79 | .70 | .84 |
| M3: Three related factors | 304.84 (62) | 360.54 (3)*** | .89 | .83 | .92 |
| M4: Three related factors with measurement error | 126.36 (55) | 178.48 (7)*** | .95 | .92 | .96 |

Note: *** $p < .001$

Table 5.18. Results of confirmatory factor analysis of perceived value of apparel merchandise dimensions

| Items | Factor 1 Hedonic value | Factor 2 Monetary value | Factor 3 Social value |
|--------------------|---------------------------|----------------------------|--------------------------|
| Factor loading | | | |
| H1 | .86 | | |
| H2 | .90 | | |
| H3 | .86 | | |
| H4 | .97 | | |
| H5 | .95 | | |
| M6 | | .86 | |
| M7 | | .93 | |
| M8 | | .91 | |
| M9 | | .76 | |
| S10 | | | .88 |
| S11 | | | .85 |
| S12 | | | .89 |
| S13 | | | .86 |
| Factor correlation | | | |
| Factor 1 | 1.00 | | |
| Factor 2 | .66 | 1.00 | |
| Factor 3 | .67 | .51 | 1.00 |

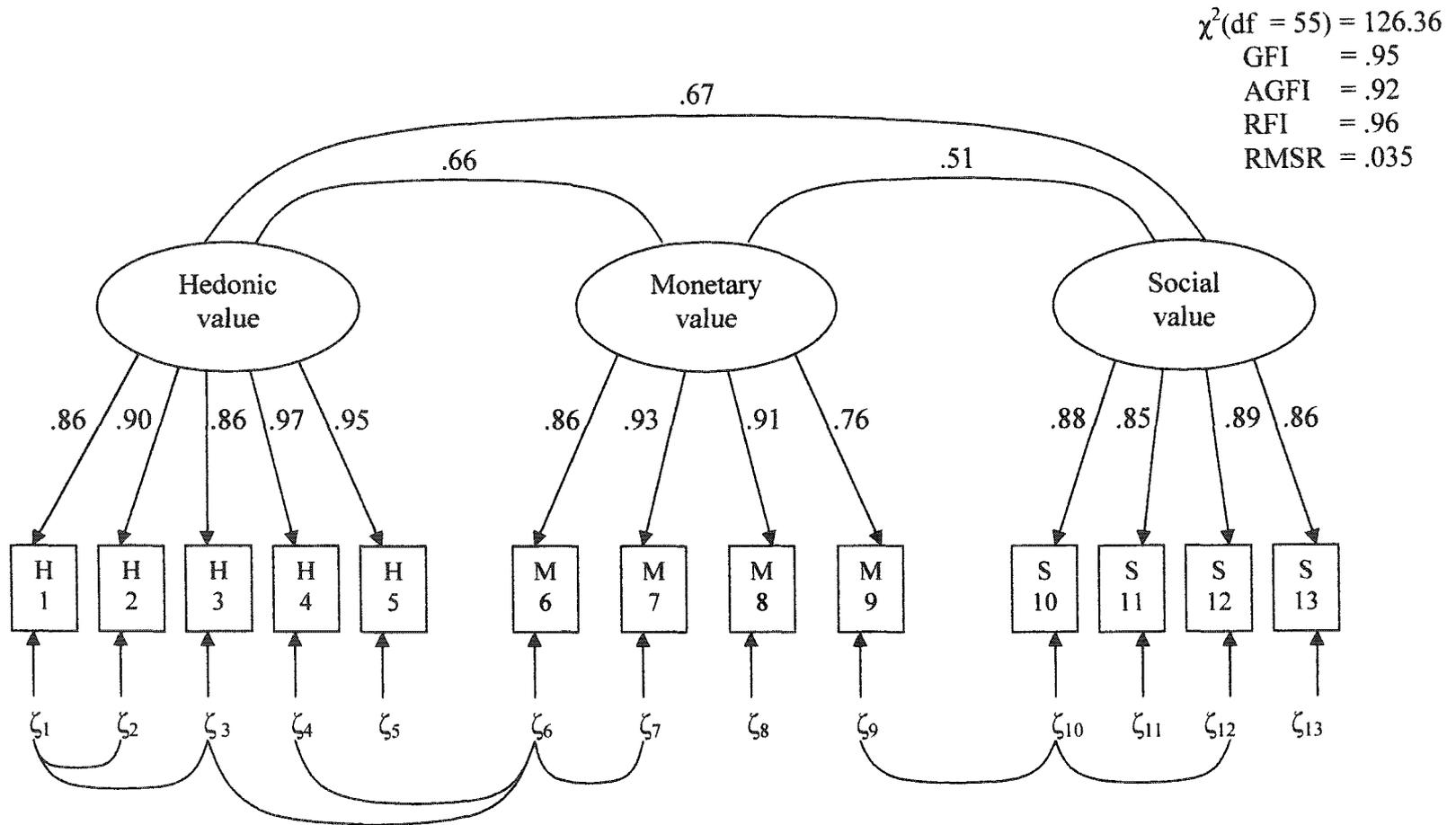


Figure 5.3. Confirmatory factor analysis representation of perceived apparel value scale: Three-correlated factors

Note: Parameters shown are standardized estimates, and *t*-values for all estimates are > 2.00

Table 5.18 and Figure 5.3 present parameter estimates and other statistics of Model 4. All factor loadings in this model are statistically significant ($t > 2.00$). All factor loadings of all three factor items have factor loadings above .76. In Table 5.18, correlations among the three factors are presented. All three factors are highly correlated.

Internet Shopping Dimension

Reliability. The final perceived Internet shopping experience value measure consisted of five *hedonic value* factor items, five *instrumental value* factor items, and four *social value* factor items. The complete list of the 14 items along with means, standard deviations, and reliabilities of each factor are provided in Table 5.19. Reliability coefficient estimates for the three factors were in an acceptable range of .88 to .96. All six dimensions met Nunnally and Bernstein's (1994) criteria of above .70. The mean scores of items ranged from 3.37 to 5.19 on a seven-point Likert-type scale. All four items in the *social value* factor had mean scores lower than 4. One of the *instrumental value* items, "The site offers a shopping experience for sweaters that would be very convenient," scored the highest.

Confirmatory factor analysis. In order to determine the extent to which items measured sub-dimensions of perceived value of Internet apparel shopping dimensions, confirmatory factor analysis was conducted. Because the questionnaire items were initially developed from the domain of three sub-dimensions of the perceived value of Internet apparel shopping, the confirmatory method was appropriate.

In order to examine the factor structure, a hierarchical model comparison was conducted. Four nested models were created: Model 1 with complete independent items, Model 2 with three independent factors, Model 3 with three related factors, and Model 4 with three related factors with measurement errors. The summary statistics of these nested models are shown in Table 5.20. The *chi-square* difference from Model 1 to Model 2 was significant at the .001 level ($\Delta\chi^2 = 4478.39$, $\Delta df = 14$). However, it showed poor fit indices (GFI = .71, AGFI = .61). When factor correlation was introduced, the model showed a significant improvement of *chi-square* ($\Delta\chi^2 = 482.7$, $\Delta df = 3$, $p < .001$). Although the improvement was significant, the fit indices were still unsatisfactory (GFI = .81, AGFI = .73). When the measurement errors were introduced (Model 4), the fit indices were very good (GFI = .95,

AGFI = .91) with a significant *chi*-square improvement ($\Delta\chi^2 = 453.55$, $\Delta df = 10$). Thus, it was concluded that perceived Internet service quality consisted of three correlated factors.

Table 5.19. Final perceived value of Internet shopping dimension items ($n = 361$)

| Factor Title and Items | Mean ^a | SD |
|---|-------------------------------|------|
| <u>Hedonic value</u> | | |
| The site offers a shopping experience for sweaters that: | | |
| 14. I would enjoy. | 4.72 | 1.46 |
| 15. would make me want to shop from this site. | 4.54 | 1.53 |
| 16. I would feel relaxed about shopping on this site. | 4.68 | 1.45 |
| 17. would make me feel good. | 4.43 | 1.40 |
| 18. would give me pleasure. | 4.22 | 1.48 |
| | Cronbach's <i>alpha</i> = .95 | |
| <u>Instrumental value</u> | | |
| The site offers a shopping experience for sweaters that: | | |
| 19. would be very good value. | 4.22 | 1.39 |
| 20. would save a lot of my time. | 4.98 | 1.32 |
| 21. would be very convenient. | 5.06 | 1.35 |
| 22. would enable me to have a variety of sweaters to choose from. | 4.64 | 1.52 |
| 23. would offer me a great deal. | 4.04 | 1.41 |
| | Cronbach's <i>alpha</i> = .88 | |
| <u>Social value</u> | | |
| Shopping for a sweater at this Internet site: | | |
| 24. would help me feel acceptable. | 3.45 | 1.47 |
| 25. would improve the way I am perceived. | 3.37 | 1.44 |
| 26. would make a good impression on other people. | 3.68 | 1.52 |
| 27. would give me social approval. | 3.48 | 1.50 |
| | Cronbach's <i>alpha</i> = .96 | |

^a Item scores range from 1 to 7.

Table 5.20. Nested model comparisons for the perceived value of Internet shopping dimensions

| Model description | $X^2(df)$ | $\Delta\chi^2(\Delta df)$ | GFI | AGFI | RFI |
|--|--------------|---------------------------|-----|------|-----|
| M1: Complete independence | 5562.82 (91) | --- | | | |
| M2: Three independent factors | 1084.43 (77) | 4478.39 (14)*** | .71 | .61 | .77 |
| M3: Three related factors | 601.73 (74) | 482.7 (3) *** | .81 | .73 | .87 |
| M4: Three related factors with measurement error | 148.18 (64) | 453.55 (10)*** | .95 | .91 | .96 |

Note: *** $p < .001$

Table 5.21 and Figure 5.4 present parameter estimates and other statistics of Model 4. All factor loadings in this model were statistically significant ($t > 2.00$). All factor loadings of all three factor items had loadings above .65. All *hedonic value* items had factor loadings above .85. The *instrumental value* factor had factor loadings lower than .70 for items 21 and 22. The factor loadings for *social value* items were all higher than .90. In Table 5.21, correlations among the three factors are presented. The correlations between *hedonic value* and *instrumental value* dimensions were extremely high (.90).

Table 5.21. Results of confirmatory factor analysis of perceived Internet shopping value dimensions

| Items | Factor 1 Hedonic value | Factor 2 Instrumental value | Factor 3 Social value |
|---------------------------|---------------------------|--------------------------------|--------------------------|
| Factor loading | | | |
| H14 | .91 | | |
| H15 | .94 | | |
| H16 | .86 | | |
| H17 | .89 | | |
| H18 | .85 | | |
| I19 | | .75 | |
| I20 | | .75 | |
| I21 | | .68 | |
| I22 | | .65 | |
| I23 | | .88 | |
| S24 | | | .93 |
| S25 | | | .93 |
| S26 | | | .93 |
| S27 | | | .96 |
| Factor correlation | | | |
| Factor 1 | 1.00 | | |
| Factor 2 | .90 | 1.00 | |
| Factor 3 | .60 | .63 | 1.00 |

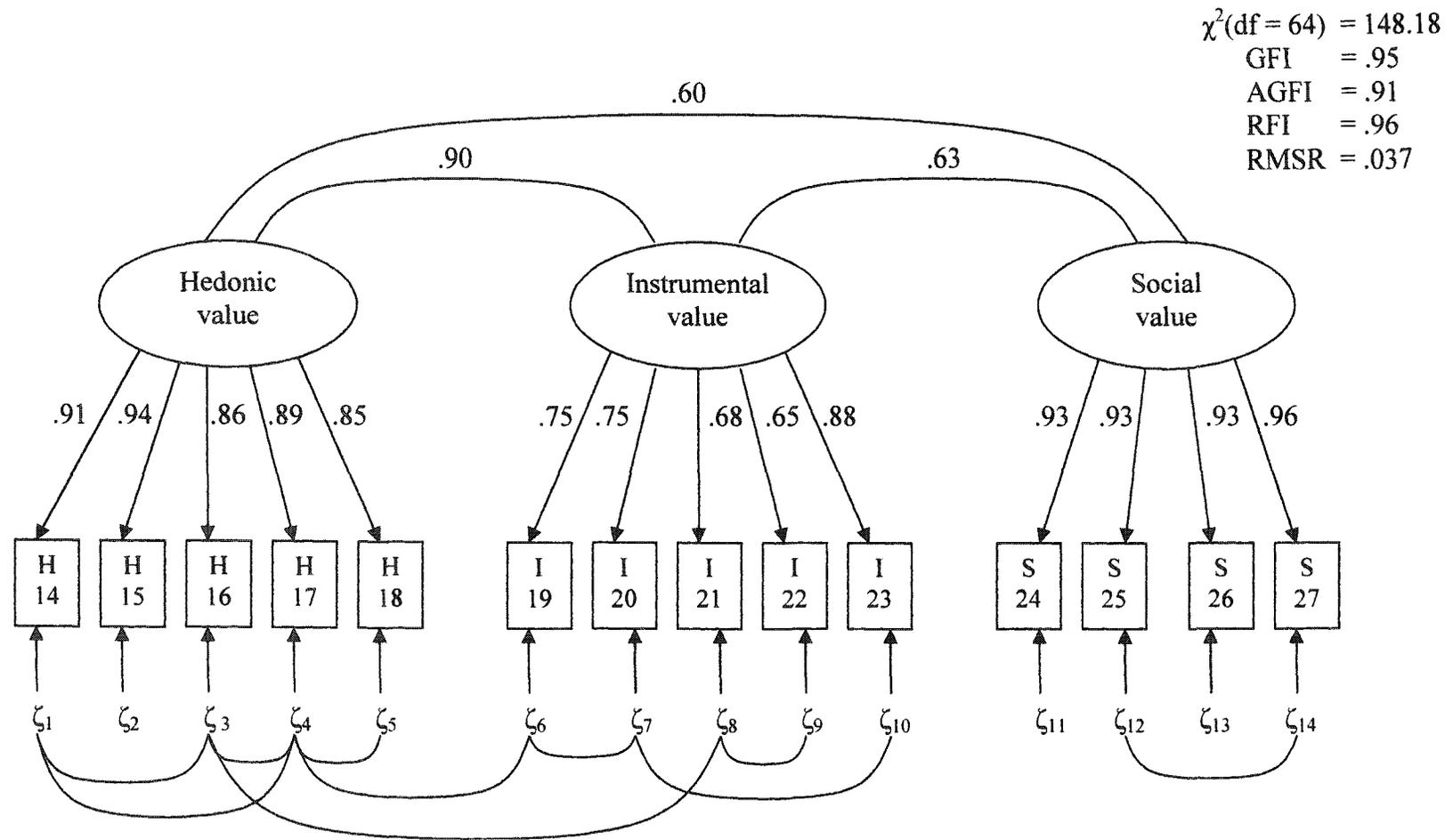


Figure 5.4. Confirmatory factor analysis representation of perceived Internet shopping value scale: Three-correlated factors

Note: Parameters shown are standardized estimates, and *t*-values for all estimates are > 2.00

Analysis of Causal Models

For the causal analysis of proposed sub-models, overall perception items and a disconfirmation scale were used. Items used for causal analysis are shown in Table 5.22. Descriptive statistics such as mean and standard deviation of research variables are also shown in Table 5.22.

Factor Analysis of Model Constructs

Factor analysis was conducted on the multiple item variables: apparel product sacrifice, apparel product risk, Internet retailer service quality, Internet retailer service sacrifice, Internet retailer service risk, value of Internet apparel shopping, satisfaction with shopping experience from the Internet retailer, and behavioral intentions. Principle components analysis using varimax rotation was performed to observe dimensionality and relationships among multiple items within measures and for data reduction into a smaller number of variables. Once dimensions of a research variable were identified, they were given names based on conceptual themes among the items loading on each factor. Reliability of multiple items was examined using Cronbach's *alpha* coefficient (see Table 5.23). Reliability tests showed that all except two research variables had alpha coefficients of .70 or higher. Perceived apparel risk had an *alpha* of .68, and perceived service sacrifice had an *alpha* of .58. Summated scores were created for all research variables and divided by the number of items included in the variable.

Correlations among Research Constructs

Tables 5.24, 5.25, 5.26, and 5.27 summarized correlations among research variables for Sub-model 1, Sub-model 2, and Sub-model 3, and Sub-model 4. For Sub-model 1, treatment effect was only significantly correlated with perceived value of Internet apparel shopping. Significant correlations were found only between 1) perceived apparel quality and perceived apparel risk, 2) perceived apparel quality and perceived value, 3) perceived apparel sacrifice and perceived apparel risk, and 4) perceived risk and perceived value. These findings indicated that the service treatment may not be a strong predictor of perceived apparel quality, perceived apparel sacrifice, and perceived apparel risk.

Table 5.22. Items used for the causal analyses of proposed Sub-models

| Research variables | Items | Overall (n = 361) | | High (n = 178) | | Low (n = 183) | |
|------------------------------------|--|----------------------|------|-------------------|------|------------------|------|
| | | Mean | SD | Mean | SD | Mean | SD |
| Perceived apparel quality | ▪ Overall quality of the sweaters is excellent. | 4.75 | 1.08 | 4.85 | 1.13 | 4.64 | 1.02 |
| Perceived apparel sacrifice | ▪ The prices of the sweaters are too high. | 3.84 | 1.54 | 3.89 | 1.54 | 3.79 | 1.54 |
| | ▪ If I purchased a sweater from this site for the indicated price, I would have to reduce the amount of money I spend on other things for a while. | 3.97 | 1.65 | 4.12 | 1.64 | 3.83 | 1.66 |
| Perceived apparel risk | ▪ The physical risk associated with wearing a sweater (e.g., itching) is very high. | 3.57 | 1.50 | 3.44 | 1.43 | 3.69 | 1.55 |
| | ▪ The risk of receiving a poor performance from a sweater (e.g., shrinking after washing) is very high. | 4.17 | 1.38 | 4.11 | 1.43 | 4.22 | 1.33 |
| | ▪ I think that the purchase of a sweater from this site would lead to financial risk for me because of the possibility of high cleaning/repair costs of the sweater. | 2.89 | 1.40 | 2.88 | 1.38 | 2.90 | 1.42 |
| Perceived service quality | ▪ Overall quality of the service provided by this site: | | | | | | |
| | ▪ Poor—excellent | 5.16 | 1.18 | 5.81 | .86 | 4.54 | 1.10 |
| | ▪ Inferior—superior | 4.80 | 1.22 | 5.46 | .93 | 4.16 | 1.13 |
| | ▪ Low standard—high standard | 4.96 | 1.19 | 5.58 | .92 | 4.35 | 1.11 |
| Perceived service sacrifice | ▪ The shipping and handling fee when ordering a sweater from this Internet site is too high. | 4.55 | 1.43 | 4.40 | 1.45 | 4.70 | 1.40 |
| | ▪ It would take a long time to receive an ordered item from this site. | 3.88 | 1.32 | 3.56 | 1.32 | 4.20 | 1.25 |
| | ▪ It would take a great amount of effort to buy a sweater from this site. | 2.86 | 1.29 | 2.55 | 1.16 | 3.17 | 1.33 |
| Perceived service risk | ▪ Considering the shipping and handling costs, purchasing a sweater from this site is very risky. | 3.35 | 1.38 | 2.98 | 1.25 | 3.71 | 1.41 |
| | ▪ Considering the level of transactional security on this site, purchasing a sweater from this site is very risky. | 3.47 | 1.51 | 2.79 | 1.22 | 4.14 | 1.47 |
| | ▪ The risk of getting unprotected privacy of personal information on this site is very high. | 3.55 | 1.55 | 2.71 | 1.18 | 4.38 | 1.41 |
| | ▪ The risk of not getting an item that is the same as picture or described is very high. | 3.09 | 1.37 | 2.60 | 1.13 | 3.57 | 1.42 |
| | ▪ The risk that I would feel uncomfortable psychologically due to buying a sweater from this site is very high. | 2.54 | 1.45 | 2.28 | 1.29 | 2.79 | 1.56 |
| | ▪ The risk of not receiving an ordered item on time is very high. | 3.34 | 1.47 | 2.82 | 1.25 | 3.84 | 1.50 |

Table 5.22. (Continued)

| Research variables | Items | Overall (<i>n</i> = 361) | | High (<i>n</i> = 178) | | Low (<i>n</i> = 183) | |
|----------------------------|---|------------------------------|-----------|---------------------------|-----------|--------------------------|-----------|
| | | Mean | <i>SD</i> | Mean | <i>SD</i> | Mean | <i>SD</i> |
| Perceived value | ▪ The site offers a shopping experience for sweaters that would give me pleasure. | 4.22 | 1.48 | 4.54 | 1.44 | 3.91 | 1.45 |
| | ▪ The site offers a shopping experience for sweaters that would save a lot of my time. | 4.22 | 1.39 | 4.48 | 1.30 | 3.97 | 1.44 |
| | ▪ The site offers a shopping experience for sweaters that would be very convenient. | 4.98 | 1.32 | 5.17 | 1.19 | 4.78 | 1.42 |
| | ▪ The site offers a shopping experience for sweaters that would enable me to have a variety of sweaters to choose from. | 5.06 | 1.35 | 5.39 | 1.14 | 4.73 | 1.47 |
| | ▪ The site offers a shopping experience for sweaters that would offer me a great deal. | 4.64 | 1.52 | 4.87 | 1.48 | 4.42 | 1.54 |
| Satisfaction | ▪ Overall, the sweaters available from the Internet site were: (Worse than expected—Better than expected) | 4.92 | 1.21 | 5.15 | 1.25 | 4.69 | 1.12 |
| | ▪ Overall, the customer service available from the Internet site was: (Worse than expected—Better than expected) | 4.65 | 1.48 | 5.51 | .99 | 3.81 | 1.39 |
| | ▪ Overall, the site design and navigation of the Internet site was: (Worse than expected—Better than expected) | 5.09 | 1.28 | 5.58 | 1.16 | 4.62 | 1.20 |
| | ▪ Overall, sweater shopping experience on the Internet was: (Worse than expected—Better than expected) | 4.89 | 1.25 | 5.45 | 1.10 | 4.35 | 1.15 |
| Behavioral outcomes | If this Internet site becomes available, how likely are you to: | | | | | | |
| | ▪ Visit this site again? | 3.96 | 1.77 | 4.46 | 1.74 | 3.49 | 1.66 |
| | ▪ Search for product information on this site? | 4.01 | 1.77 | 4.54 | 1.69 | 3.48 | 1.68 |
| | ▪ Purchase a sweater available on this site? | 3.70 | 1.84 | 4.15 | 1.86 | 3.26 | 1.72 |
| | ▪ Say positive things about this site to other people? | 4.16 | 1.80 | 4.78 | 1.70 | 3.55 | 1.69 |
| | ▪ Recommend this site to your friends or family? | 3.73 | 1.79 | 4.37 | 1.75 | 3.11 | 1.60 |

For Sub-model 2 and Sub-model 3, all correlations were significant in the hypothesized relationships. For Sub-model 4, all except one correlation were significant in the hypothesized relationships. The non-significant correlation was found between treatment and perceived apparel quality.

Table 5.23. Factor analysis results of research variables for proposed Sub-models

| Factor titles and items | Factor loading |
|--|----------------|
| <u>Perceived apparel sacrifice</u> | |
| The prices of the sweaters are too high. | .89 |
| If I purchased a sweater from this site for the indicated price, I would have to reduce the amount of money I spend on other things for a while. | .89 |
| Cronbach's $\alpha = .72$ Total percent of variance explained = 78.3 | |
| <u>Perceived apparel risk</u> | |
| The physical risk associated with wearing a sweater (e.g., itching) is very high. | .82 |
| The risk of receiving a poor performance from a sweater (e.g., shrinking after washing) is very high. | .78 |
| I think that the purchase of a sweater from this site would lead to financial risk for me because of the possibility of high cleaning/repair costs of the sweater. | .74 |
| Cronbach's $\alpha = .68$ Total percent of variance explained = 60.8 | |
| <u>Perceived service quality</u> | |
| Overall quality of the service provided by this site: | |
| Poor—excellent | .92 |
| Inferior—superior | .94 |
| Low standard—high standard | .93 |
| Cronbach's $\alpha = .92$ Total percent of variance explained = 86.2 | |
| <u>Perceived service sacrifice</u> | |
| The shipping and handling fee when ordering a sweater from this Internet site is too high. | .72 |
| It would take a long time to receive an ordered item from this site. | .80 |
| It would take a great amount of effort to buy a sweater from this site. | .69 |
| Cronbach's $\alpha = .58$ Total percent of variance explained = 54.4 | |

Table 5.23. (Continued)

| Factor titles and items | Factor loading |
|--|----------------|
| <u>Perceived service risk</u> | |
| Considering the shipping and handling costs, purchasing a sweater from this site is very risky. | .73 |
| Considering the level of transactional security on this site, purchasing a sweater from this site is very risky. | .85 |
| The risk of getting unprotected privacy of personal information on this site is very high. | .83 |
| The risk of not getting an item that is the same as pictured or described is very high. | .79 |
| The risk that I would feel uncomfortable psychologically due to buying a sweater from this site is very high. | .72 |
| The risk of not receiving an ordered item on time is very high. | .77 |
| Cronbach's $\alpha = .87$ Total percent of variance explained = 61.1 | |
| <u>Perceived value</u> | |
| The site offers a shopping experience for sweaters that would: | |
| - give me pleasure. | .83 |
| - save a lot of my time. | .84 |
| - be very convenient. | .83 |
| - enable me to have a variety of sweaters to choose from. | .84 |
| - offer me a great deal. | .80 |
| Cronbach's $\alpha = .88$ Total percent of variance explained = 68.6 | |
| <u>Satisfaction</u> | |
| Overall, the sweaters available from the Internet site were: | .78 |
| Overall, the customer service available from the Internet site was: | .80 |
| Overall, the site design and navigation of the Internet site was: | .83 |
| Overall, sweater shopping experience on the Internet was: (Worse than expected—Better than expected) | .92 |
| Cronbach's $\alpha = .85$ Total percent of variance explained = 69.5 | |
| <u>Behavioral outcomes</u> | |
| If this Internet site becomes available, how likely are you to: | |
| - visit this site again? | .95 |
| - search for product information on this site? | .93 |
| - purchase a sweater available on this site? | .93 |
| - say positive things about this site to other people? | .91 |
| - recommend this site to your friends or family? | .93 |
| Cronbach's $\alpha = .96$ Total percent of variance explained = 86.4 | |

Table 5.24. Correlations among constructs in Sub-model 1

| Model constructs | Correlations | | | | |
|-----------------------------------|--------------|--------|--------|-------|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1. Treatment | 1 | | | | |
| 2. Apparel quality [†] | .10 | 1 | | | |
| 3. Apparel sacrifice [†] | .07 | .01 | 1 | | |
| 4. Apparel risk [†] | -.06 | -.12* | .45*** | 1 | |
| 5. Apparel value [†] | .23*** | .49*** | -.07 | -.12* | 1 |

Note: [†] Indicates use of 7-point scale
 * $p < .05$; *** $p < .001$

Table 5.25. Correlations among constructs in Sub-model 2

| Model constructs | Correlations | | | | |
|-----------------------------------|--------------|---------|---------|---------|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1. Treatment | 1 | | | | |
| 2. Service quality [†] | .57*** | 1 | | | |
| 3. Service sacrifice [†] | -.26*** | -.31*** | 1 | | |
| 4. Service risk [†] | -.46*** | -.52*** | .47*** | 1 | |
| 5. Service value [†] | .23*** | .53*** | -.36*** | -.44*** | 1 |

Note: [†] Indicates use of 7-point scale
 *** $p < .001$

Table 5.26. Correlations among constructs in Sub-model 3

| Model constructs | Correlation | | | | | |
|-------------------------------------|-------------|----------|----------|---------|---------|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 1. Treatment | 1 | | | | | |
| 2. Service quality [†] | 0.57*** | 1 | | | | |
| 3. Service sacrifice [†] | -0.26*** | -0.31*** | 1 | | | |
| 4. Value [†] | 0.23*** | 0.53*** | -0.36*** | 1 | | |
| 5. Satisfaction [†] | 0.49*** | 0.73*** | -0.29*** | 0.65*** | 1 | |
| 6. Behavioral outcomes [†] | 0.33*** | 0.61*** | -0.30*** | 0.70*** | 0.70*** | 1 |

Note: [†] Indicates use of 7-point scale
 *** $p < .001$

Table 5.27. Correlations among constructs in Sub-model 4

| Model constructs | Correlation | | | | | | |
|--------------------------|-------------|--------|---------|---------|--------|--------|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Treatment | 1 | | | | | | |
| 2. Apparel quality † | .10 | 1 | | | | | |
| 3. Service quality † | .57*** | .36*** | 1 | | | | |
| 4. Service sacrifice † | -.26*** | -.10 | -.31*** | 1 | | | |
| 5. Value † | .23*** | .49*** | .53*** | -.36*** | 1 | | |
| 6. Satisfaction † | .49*** | .44*** | .73*** | -.29*** | .65*** | 1 | |
| 7. Behavioral outcomes † | .33*** | .50*** | .61*** | -.30*** | .70*** | .70*** | 1 |

Note: † Indicates use of 7-point scale
 *** $p < .001$

Testing of the Proposed Models

The causal model analyses were conducted using a maximum-likelihood estimation procedure with AMOS. First, to judge the overall fit of the models, *chi-square* statistics, goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), and root mean square residual (RMSR) were used. *Chi-square* measures the difference between the sample variance-covariance matrix; a smaller *chi-square* indicated a better fit of the model. However, the *chi-square* statistic is sensitive to the sample size, especially when $n \geq 200$ (Bagozzi & Yi, 1988). Other fit indices such as GFI, AGFI, and RMSR are independent of sample size. Generally, fit statistics above .95 for GFI, .90 for AGFI, and below .05 for RMSR were used as an indicator of a good model fit to the data (Joreskog & Sorbom, 1989). The *t*-values of structural path coefficients were used to test hypotheses in the proposed models. A *t*-statistic value greater than 2.00 was considered as an indicator of statistical significance (Byrne, 1998). Finally, for each model, decomposition of effects was conducted to examine the direct, indirect, and total effects of predictor variables on endogenous variables.

Sub-model 1

The proposed Sub-model 1 consisted of one exogenous construct (treatment) and four endogenous constructs (perceived apparel quality, perceived apparel sacrifice, perceived apparel risk, and perceived value). Figure 5.5 exhibits standardized path coefficients and *t*-

values for each structural path, as well as the fit indices for the model. The overall fit indices for the proposed model revealed a *chi-square* of 2.86 ($df = 2; p = .24$), GFI of .99, AGFI of .98, and RMSR of .02, all of which indicated that the proposed Sub-model 1 fits the data very well.

Hypothesis Testing

In Sub-model 1, the following hypotheses were proposed:

- H_{1a}: The level of service quality treatment has a positive direct effect on the perceived quality of apparel featured on an Internet site.
- H_{1b}: The level of service quality treatment has a positive direct effect on the perceived value of apparel shopping via the site.
- H₂: The perceived quality of apparel featured on an Internet site has a negative direct effect on the perceived risk of purchasing that apparel.
- H₃: The perceived sacrifice of apparel featured on an Internet site has a positive direct effect on the perceived risk of purchasing that apparel.
- H₄: The perceived quality of apparel featured on an Internet site has a positive direct effect on the perceived value of apparel shopping via the site.
- H₅: The perceived risk of apparel featured on an Internet site has a negative direct effect on the perceived value of apparel shopping via the site.
- H₆: The perceived sacrifice of apparel featured on an Internet site has a negative direct effect on the perceived value of apparel shopping via the site.

To examine the relationships between the level of service quality of an Internet apparel retailer and perceptions of apparel quality and value, two hypotheses were tested. Hypothesis 1a, proposing the positive effect of perceived service quality of an Internet apparel retailer on perceived apparel quality, did not receive support ($t = 1.81$), while Hypothesis 1b, the positive effect of perceived service quality of an Internet apparel retailer on perceived value of apparel shopping from the site, received support ($t = 4.13$).

Hypothesis 2 predicted the negative effect of perceived apparel quality on perceived risk of apparel. There was a significant negative relationship between perceived apparel quality and perceived apparel risk ($t = -2.57$). Hypothesis 3 proposed the positive effect of perceived apparel quality on the perception of apparel risk. There was a significant positive

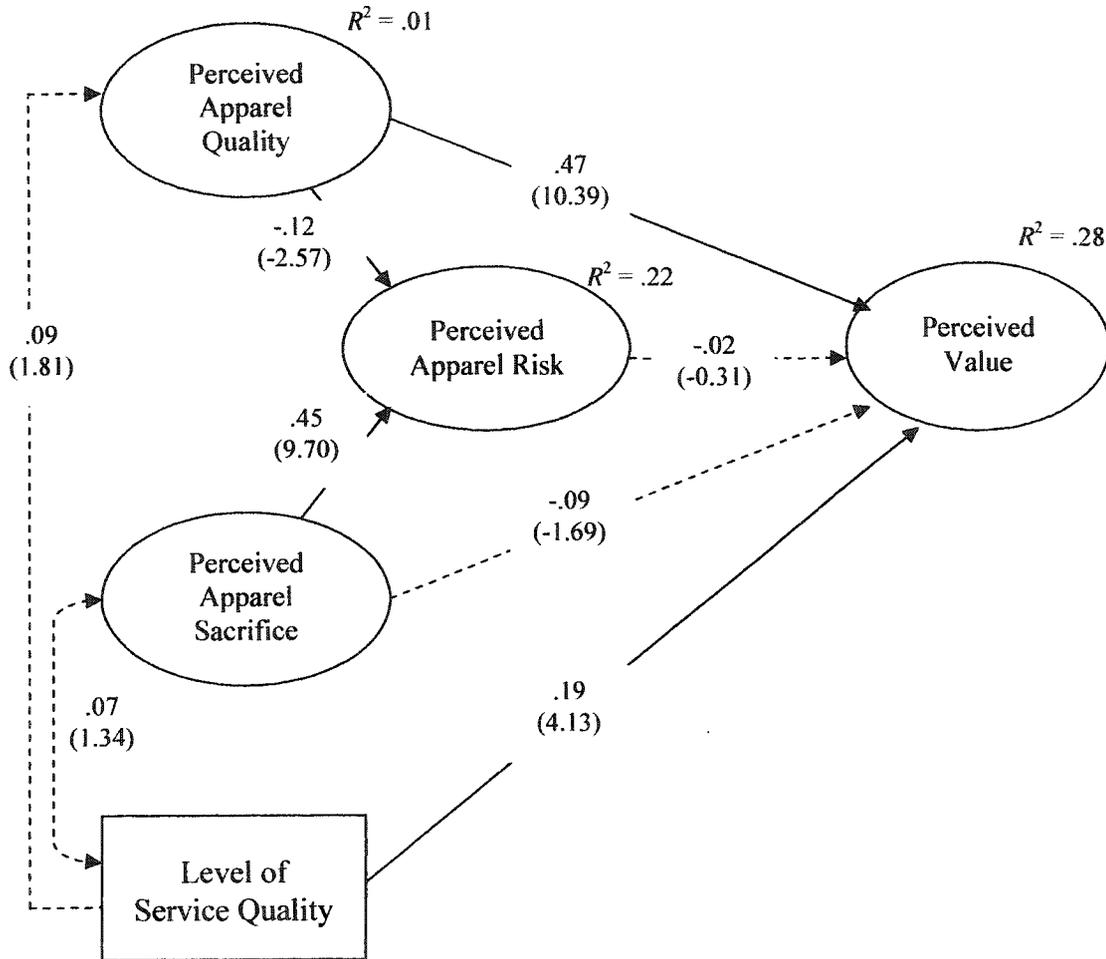
relationship between these two variables ($t = 9.70$). Thus, Hypotheses 2 and 3 were supported.

Hypothesis 4 predicted the positive effect of perceived apparel quality on the perceived value of shopping from the retail site. There was a significant positive relationship between perceived apparel quality and perceived value ($t = 10.39$), suggesting that consumers who had higher perceptions of apparel quality presented on the site perceived a higher value of shopping from the site. Thus, Hypothesis 4 was supported.

Hypothesis 5 proposed the negative effect of perceived apparel risk on the perceived value of shopping from the site and did not receive statistical support ($t = -0.31$). The proposed negative effect of perceived apparel sacrifice on the perceived value of Internet apparel shopping from the site (Hypothesis 6) was not statistically significant ($t = -1.69$). Therefore, Hypotheses 5 and 6 were not supported. This finding is similar to that of Chen and Dubinsky (2003) who found a non-significant negative relationship between perceived risks and perceived value of apparel shopping via the site. These findings suggested that consumer perception of the value of Internet shopping is more likely explained by the perception of apparel quality and the level of the Internet retailer's service quality rather than the perception of apparel sacrifice and/or apparel risk.

Nested Model Comparisons

In order to examine the evidence of acceptable fit of the hypothesized model, a hierarchical model comparison was conducted. Three nested models were created. Model 1 posits a null model testing complete independence among research variables. Model 2 is a simpler model with only indirect effects among endogenous variables. Finally, Model 3 is the hypothesized model. The summary statistics of these nested models are shown in Table 5.28. The *chi*-square difference from Model 1 to Model 2 was significant at the .001 level ($\Delta\chi^2 = 98.47$, $\Delta df = 6$). However, it showed unsatisfactory fit indices (GFI = .90, AGFI = .63). When the hypothesized direct paths were introduced (Model 3), the fit indices were very good (GFI = .99, AGFI = .98), with a significant *chi*-square improvement ($\Delta\chi^2 = 2.86$, $\Delta df = 2$). Thus, it was concluded that the proposed Sub-model 1 is the most suitable model as it offered significant improvements of *chi*-square and other model fit indices.



$\chi^2(df = 2) = 2.86$
 GFI = .99
 AGFI = .98
 RMSR = .02
 p = .24

Note: Insignificant paths are indicated by broken lines.

Figure 5.5. Causal analysis of Sub-model 1: Product quality evaluation phase

Table 5.28. Nested model comparisons for Sub-model 1

| Model description | $\chi^2(df)$ | $\Delta\chi^2(\Delta df)$ | GFI | AGFI | RFI |
|--------------------|--------------|---------------------------|-----|------|-----|
| Null model | 214.75 (10) | ---- | | | |
| Linear model | 116.28 (4) | 98.47 (6) *** | .90 | .63 | .35 |
| Hypothesized model | 2.86 (2) | 113.42 (2) *** | .99 | .98 | .93 |

Note: *** $p < .001$

Decomposition of Effects

To further assess the significance of direct, indirect, and total effects of predictor variables on endogenous variables in Model 1, the decomposition of effects analysis was conducted (see Table 5.29). First, the decomposition results showed that the experimental treatment of the level of service quality only had significant direct and total effects on perceived value. Perceived apparel quality had the largest direct and total effect on perceived value (.47). Perceived apparel sacrifice had the second largest direct and total effects on

Table 5.29. Decomposition of direct, indirect, and total effects for Sub-model 1

| <u>Dependent variable</u> Independent variable | Direct Effects | Indirect Effects | Total Effects |
|---|-------------------|---------------------|------------------|
| <u>Perceived Apparel Quality</u> | | | |
| Level of service quality | .10 | -- | .10 |
| R^2 | .01** | | |
| <u>Perceived Apparel Risk</u> | | | |
| Level of service quality | -- | -.01 | -.01 |
| Perceived apparel quality | -.12* | -- | -.12* |
| Perceived apparel sacrifice | .45** | -- | .45** |
| R^2 | .22** | | |
| <u>Perceived Value</u> | | | |
| Level of service quality | .19* | .04 | .23* |
| Perceived apparel quality | .47** | -- | .47** |
| Perceived apparel sacrifice | -.08 | -.01 | -.09 |
| Perceived apparel risk | -.02 | -- | -.02 |
| R^2 | .28* | | |

* $p < .05$; ** $p < .01$.

perceived apparel risk (.45). No indirect effect in Sub-model 1 was significant. The proposed Sub-model 1 explained a moderate amount of variance for perceived value ($R^2 = .28$), perceived apparel risk ($R^2 = .22$), and perceived apparel quality ($R^2 = .10$). All R^2 s for endogenous variables were significant ($p < .05$).

Sub-model 2

The proposed Sub-model 2 focused on examining the consumer evaluation of service level of the Internet apparel shopping site. The model consisted of one exogenous construct (treatment) and four endogenous constructs (perceived service quality, perceived service sacrifice, perceived service risk, and perceived value). Figure 5.6 exhibits the standardized path coefficients and t -values for each structural path as well as the fit indices for the model. The overall fit indices for the proposed model revealed a *chi*-square of 11.84 ($df = 1$; $p = .01$), GFI of .99, AGFI of .81, and RMSR of .03. All fit indices, except AGFI, indicated that the proposed Sub-model 2 fit the data well.

Hypothesis Testing

In Sub-model 2, the following hypotheses were generated:

- H_{1c}: The level of service quality treatment has a positive direct effect on the perceived service quality of an Internet apparel site.
- H_{1d}: The level of service quality treatment has a negative direct effect on the perceived service sacrifice of an Internet apparel site.
- H_{1e}: The level of service quality treatment has a negative direct effect on the perceived service risk of an Internet apparel site.
- H₇: The perceived service quality of an Internet apparel site has a negative direct effect on the perceived service risk of the site.
- H₈: The perceived service sacrifice of an Internet apparel site has a positive direct effect on the perceived service risk of the site.
- H₉: The perceived service quality of an Internet apparel site has a positive direct effect on the perceived value of apparel shopping via the site.
- H₁₀: The perceived service risk of an Internet apparel site has a negative direct effect on the perceived value of apparel shopping via the site.

H₁₁: The perceived service sacrifice of an Internet apparel site has a negative direct effect on the perceived value of shopping via the site.

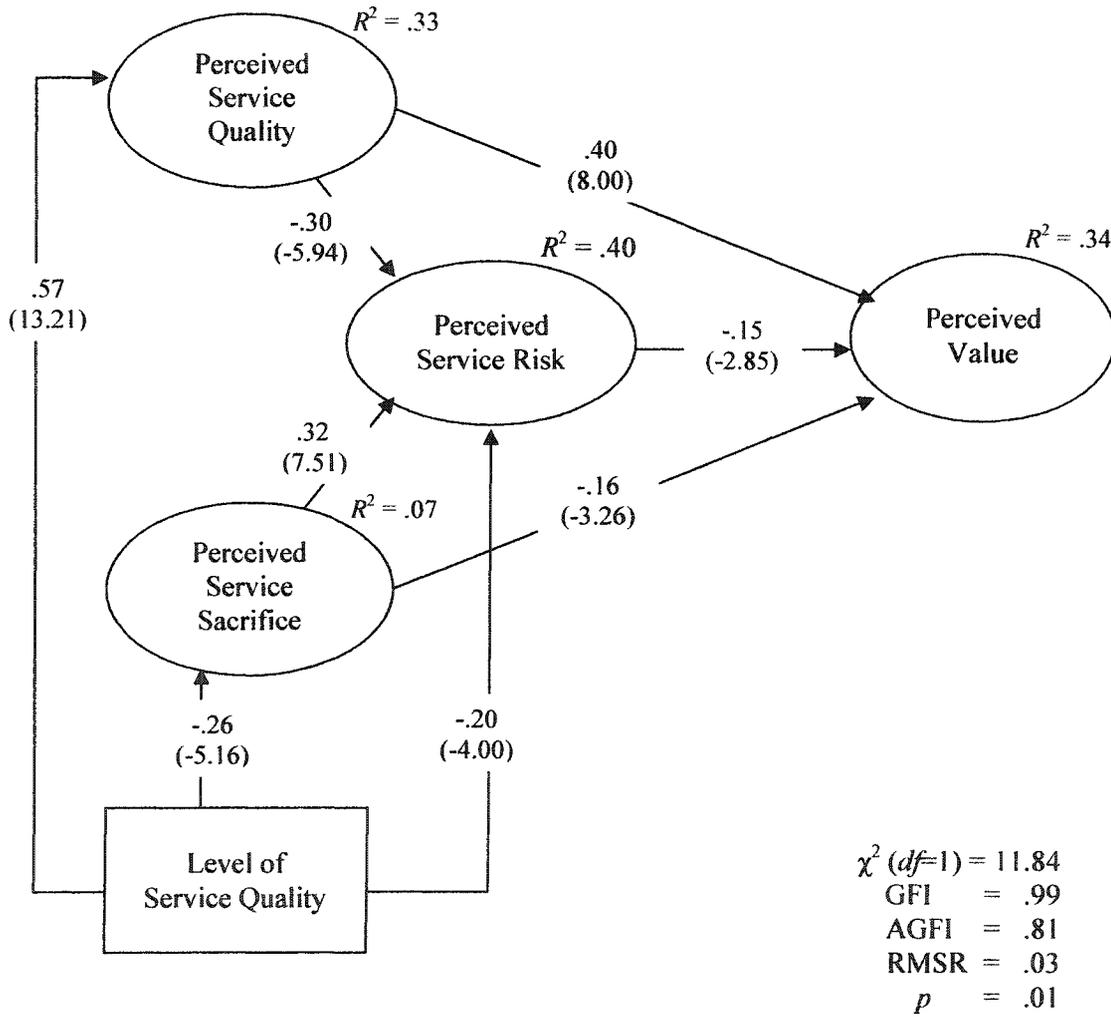


Figure 5.6. Causal analysis of Sub-model 2: Retail service evaluation phase

To examine the relationships between the level of service quality of an Internet apparel retailer and perceptions of service quality, service sacrifice, and service risk, three hypotheses were tested (H1c, H1d, and H1e). The experimental treatment, the level of service quality of an Internet retail site, had significant effects on all three variables ($t = 13.21$, $t = -5.16$, and $t = -4.00$, respectively). Thus, Hypotheses 1c, 1d, and 1e were supported. The path between the level of service quality and perceived service quality (Hypothesis 1c) was another manipulation check of levels of experimental treatments (Bagozzi, 1988). In addition, due to the level of service quality, consumers had different perceptions of service sacrifice and value of Internet apparel shopping from the site.

Hypothesis 7 proposed the negative effect of perceived service quality on perceived risk of service offered by the site. There was a significant negative relationship between perceived service quality and perceived service risk ($t = -5.94$). Hypothesis 8, testing the positive influence of perceived service sacrifice on perceived service risk, received statistical support ($t = 7.51$). Hypothesis 9, proposing the positive relationship between perceived service quality and perceived value, also received support ($t = 8.00$). Hypothesis 10, examining a negative influence of perceived service risk on perceived value, also received support ($t = -2.85$). Hypothesis 11, proposing a negative effect of perceived service sacrifice on perceived value, also received support ($t = -3.26$). Thus, Hypotheses 7, 8, 9, 10, and 11 were supported.

Nested Model Comparisons

In order to examine the evidence of acceptable fit of the hypothesized model, a hierarchical model comparison was conducted. Three nested models were created. Model 1 posits a null model testing complete independence among research variables. Model 2 is a simpler model with only indirect effects among endogenous variables. Finally, Model 3 is the hypothesized model. The summary statistics of these nested models are shown in Table 5.30. The *chi*-square difference from Model 1 to Model 2 was significant at the .001 level ($\Delta\chi^2 = 428.58$, $\Delta df = 6$). However, it showed unsatisfactory fit indices (GFI = .90, AGFI = .64). When the hypothesized direct paths were introduced (Model 3), the fit indices were acceptable (GFI = .99, AGFI = .81) with a significant *chi*-square improvement ($\Delta\chi^2 = 87.89$,

$\Delta df = 3$). Thus, I concluded that proposed Sub-model 2 is adequate as it showed significant improvements of *chi*-square and other model fit indices.

Table 5.30. Nested model comparisons for Sub-model 2

| Model description | $\chi^2(df)$ | $\Delta\chi^2(\Delta df)$ | GFI | AGFI | RFI |
|--------------------|--------------|---------------------------|-----|------|-----|
| Null model | 528.31 (10) | ---- | | | |
| Linear model | 99.73 (4) | 428.58 (6)*** | .90 | .64 | .53 |
| Hypothesized model | 11.84 (1) | 87.89 (3)*** | .99 | .81 | .78 |

Note: *** $p < .001$

Table 5.31. Decomposition of direct, indirect, and total effects for Sub-model 2

| <u>Dependent variable</u> Independent variable | Direct Effects | Indirect Effects | Total Effects |
|---|-------------------|---------------------|------------------|
| <u>Perceived Service Quality</u> | | | |
| Level of service quality | .57** | -- | .57** |
| R^2 | .33** | | |
| <u>Perceived Service Sacrifice</u> | | | |
| Level of service quality | -.26** | -- | -.26** |
| R^2 | .07** | | |
| <u>Perceived Service Risk</u> | | | |
| Level of service quality | -.20* | -.26** | -.46* |
| Perceived service quality | -.30* | -- | -.30* |
| Perceived service sacrifice | .32* | -- | .32* |
| R^2 | .40* | | |
| <u>Perceived Value</u> | | | |
| Level of service quality | -- | .34** | .34** |
| Perceived service quality | .40** | .05* | .45** |
| Perceived service sacrifice | -.16* | -.05* | -.21* |
| Perceived service risk | -.15* | -- | -.15* |
| R^2 | .34* | | |

* $p < .05$; ** $p < .01$.

Decomposition of Effects

Table 5.31 includes the direct, indirect, and total effects of Sub-model 2. An examination of decomposition of effects revealed that the experimental treatment level of service quality had significant total effects on perceived service quality, perceived service sacrifice, perceived service risk, and perceived value. The level of service quality had the largest direct effect on perceived service quality (.57) and the largest indirect effect on perceived value (.34). Direct effect of perceived service quality on perceived value was also noticeable (.40). The proposed Sub-model 2 explained a substantial amount of variance for perceived service risk ($R^2 = .40$), perceived service quality ($R^2 = .33$), and perceived value ($R^2 = .34$). All R^2 s for endogenous variables were significant ($p < .05$).

Sub-model 3

The proposed Sub-model 3 focused on examining the QVS model. The model consisted of one exogenous construct (treatment) and five endogenous constructs (perceived service quality, perceived service sacrifice, perceived value, satisfaction, and behavioral outcomes). Figure 5.7 exhibits standardized path coefficients and t -values for each structural path as well as the fit indices for the model. The overall fit indices for the proposed model revealed a χ -square of 9.05 ($df = 4$; $p = .06$), GFI of .99, AGFI of .96, and RMSR of .027. All fit indices indicated that the proposed Sub-model 3 fit the data well.

Hypothesis Testing

In Sub-model 3, the following hypotheses were proposed:

- H_{1c}: The level of service quality treatment has a positive direct effect on the perceived service quality of an Internet apparel site.
- H_{1d}: The level of service quality treatment has a negative direct effect on the perceived service sacrifice of an Internet apparel site.
- H_{1f}: The level of service quality treatment has a positive direct effect on satisfaction with apparel shopping via the site.
- H₉: The perceived service quality of an Internet apparel site has a positive direct effect on the perceived value of apparel shopping via the site.

- H₁₁: The perceived service sacrifice of an Internet apparel site has a negative direct effect on the perceived value of shopping via the site.
- H₁₂: The perceived service quality of an Internet apparel site has a positive direct effect on satisfaction with apparel shopping via the site.
- H₁₃: The perceived value of shopping via an Internet apparel site has a positive direct effect on satisfaction with shopping via the site.
- H₁₄: The perceived service quality of an Internet apparel site has a positive direct effect on behavioral intentions to shop via the site.
- H₁₅: The perceived value of shopping via an Internet apparel site has a positive direct effect on behavioral intentions to shop via the site.
- H₁₆: Satisfaction with apparel shopping via an Internet site has a positive direct effect on behavioral intentions to shop via the site.

To examine the treatment effects between the level of service quality of an Internet apparel retailer and perceptions of service quality, perceived service sacrifice, and satisfaction, three hypotheses were tested (H1c, H1d, and H1f). The service quality treatment had significant mean differences on all three variables ($t = 13.21$, $t = -5.16$, and $t = 4.03$, respectively). Thus, Hypotheses 1c, 1d, and 1f were supported. Results showed that due to the manipulation of level of service quality, consumers perceived different satisfaction levels.

In the model testing, Hypothesis 9, proposing a positive impact of perceived service quality on perceived value of shopping via the site, received support ($t = 10.19$). Hypothesis 11 proposed a negative direct effect of perceived service sacrifice on perceived value of shopping via the site. This negative relationship was significant ($t = -4.64$). Hypothesis 12 proposed the positive effect of perceived service quality on satisfaction with shopping via the site. There was a significant positive relationship between perceived service quality and satisfaction ($t = 9.97$). Hypothesis 13, testing the positive influence of perceived value of shopping via the site on satisfaction with shopping via the site, received statistical support ($t = 10.48$). Hypothesis 14, examining a positive influence of perceived service quality on behavioral outcomes regarding apparel shopping via the site, received support ($t = 3.43$). Hypothesis 15, proposing a positive relationship between perceived value and the behavioral

outcomes, also received support ($t = 9.23$). Hypothesis 16, proposing a positive direct impact of satisfaction with shopping via the site on the behavioral outcomes, received support ($t = 5.92$). Thus, Hypotheses 13, 14, 15, and 16 were supported.

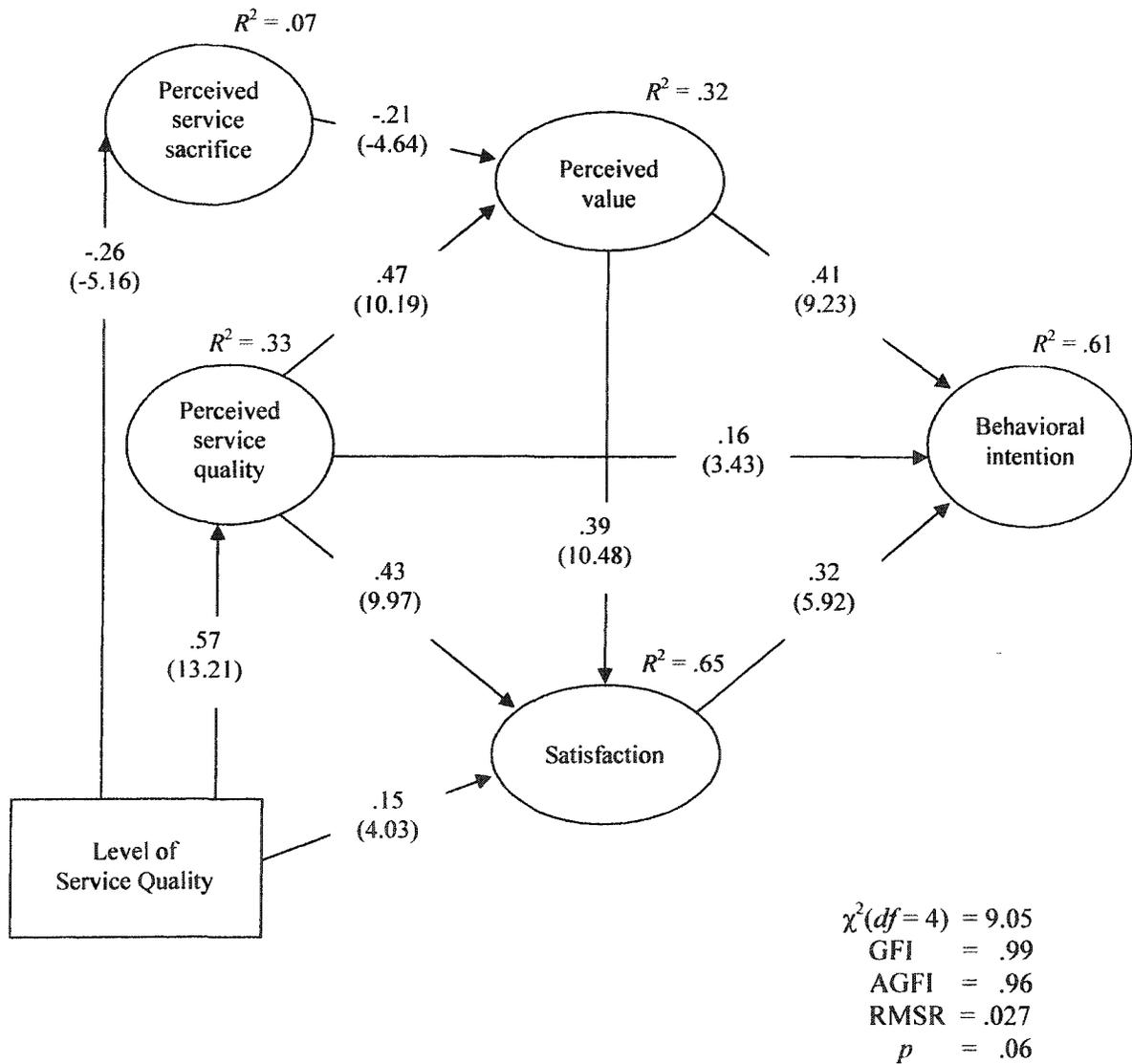


Figure 5.7. Causal analysis of Sub-model 3: QVS model

Nested Model Comparisons

In order to examine the evidence of acceptable fit of the hypothesized model, a hierarchical model comparison was conducted. Three nested models were created. Model 1 posits a null model testing complete independence among research variables. Model 2 is a simpler model with only indirect effects among endogenous variables. Finally, Model 3 is the hypothesized model. The summary statistics of these nested models are shown in Table 5.32. The *chi*-square difference from Model 1 to Model 2 was significant at the .001 level ($\Delta\chi^2 = 920.74$, $\Delta df = 8$). However, it showed unsatisfactory fit indices (GFI = .91, AGFI = .74). When the hypothesized direct paths were introduced (Model 3), the fit indices were very good (GFI = .99, AGFI = .96) with a significant *chi*-square improvement ($\Delta\chi^2 = 112.35$, $\Delta df = 3$). Thus, it was concluded that proposed Sub-model 3 is the most suitable model as it offered significant improvements of *chi*-square and other model fit indices.

Table 5.32. Nested model comparisons for Sub-model 3: QVS model

| Model description | $\chi^2(df)$ | $\Delta\chi^2(\Delta df)$ | GFI | AGFI | RFI |
|--------------------|--------------|---------------------------|-----|------|-----|
| Null model | 1042.14 (15) | --- | | | |
| Linear model | 121.40 (7) | 920.74 (8)*** | .91 | .74 | .75 |
| Hypothesized model | 9.05 (4) | 112.35 (3)*** | .99 | .96 | .97 |

Note: *** $p < .001$

Decomposition of Effects

Table 5.33 exhibits the direct, indirect, and total effects of Sub-model 3. An examination of decomposition of effects revealed that the experimental treatment, the level of service quality, had significant total effects on perceived service quality, perceived service sacrifice, perceived value, satisfaction, and behavioral outcomes. All direct, indirect, and total effects found in the decomposition analysis were significant ($p < .05$). The level of service quality had the largest direct effect on perceived service quality (.57) and the strongest indirect effects on perceived value, satisfaction, and behavioral outcomes (.32, .37, .39, respectively). The proposed Sub-model 3 explained a substantial amount of variance for satisfaction with shopping via the site and behavioral outcomes ($R^2 = .61$ and R^2

= .67, respectively). In addition, a moderate amount of variance for perceived value and perceived service quality was explained in Sub-model 3 ($R^2 = .42$ and $R^2 = .33$, respectively). All R^2 s for endogenous variables were significant ($p < .05$).

Table 5.33. Decomposition of direct, indirect, and total effects for Sub-model 3

| <u>Dependent variable</u> Independent variable | Direct Effects | Indirect Effects | Total Effects |
|---|-------------------|---------------------|------------------|
| <u>Perceived Service Quality</u> | | | |
| Level of service quality | .57** | -- | .57** |
| R^2 | .33** | | |
| <u>Perceived Service Sacrifice</u> | | | |
| Level of service quality | -.26** | -- | -.26** |
| R^2 | .07** | | |
| <u>Perceived Value</u> | | | |
| Level of service quality | -- | .32** | .32** |
| Perceived service quality | .47** | -- | .47** |
| Perceived service sacrifice | -.21* | -- | -.21* |
| R^2 | .42* | | |
| <u>Satisfaction</u> | | | |
| Level of service quality | -- | .37** | .37** |
| Perceived service quality | .43* | .18** | .61** |
| Perceived service sacrifice | -- | -.08* | -.08* |
| Perceived value | .39** | -- | .39** |
| R^2 | .65** | | |
| <u>Behavioral Outcomes</u> | | | |
| Level of service quality | -- | .39** | .39** |
| Perceived service quality | .16** | .38* | .55** |
| Perceived service sacrifice | -- | -.11* | -.11* |
| Perceived value | .41* | .12* | .53* |
| Satisfaction | .32* | -- | .32* |
| R^2 | .61* | | |

* $p < .05$; ** $p < .01$.

Sub-model 4

The proposed Sub-model 4 introduced perceived apparel quality as an important factor in the QVS model and suggested that the Internet apparel retailing context may be better explained by taking account of both product and service quality. The model consisted of one exogenous construct (treatment) and six endogenous constructs (perceived apparel quality, perceived service quality, perceived service sacrifice, perceived value, satisfaction, and behavioral outcomes). Figure 5.8 shows standardized path coefficients and *t*-values for each structural path as well as the fit indices for the model. The overall fit indices for the proposed model revealed a *chi*-square of 4.32 ($df = 4; p = .37$), GFI of .99, AGFI of .98, and RMSR of .005. All fit indices indicated that the proposed Sub-model 4 fit the data very well.

Hypothesis Testing

In Sub-model 4, the following hypotheses were proposed:

- H_{1a}: The level of service quality treatment has a positive direct effect on the perceived quality of apparel featured on an Internet site.
- H_{1c}: The level of service quality treatment has a positive direct effect on the perceived service quality of an Internet apparel site.
- H_{1d}: The level of service quality treatment has a negative direct effect on the perceived service sacrifice of an Internet apparel site.
- H_{1f}: The level of service quality treatment has a positive direct effect on satisfaction with apparel shopping via the site.
- H₄: The perceived quality of apparel featured on an Internet site has a positive direct effect on the perceived value of apparel shopping via the site.
- H₉: The perceived service quality of an Internet apparel site has a positive direct effect on the perceived value of apparel shopping via the site.
- H₁₁: The perceived service sacrifice of an Internet apparel site has a negative direct effect on the perceived value of shopping via the site.
- H₁₂: The perceived service quality of an Internet apparel site has a positive direct effect on satisfaction with apparel shopping via the site.

H₁₃: The perceived value of shopping via an Internet apparel site has a positive direct effect on satisfaction with shopping via the site.

H₁₄: The perceived service quality of an Internet apparel site has a positive direct effect on behavioral intentions to shop via the site.

H₁₅: The perceived value of shopping via an Internet apparel site has a positive direct effect on behavioral intentions to shop via the site.

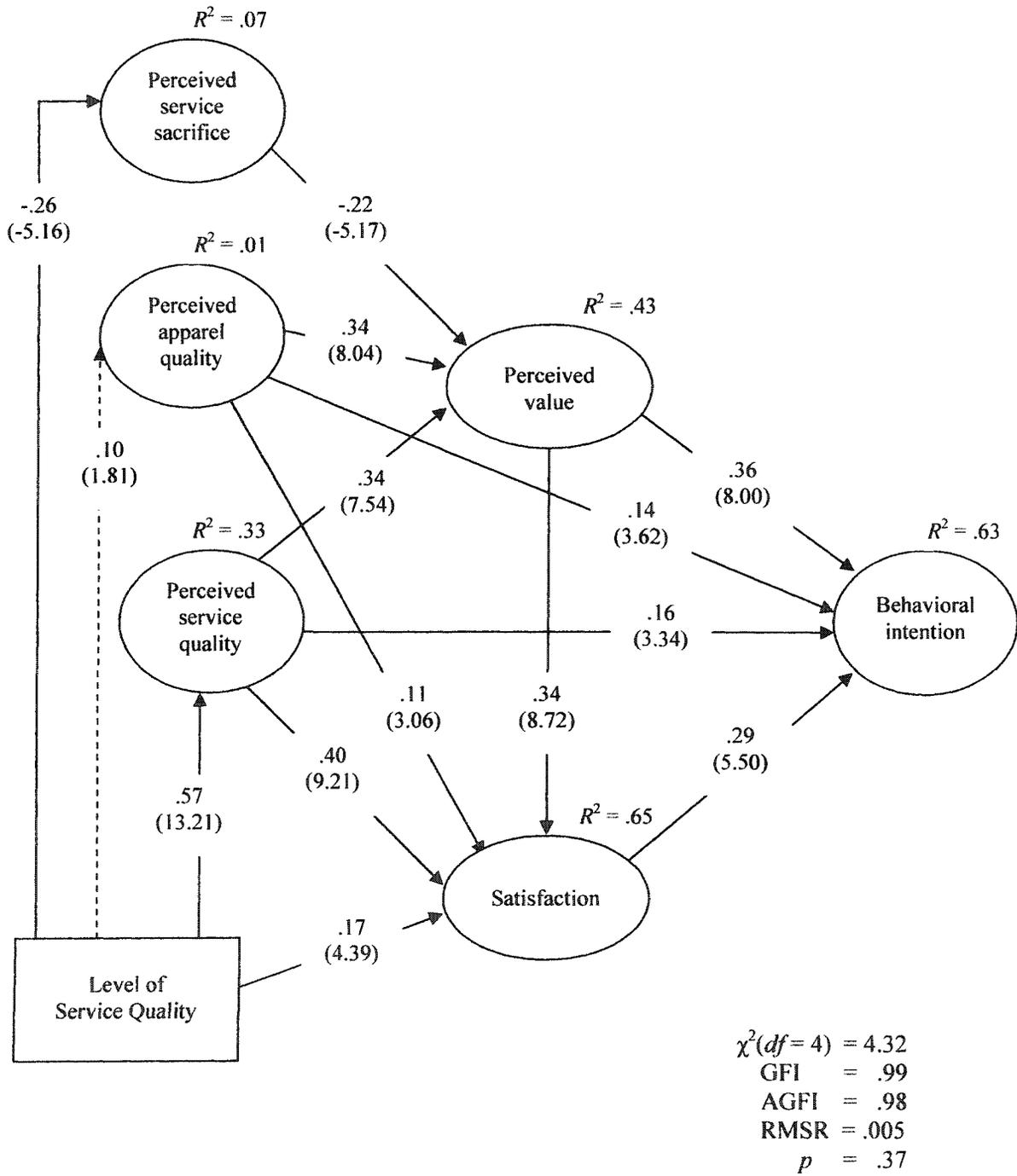
H₁₆: Satisfaction with apparel shopping via an Internet site has a positive direct effect on behavioral intentions to shop via the site.

H₁₇: The perceived quality of apparel featured on an Internet apparel site has a positive direct effect on satisfaction with shopping via the site.

H₁₈: The perceived quality of apparel featured on an Internet site has a positive direct effect on behavioral intentions to shop via the site.

To examine the relationships between the level of service quality of an Internet apparel retailer and perceptions of service quality, service sacrifice, apparel quality, and satisfaction, four hypotheses were tested (H1a, H1c, H1d, and H1f) in Sub-model 4. The experimental treatment, the level of service quality of an Internet retail site, had significant mean differences on perceived service quality ($t = 13.21$), perceived service sacrifice ($t = -5.16$), and satisfaction ($t = 4.39$). However, the treatment effect on perceived apparel quality (H1a) was marginally significant ($t = 1.81$; $p = .10$). Therefore, only Hypotheses 1c, 1d, and 1f were supported ($p < .05$).

Hypothesis 4 proposed the positive effect of perceived apparel quality on perceived value of Internet apparel shopping from the site. There was a significant positive relationship between perceived apparel quality and perceived value ($t = 8.00$). Hypothesis 9, proposing a positive impact of perceived service quality on perceived value of shopping via the site, received support ($t = 7.54$). Hypothesis 11 proposed a negative direct effect of perceived service sacrifice on perceived value of shopping via the site. This negative relationship was significant ($t = -5.17$). Hypothesis 12 proposed the positive effect of perceived service quality on satisfaction with shopping via the site. There was a significant positive relationship between perceived service quality and satisfaction ($t = 9.21$). Thus, Hypotheses 4, 9, 11, and 12 were supported.



Note: An insignificant path is indicated by a broken line.

Figure 5.8. Causal analysis of Sub-model 4: Modified QVS model

Hypothesis 13, testing the positive influence of perceived value of shopping via the site on satisfaction with shopping via the site, received statistical support ($t = 8.72$). Hypothesis 14, examining a positive influence of perceived service quality on behavioral outcomes regarding apparel shopping via the site, received support ($t = 3.34$). Hypothesis 15, proposing a positive relationship between perceived value and behavioral outcomes, also received support ($t = 8.00$). Hypothesis 16, proposing a positive direct impact of satisfaction with shopping via the site on behavioral outcomes, also received support ($t = 5.50$). Two additional direct effects of perceived apparel quality on satisfaction (H17) and behavioral outcomes (H18) were significant ($t = 3.06$ and $t = 3.62$, respectively). Thus, Hypotheses 13, 14, 15, 16, 17, and 18 were supported.

Nested Models Comparisons

In order to examine the evidence of acceptable fit of the hypothesized model, a hierarchical model comparison was conducted. Three nested models were created. Model 1 posits a null model testing complete independence among research variables. Model 2 is a simpler model with only indirect effects among endogenous variables. Finally, Model 3 is the hypothesized model. The summary statistics of these nested models are shown in Table 5.34. The *chi*-square difference from Model 1 to Model 2 was significant at the .001 level ($\Delta\chi^2 = 1084.09$, $\Delta df = 15$). However, it showed unsatisfactory fit indices (GFI = .93, AGFI = .68). When the hypothesized direct paths were introduced (Model 3), the fit indices were very good (GFI = .99, AGFI = .98) with a significant *chi*-square improvement ($\Delta\chi^2 = 89.73$, $\Delta df = 2$). Thus, it was concluded that proposed Sub-model 4 is the most suitable model as it offered significant improvements of *chi*-square and other model fit indices.

Table 5.34. Nested model comparisons for Sub-model 4: Modified QVS model

| Model description | $\chi^2(df)$ | $\Delta\chi^2(\Delta df)$ | GFI | AGFI | RFI |
|--------------------|--------------|---------------------------|-----|------|-----|
| Null model | 1178.14 (21) | --- | | | |
| Linear model | 94.05 (6) | 1084.09 (15)*** | .93 | .68 | .72 |
| Hypothesized model | 4.32 (4) | 89.73 (2)*** | .99 | .98 | .98 |

Note: *** $p < .001$

Decomposition of Effects

To further assess the significance of direct, indirect, and total effects of predictor variables on endogenous variables in Sub-model 4, the decomposition of effects analysis was conducted (see Table 5.35). The results of decomposition of effects revealed that the experimental treatment, the level of service quality, had significant total effects on all model constructs, except perceived apparel quality. All direct, indirect, and total effects of the treatment effect on six predictor variables were significant ($p < .05$), except the direct effect of the level of service quality on perceived apparel quality.

The level of service quality had the strongest direct effect on perceived service quality (.57) and the strongest indirect effect on behavioral outcomes (.35). Forty-three percent of the variance of perceived value was explained by the level of service quality, perceived apparel quality, perceived service quality, and perceived service sacrifice. Perceived apparel quality and perceived service quality had strong total effects on perceived value of shopping via the site (.35 and .34, respectively).

The substantial amount of variance of satisfaction with shopping via the site ($R^2 = .65$) was explained by the level of service quality, perceived apparel quality, perceived service quality, perceived service sacrifice, and perceived value. Perceived service quality had the strongest direct effect (.40), and perceived value had the second strongest direct effect (.35) on satisfaction with shopping via the site. The service quality treatment had the strongest indirect effect (.34) on satisfaction.

The research variables in Sub-model 4 explained a substantial amount of variance for behavioral outcomes ($R^2 = .61$). The perceived value of shopping via the site and perceived service quality had strong total effects on behavioral outcomes (.46 and .43, respectively). All six predictor variables exhibited significant direct or indirect effects on behavioral outcomes.

Table 5.35. Decomposition of direct, indirect, and total effects for Sub-model 4

| <u>Dependent variable</u> Independent variable | Direct Effects | Indirect Effects | Total Effects |
|---|-------------------|---------------------|------------------|
| <u>Perceived Apparel Quality</u> | | | |
| Level of service quality | .10 | -- | .10 |
| R^2 | .01** | | |
| <u>Perceived Service Quality</u> | | | |
| Level of service quality | .57** | -- | .57** |
| R^2 | .07** | | |
| <u>Perceived Service Sacrifice</u> | | | |
| Level of service quality | -.26** | -- | -.26** |
| R^2 | .33** | | |
| <u>Perceived Value</u> | | | |
| Level of service quality | -- | .28** | .28** |
| Perceived apparel quality | .35** | -- | .35** |
| Perceived service quality | .34* | -- | .34* |
| Perceived service sacrifice | -.22* | -- | -.22* |
| R^2 | .43* | | |
| <u>Satisfaction</u> | | | |
| Level of service quality | .17** | .34** | .51** |
| Perceived apparel quality | .11* | .12** | .23* |
| Perceived service quality | .40* | .12** | .52* |
| Perceived service sacrifice | -- | -.08** | -.08** |
| Perceived value | .35** | -- | .35** |
| R^2 | .65** | | |
| <u>Behavioral Outcomes</u> | | | |
| Level of service quality | -- | .35** | .35** |
| Perceived apparel quality | .14* | .19** | .33* |
| Perceived service quality | .16** | .28* | .43** |
| Perceived service sacrifice | -- | -.10** | -.10** |
| Perceived value | .36* | .10** | .46* |
| Satisfaction | .29* | -- | .29* |
| R^2 | .63* | | |

* $p < .05$; ** $p \leq .01$.

CHAPTER 6: SUMMARY AND CONCLUSIONS

This chapter includes summaries of the research and results. Based on the findings, conclusions, implications, limitations, and recommendations for future research are discussed.

Summary of Research

Since the introduction of the Internet to the general population in the U. S., the adoption of the Internet as a shopping channel has increased phenomenally in the apparel retailing industry. Wide assortment and lack of geographical limits to access of the Internet apparel retailer attract more and more customers every year. Clothing is the largest product category purchased by American college students (Choi & Lee, 2003). College students are Internet-savvy, and most have the experience of shopping over the Internet (Shop.org, 2003). These characteristics of the students make them an appropriate target market of Internet apparel retailers and marketers.

The purpose of this study was to investigate the structural relationships among perceived quality, perceived sacrifices, and perceived risks of product and service as antecedents of the value of Internet apparel shopping, as well as satisfaction and behavioral outcomes as consequences of the value of Internet apparel shopping. Specific objectives were to 1) develop three scales—perceived apparel quality, perceived service quality of an Internet retailer, and perceived value of Internet apparel shopping, 2) propose causal models that incorporate research variables, and 3) test and evaluate proposed models. Cronin et al.'s (2000) Quality-Value-Satisfaction model served as a theoretical framework for proposing relationships among research variables.

The present study had a between-subjects experimental design to examine the effects of the level of service quality provided by an Internet apparel retailer site. College students who were attending two mid-western universities participated in the study. A total of 532 students were recruited, and 425 participated in the experiment. Among these, 361 responses from female students were usable and employed for the data analyses.

Most participants were between 18 and 23 years old and White or European American. About three-fourths of the participants were majoring in Textiles and Clothing-

related fields. A large portion of the participants were seniors or juniors. Most had shopped for apparel products via department/specialty stores and discount stores/outlet malls for more than two years. More than one-half of the participants had purchased apparel via mail order catalogs, and about one-third had purchased apparel via the Internet for more than two years. A few had purchased apparel items via TV shopping channels. The majority made larger expenditures on clothing from department/specialty stores than other shopping modes and were more satisfied with clothing shopping from department/specialty stores than other shopping modes. Participants used retail stores more frequently to search for clothing product information followed by magazines/newspapers, the Internet, and catalogs. All respondents had experience in using the Internet and most used the Internet for more than two years. About three-fourths of the participants were using the Internet more than six hours a week.

Testing of the Dimensionalities of Constructs

The present study investigated the dimensionalities of three scales—perceived apparel quality, perceived service quality of an Internet retailer, and perceived value of Internet apparel shopping. Confirmatory factor analyses revealed that all three scales had three correlated factor structures and had moderate to very good model fits. In addition, all three scales had acceptable reliability measures in each factor dimension.

Perceived apparel quality construct was found to have three dimensions—construction/materials, style/design, and durability/performance. Perceived service quality of an Internet retailer had three dimensions in its construct—service, website, and merchandise planning. Finally, perceived value of Internet apparel shopping had two dimensions—apparel merchandise and Internet shopping. The apparel merchandise value dimension had three sub-dimensions—hedonic, monetary, and social values. Internet shopping value dimensions had three sub-dimensions—hedonic, instrumental, and social values.

Perceived apparel quality and perceived value of Internet apparel shopping scales had high correlations between two factors, which calls for further investigation of the dimensionality of constructs.

Testing of Causal Models

Four proposed models were analyzed by a maximum likelihood estimation procedure using AMOS. Overall, proposed sub-models had excellent fit indices ($GFI \geq .99$; $AGFI \geq .96$; $RMSR \leq .03$), except the AGFI of Sub-model 2 which was .81. In addition, comparisons of nested models showed that proposed sub-models had very good fit to the data. A summary of findings is presented in Table 6.1.

Sub-model 1

Sub-model 1 focused on testing relationships among perceived apparel quality, apparel sacrifice, apparel risk, and perceived value of Internet apparel shopping. The results for Hypothesis 1a showed that there was no significant mean difference in the consumer perception of apparel quality due to the treatment effect, while there was a significant treatment effect on perceived value. This finding suggested that the perception of quality of apparel merchandise cannot be enhanced on an Internet retail site by providing a higher service.

As hypothesized, consumer perception of apparel quality had a significant negative influence on the perception of apparel risk and a positive effect on perceived value. In addition, perceived apparel sacrifice had a significant positive effect on the perception of apparel risk. However, Hypotheses 5 and 6, examining the negative effects of perceived apparel risk and sacrifice on the perceived value of Internet apparel shopping, did not receive support. These findings suggested that consumer perception of the value of Internet shopping is more likely explained by the perception of apparel quality rather than the perception of apparel sacrifice and/or apparel risk.

The results of the decomposition of effects indicated that the magnitude of the direct effect of perceived apparel quality on perceived value was twice as large as that of the service treatment. In other words, apparel quality had a stronger impact on the perception of value of Internet apparel shopping than did the level of service quality. Thus, Internet apparel retailers should carefully develop their merchandise plan to offer high quality apparel merchandise on the Internet in order to create value for the consumer.

Table 6.1. Summary of findings

| Hypothesis | Direction of effect |
|--|---------------------|
| <u>Dependent variable: Perceived Apparel Quality</u> | |
| Level of service quality → Perceived apparel quality (H1a) | n.s. |
| <u>Dependent variable: Perceived Apparel Risk</u> | |
| Perceived apparel quality → Perceived apparel risk (H2) | - |
| Perceived apparel sacrifice → Perceived apparel risk (H3) | + |
| <u>Dependent variable: Perceived Service Quality</u> | |
| Level of service quality → Perceived service quality (H1c) | + |
| <u>Dependent variable: Perceived Service Sacrifice</u> | |
| Level of service quality → Perceived service sacrifice (H1d) | - |
| <u>Dependent variable: Perceived Service Risk</u> | |
| Level of service quality → Perceived service risk (H1e) | - |
| Perceived service quality → Perceived service risk (H7) | - |
| Perceived service sacrifice → Perceived service risk (H8) | + |
| <u>Dependent variable: Perceived Value</u> | |
| Level of service quality → Perceived value (H1b) | + |
| Perceived apparel quality → Perceived value (H4) | + |
| Perceived apparel sacrifice → Perceived value (H6) | n.s. |
| Perceived apparel risk → Perceived value (H5) | n.s. |
| Perceived service quality → Perceived value (H9) | + |
| Perceived service sacrifice → Perceived value (H11) | - |
| Perceived service risk → Perceived value (H10) | - |
| <u>Dependent variable: Satisfaction</u> | |
| Level of service quality → Satisfaction (H1f) | + |
| Perceived apparel quality → Satisfaction (H17) | + |
| Perceived service quality → Satisfaction (H12) | + |
| Perceived value → Satisfaction (H13) | + |
| <u>Dependent variable: Behavioral Outcomes</u> | |
| Perceived apparel quality → Behavioral outcomes (H18) | + |
| Perceived service quality → Behavioral outcomes (H14) | + |
| Perceived value → Behavioral outcomes (H15) | + |
| Satisfaction → Behavioral outcomes (H16) | + |

+: Significant positive effect

- : Significant negative effect

n.s.: Nonsignificant effect

Sub-model 2

Sub-model 2 focused on testing relationships among perceived Internet retailer service quality, service sacrifice, service risk, and perceived value of Internet apparel shopping. All proposed hypotheses in Sub-model 2 were statistically supported. The results for testing treatment effects on research variables revealed that there were significant mean differences in consumer perception of Internet retailer service quality, service sacrifice, and service risk.

As proposed, the consumer perception of service quality had a significant negative influence on perceived service risk and a positive impact on perceived value. Also, perceived service sacrifice had a significant positive effect on the perception of service risk and a negative impact on perceived value. Finally, perceived service risk had a significant negative effect on the perception of the value of Internet apparel shopping. These findings suggested that the consumer perception of the value of Internet shopping is explained by the perception of Internet retail service quality, service sacrifice, and service risk as proposed by Sub-model 2.

The results of decomposition of effects indicated a large indirect and total effect of the treatment on perceived value. This finding suggested that a high service quality offered by an Internet apparel retailer can positively impact consumer perception of value of shopping. Also, a large indirect effect of the service level treatment on the perception of service risk implied that service risk can be reduced by providing higher service quality on the Internet. In summary, the results of testing Sub-model 2 showed that the perception of value of Internet apparel shopping can be enhanced by providing higher service and lower service risk and sacrifice, when controlling merchandise-related variables.

Sub-model 3

Sub-model 3 focused on testing relationships among QVS constructs—perceived Internet retailer service quality, service sacrifice, perceived value, satisfaction, and behavioral outcomes related to Internet apparel shopping. All proposed hypotheses in Sub-model 3 were statistically supported. The results for testing treatment effects on research variables revealed significant mean differences in consumer perception of Internet retailer service quality and service sacrifice, as well as satisfaction. These findings suggested that

the level of service quality offered by an Internet retailer positively influenced not only the perception of service quality and service sacrifice, but also the level of consumer satisfaction with the apparel shopping experience from the site.

As expected, the consumer perception of service quality had a significant positive impact on perceived value, satisfaction, and behavioral outcomes. Perceived service sacrifice had a significant negative effect on the perception of value. This relationship was proposed in the QVS model (Cronin et al., 2000) but was not significant in that study.

In addition, perceived value had a significant positive influence on satisfaction and behavioral outcomes. Finally, satisfaction had a positive impact on behavioral outcomes. These findings suggested that consumer satisfaction with Internet apparel shopping is explained by the perception of Internet retailer service quality, service sacrifice, and value. Consumer's behavioral outcomes regarding Internet apparel shopping are predicted by the perception of service quality, service sacrifice, value, and satisfaction as the QVS model posits.

The results of the decomposition of effects indicated strong direct effects of Internet retailer service quality on perceived value and satisfaction. In addition, a strong indirect effect of perceived service quality and strong direct effect of perceived value was found on behavioral outcomes. This finding suggested that the service quality of an Internet apparel retailer is the major factor influencing the consumer perception of value and satisfaction related to Internet apparel shopping. In addition, the Internet retailer service quality can impact consumer purchase and revisit behavior. Thus, it is suggested that Internet apparel retailers may create consumer value by offering higher service quality, which will significantly affect customer satisfaction and future behavioral outcomes.

Sub-model 4

Sub-model 4 introduced perceived apparel quality as an important factor in consumer value, satisfaction, and behavioral outcomes. Sub-model 4 proposed that the Internet apparel retailing context may be better explained by taking account of both product and service quality. From the results of hypothesis testing, all, except one, proposed hypotheses in Sub-model 4 were supported. The results for testing treatment effects on research variables revealed significant mean differences in consumer perception of Internet retailer service

quality and service sacrifice, as well as satisfaction. However, there was a marginal mean difference in perceived apparel quality due to the treatment effect. These findings suggested that the level of service quality offered by an Internet retailer positively influenced the perceptions of service quality as well as consumer satisfaction with apparel shopping, but not product quality.

As proposed, consumer perception of apparel quality had a significant positive impact on perception of value, satisfaction, and behavioral outcomes. Consumer perception of service quality also had a significant positive impact on perceived value, satisfaction, and behavioral outcomes. Perceived service sacrifice had a significant negative effect on the perception of value. In addition, perceived value had a significant positive influence on satisfaction and behavioral outcomes. Finally, satisfaction had a positive impact on behavioral outcomes.

The results of decomposition effects indicated the strongest direct effect of perceived apparel quality on value perception, followed by perceived Internet retailer service quality. In addition, for satisfaction, perceived service quality had the strongest direct and total effect, followed by perceived value. It was also found that perceived value had the strongest total effect and perceived service quality had the second strongest total effect on behavioral outcomes. These findings suggested that perceived apparel quality and perceived service quality are major factors influencing consumer perception of value of Internet apparel shopping. It was also found that perceived service quality and perceived value are the most influential factors affecting consumer satisfaction with Internet apparel shopping.

In summary, Internet retailer service quality can impact consumer perception of value and satisfaction, which all lead to apparel purchase, site revisit, and recommendation of the site to others. To create value in Internet apparel shopping, it is suggested that Internet retailers should carefully develop and execute their merchandise and service marketing plans. Thus, Internet apparel retailers could create consumer value by offering higher service quality and high quality apparel merchandise, which all should significantly affect the financial performance of the Internet retailer by increasing apparel sales.

Conclusions

The findings from this study revealed that consumer perception of apparel quality, service quality, service sacrifice and service risk were important factors in predicting consumer perception of the value of Internet apparel shopping. Perceived service risk was a successful mediating variable between perceived service quality and value. In contrast to expectations, perceived apparel sacrifice and apparel risk did not significantly influence perceived value. These findings suggested that consumer perception of the value of Internet shopping is more likely explained by the perception of apparel quality and service related factors of an Internet retailer rather than the perception of apparel sacrifice and/or apparel risk.

In addition, it was found that satisfaction and behavioral outcomes were important consequences of perceived value. Satisfaction with Internet apparel shopping was most explained by perceived Internet retailer service quality and perceived value. Moreover, behavioral outcomes related to Internet apparel shopping were explained directly and indirectly by perceived value, service quality, apparel quality, service sacrifice, and satisfaction. Specifically, perceived value and service quality were the most influential predictors of future behavioral outcomes, including intentions to revisit, purchase, search for product information from the site, recommend the site to others, and say positive things about the site to others.

Contributions of the Study

This study contributes to the understanding of Internet apparel shopping. The structural equation modeling approach provided theoretical insight into the relationships of perceived apparel quality, service quality, and value in the Internet apparel retailing environment. Even though further refinements for these scales may be required for future use, these scales exhibited a few merits as theoretically developed measures. First, the multi-dimensional approach using a structural modeling technique was appropriate to measure the perceived quality of apparel products, which tends to be complex and multidimensional. Second, the Internet retailer service quality measure, based on the findings of focus group interviews and previous research, was an attempt to create a tangible, product specific

measure of service quality in an online retailing environment. Third, the perceived value of Internet apparel shopping scale is another attempt to refine a measure that specifies both product and service levels in the Internet retailing context. By developing these scales, this study may facilitate empirical efforts to further study perceived apparel quality, perceived service quality of an Internet retailer, and perceived value of Internet apparel shopping. The multidimensional nature of the scales enables researchers to conduct in-depth exploration of Internet apparel shopping.

This study emphasized the importance of both product and service evaluation in the consumer online purchase process. By testing the series of proposed sub-models, this study demonstrated that perceived apparel quality is an important determinant of perceived value, satisfaction, and behavioral outcomes regarding Internet apparel shopping. Through incorporating perceived apparel quality, the QVS model (Cronin et al., 2000) was expanded to fit the Internet apparel retailing context. This study proposed and examined theoretical frameworks which can be adopted in the context of Internet retailing of apparel products. Furthermore, the proposed models may be used to explore significant factors in the Internet retailing environment for other soft goods merchandise.

Implications

The findings of this study will help merchandisers, retailers, and product developers to have a better understanding of how apparel quality and Internet retail service quality relate to Internet apparel shopping behavior. One implication of this study for the Internet retailing industry is the importance of consumer perception of apparel quality and service quality. Both quality perceptions are major determinants of consumer perception of value and satisfaction with Internet apparel shopping, which significantly affect the consumer's future behavioral intentions (i.e., purchase products, revisit the retailer, search for product information, say positive things about, and recommend the retailer to others). Thus, retail merchandisers should recognize the importance of these two quality factors. A good quality merchandise line and intensive service offerings are more likely to attract new shoppers to make a purchase and retain current customers to continue their purchase of apparel products online.

One of the important findings of this study was the holistic perspective of the perceived value of Internet apparel shopping. Perceived value of Internet apparel shopping included not only monetary value but also hedonic and other instrumental values. Shopping experience on the Internet site should provide customers an enjoyable aspect of shopping in addition to convenience and time-saving. Therefore, online visual merchandisers and Website developers should carefully design the online store to create consumer value from a broad perspective. Navigational issues, overall site design, as well as other aesthetic components devoted to consumer value perception of Internet apparel shopping should be carefully examined and incorporated into the development of the online store visual merchandising plan.

In this study an Internet retailer site perceived as having high service quality offered multiple ways of viewing the product images (e.g., large, small images of the apparel for all available colors) and more detailed product description about garment fit and fabric hand. It is suggested that Internet apparel retailers provide detailed visual and verbal information along with well organized merchandise presentations to enhance the customer's online apparel shopping experience.

Limitations

This study should be evaluated in the light of the following limitations. First, the results may not be generalized to the U. S. population because this study employed a convenience sample of female college-aged consumers who have higher education, majors related to apparel, and more experience with the Internet. The findings may not be applicable to other consumer segments. In particular, age may have a substantial impact on evaluation of Internet shopping sites. Even though there was an attempt to reduce the impact of convenience sampling by collecting data from two different universities, the results of this study might be biased by the regional effects that may confound demographic influences.

Second, the artificial lab environment of the present study providing participants' exposure to the mock apparel retail websites may have resulted in responses that differ from real world behavior, due to the very fact that respondents were in an experiment and reported their evaluation to someone else. Respondents did not have to make actual purchase

decisions, limiting the realism of the data collection situation. Also, relatively high speed Internet access was provided for the experiment compared to lower speed connections that might be usual for in-home shoppers. The more ideal Internet access condition may have provided a shopping experience that might have been biased.

Third, even though the model fit indices indicated moderate to very good fit and all structural paths were significant, all three scales, developed in this study, contained some structural path coefficients below .70. In addition, two summated measures, perceived apparel risk and perceived service sacrifice, had Cronbach's *alphas* lower than .70, indicating a low internal consistency in the measures. Thus, further refinements are necessary to improve these scales.

Recommendations for Future Research

Based on the findings of this study, future research is recommended to refine the perceived apparel quality scale and its dimensionality. This study identified a perceived apparel quality scale having three-correlated factors. However, the extremely high correlation between construction/materials and durability/performance dimensions indicated some possibility of further investigation of dimensionality of this scale.

Second, there is a possibility of further refinement of the measure of perceived Internet retailer service quality. The three-correlated factors model of the scale had moderate model fit indices and contained some low factor loadings on structural paths in a three-correlated factors model.

Third, the perceived value of Internet apparel shopping scale proposed two sub-dimensions related to apparel merchandise and Internet shopping. Both sub-dimensions exhibited very good reliability among measures and model fit indices. This scale may be applicable to other apparel product categories (e.g., jeans) or different contexts of Internet shopping dealing with tangible products (e.g., home electronics shopping).

In this study, a variety of size ranges (e.g., misses, petite, tall, and plus) and more color options were incorporated as a part of service offered by an Internet apparel retailer. However, individual effects of these merchandise assortment issues on perceptions of service quality were not examined. Therefore, future research on the impact of these assortment

planning issues on creating quality and value of Internet apparel shopping has practical implications for the retailing industry.

The present study found that female college-aged consumers were multi-channel shoppers for apparel products. It may be interesting to further investigate the complementary benefits of Internet shopping, other non-store shopping, and store-based shopping. In addition, it is necessary to explore the marketing strategies of the apparel industry regarding multi-channel retailing, such as how the apparel retailing industry analyzes the current trends of launching Internet stores and how the industry plans its future movement on multi-channel retailing.

Finally, this study investigated the effects of merchandise quality and Internet retailer service quality on female college-aged consumer perceptions of value, satisfaction, and behavioral intentions. Future research may replicate the study using other population groups to verify the research findings beyond the consumer segment studied in this research. In addition, future study of the influences of various population variables such as age, sex, and geographic location on Internet apparel shopping behavior is important.

APPENDIX A: FOCUS GROUP INTERVIEW QUESTION PROTOCOL

Quality of Apparel

1. In your opinion, what is the definition of “quality” of apparel?
2. How do you assess quality of apparel? What criteria do you use? What consists of high quality of apparel? What consists of low quality of apparel? How do you evaluate quality of apparel?
3. What are the major criteria you use when you purchase apparel?
4. Is the quality of apparel important to you for making a decision to purchase apparel? If so, how important?

Internet Apparel Shopping Experience

5. Have you shopped for apparel online?
6. How often do you shop for apparel online? Browse online or purchase online?
7. How many of you browse apparel sites or look at items online, not necessarily to buy online?

Quality of Service of an Internet Apparel Retail Site

8. How do you assess quality of service of an Internet apparel retail site? What consists of high service quality of an Internet apparel site? What consists of low service quality of an Internet apparel site?
9. Is the quality of service in an Internet apparel retail site important for your decision to shop for apparel via the site?

Value of Internet Apparel Shopping

10. What is the value of apparel shopping via the Internet? What are the benefits of Internet apparel shopping? What are the costs/sacrifices of Internet apparel shopping?

APPENDIX B: SHORT SURVEY

| |
|-----------------------------------|
| CLOTHING PURCHASE CRITERIA |
|-----------------------------------|

How much do you agree with the following statements for your clothing purchases?

| | Strongly disagree | -1 | Neutral | 0 | 1 | Strongly agree | 2 |
|---|----------------------|----|---------|---|---|-------------------|---|
| a. I usually buy clothes that are of the very latest fashion. | -2 | -1 | 0 | 1 | 2 | | |
| b. I am interested in fashion when I buy new clothes. | -2 | -1 | 0 | 1 | 2 | | |
| c. Buying durable clothes is more important than buying clothes that are the latest fashion. | -2 | -1 | 0 | 1 | 2 | | |
| d. I would like to buy the latest fashion, even though I may not always be able to afford it. | -2 | -1 | 0 | 1 | 2 | | |
| e. I buy what I like, even if the clothes will not be easy to take care of. | -2 | -1 | 0 | 1 | 2 | | |
| f. I do not buy an apparel item unless it is easy to care for, even though I like the style. | -2 | -1 | 0 | 1 | 2 | | |
| g. I avoid buying clothes that I have to iron. | -2 | -1 | 0 | 1 | 2 | | |
| h. How attractive the clothing is, is the most important to me when I buy clothes. | -2 | -1 | 0 | 1 | 2 | | |
| i. I am interested in the fabric design (i.e., print, plaid, or motif) when I buy new clothes. | -2 | -1 | 0 | 1 | 2 | | |
| j. I seldom consider caring for the clothing when I buy clothes. | -2 | -1 | 0 | 1 | 2 | | |
| k. I am especially concerned about the textures and feel of fabrics when I buy clothes. | -2 | -1 | 0 | 1 | 2 | | |
| l. The name of the fiber in a fabric is of little use to me in buying clothing. | -2 | -1 | 0 | 1 | 2 | | |
| m. When buying clothes, I always find out what the material in a garment is made of. | -2 | -1 | 0 | 1 | 2 | | |
| n. I almost never notice such things as linings and interfacings when I am buying clothing. | -2 | -1 | 0 | 1 | 2 | | |
| o. When buying clothes, I pay a lot of attention to how it's made and how it's sewn. | -2 | -1 | 0 | 1 | 2 | | |
| p. When I buy clothes I pay a lot of attention to fasteners like buttons, snaps, and zippers. | -2 | -1 | 0 | 1 | 2 | | |
| q. I usually buy clothes of a color that fits in with the other things I have. | -2 | -1 | 0 | 1 | 2 | | |
| r. The style or design of clothes I buy must fit in with the other things I have. | -2 | -1 | 0 | 1 | 2 | | |
| s. I would rather pay more for a well known brand than to purchase another brand that looks similar but costs less. | -2 | -1 | 0 | 1 | 2 | | |
| t. I usually depend on the brand name of a garment when I am shopping. | -2 | -1 | 0 | 1 | 2 | | |
| u. I avoid buying clothes that do not have a well known brand. | -2 | -1 | 0 | 1 | 2 | | |

| | Strongly disagree | -1 | 0 | 1 | Strongly agree |
|--|-------------------|----|---|---|----------------|
| v. I frequently buy clothes at discount stores. | -2 | -1 | 0 | 1 | 2 |
| w. I almost never buy clothing if it is not on sale. | -2 | -1 | 0 | 1 | 2 |
| x. More often than not the price of a garment would not determine your purchase of it. | -2 | -1 | 0 | 1 | 2 |
| y. I often buy clothes at stores that are easy to get to, even if the clothes are more expensive. | -2 | -1 | 0 | 1 | 2 |
| z. Styles are more important than durability when I buy clothes. | -2 | -1 | 0 | 1 | 2 |
| aa. I buy the new styles only after I have seen them in stores or pictures of them in magazines. | -2 | -1 | 0 | 1 | 2 |
| bb. I will not buy clothing until I have shopped around to be sure of getting the most for my money. | -2 | -1 | 0 | 1 | 2 |
| cc. I would not pay a lot of money for quality because styles of clothes change so fast. | -2 | -1 | 0 | 1 | 2 |

DEMOGRAPHICS

Please answer the following questions or check the item that best describes you.

1. What is your age? _____
2. What is your gender?
 Male Female
3. What is your ethnicity (check all that apply)
 Black or African American Asian American
 White or European American Hispanic American
 Native American
 Other (Please specify) _____
 Non U.S. citizen (Please specify) _____
4. How long have you been using the Internet?
 Don't use Less than 6 months 6 months - 1 year
 1-2 years 2-3 years 3-4 years Over 4 years
5. How much time do you use the Internet for any reason each week?
 Don't use Less than 1 hour 1-5 hours 6-10 hours more than 10 hours
6. How long have you been shopping via the Internet?
 Don't use Less than 6 months 6 months - 1 year
 1-2 years 2-3 years 3-4 years Over 4 years
7. How much money would you say you spent last 12 months to buy clothing online?
 \$ _____

Thank you very much for your participation!

APPENDIX C: ALTERNATIVE SURVEY

| |
|---------------------------|
| QUALITY OF APPAREL |
|---------------------------|

1. In your opinion, what is the definition of "quality" of apparel?

2. How do you assess apparel quality? What criteria do you use?

a. What consists of high quality apparel?

b. What consists of low quality apparel?

3. What are the major criteria you use when you purchase apparel?

4. How important the quality of apparel is to you for making a decision to purchase apparel?

| | | | | | | | |
|---------------------|----|----|---|---|---|--|-------------------|
| Very unimportant | | | | | | | Very important |
| -3 | -2 | -1 | 0 | 1 | 2 | | 3 |

***** PLEASE BROWSE YOUR CHOICE OF APPAREL RETAIL WEB SITE AND ANSWER THE FOLLOWING QUESTIONS.**

Please write the name of Internet apparel retail site that you visited.

QUALITY OF SERVICE OF AN INTERNET APPAREL SITE

1. How do you assess quality of service of an Internet apparel retail site?

a. What consists of high service quality of an Internet apparel site?

b. What consists of low service quality of an Internet apparel site?

2. How important the quality of service in an Internet apparel retail site is for your decision to shop for apparel via the site?

| | | | | | | | |
|---------------------|----|----|---|---|---|---|-------------------|
| Very unimportant | | | | | | | Very important |
| -3 | -2 | -1 | 0 | 1 | 2 | 3 | |

VALUE OF INTERNET APPAREL SHOPPING

3. What is the value of apparel shopping via the Internet?

4. What are the benefits of Internet apparel shopping?

5. What are the costs/sacrifices of Internet apparel shopping?

| |
|-----------------------------------|
| CLOTHING PURCHASE CRITERIA |
|-----------------------------------|

How much do you agree with the following statements for your clothing purchases?

| | Strongly disagree | -1 | Neutral 0 | 1 | Strongly agree 2 |
|--|----------------------|----|--------------|---|------------------------|
| dd. I usually buy clothes that are of the very latest fashion. | -2 | -1 | 0 | 1 | 2 |
| ee. I am interested in fashion when I buy new clothes. | -2 | -1 | 0 | 1 | 2 |
| ff. Buying durable clothes is more important than buying clothes that are the latest fashion. | -2 | -1 | 0 | 1 | 2 |
| gg. I would like to buy the latest fashion, even though I may not always be able to afford it. | -2 | -1 | 0 | 1 | 2 |
| hh. I buy what I like, even if the clothes will not be easy to take care of. | -2 | -1 | 0 | 1 | 2 |
| ii. I do not buy an apparel item unless it is easy to care for, even though I like the style. | -2 | -1 | 0 | 1 | 2 |
| jj. I avoid buying clothes that I have to iron. | -2 | -1 | 0 | 1 | 2 |
| kk. How attractive the clothing is, is the most important to me when I buy clothes. | -2 | -1 | 0 | 1 | 2 |
| ll. I am interested in the fabric design (i.e., print, plaid, or motif) when I buy new clothes. | -2 | -1 | 0 | 1 | 2 |
| mm. I seldom consider caring for the clothing when I buy clothes. | -2 | -1 | 0 | 1 | 2 |
| nn. I am especially concerned about the textures and feel of fabrics when I buy clothes. | -2 | -1 | 0 | 1 | 2 |
| oo. The name of the fiber in a fabric is of little use to me in buying clothing. | -2 | -1 | 0 | 1 | 2 |
| pp. When buying clothes, I always find out what the material in a garment is made of. | -2 | -1 | 0 | 1 | 2 |
| qq. I almost never notice such things as linings and interfacings when I am buying clothing. | -2 | -1 | 0 | 1 | 2 |
| rr. When buying clothes, I pay a lot of attention to how it's made and how it's sewn. | -2 | -1 | 0 | 1 | 2 |
| ss. When I buy clothes I pay a lot of attention to fasteners like buttons, snaps, and zippers. | -2 | -1 | 0 | 1 | 2 |
| tt. I usually buy clothes of a color that fits in with the other things I have. | -2 | -1 | 0 | 1 | 2 |
| uu. The style or design of clothes I buy must fit in with the other things I have. | -2 | -1 | 0 | 1 | 2 |
| vv. I would rather pay more for a well known brand than to purchase another brand that looks similar but costs less. | -2 | -1 | 0 | 1 | 2 |
| ww. I usually depend on the brand name of a garment when I am shopping. | -2 | -1 | 0 | 1 | 2 |
| xx. I avoid buying clothes that do not have a well known brand. | -2 | -1 | 0 | 1 | 2 |

| | Strongly disagree | | Neutral | | Strongly agree |
|---|-------------------|----|---------|---|----------------|
| yy. I frequently buy clothes at discount stores. | -2 | -1 | 0 | 1 | 2 |
| zz. I almost never buy clothing if it is not on sale. | -2 | -1 | 0 | 1 | 2 |
| aaa. More often than not the price of a garment would not determine your purchase of it. | -2 | -1 | 0 | 1 | 2 |
| bbb. I often buy clothes at stores that are easy to get to, even if the clothes are more expensive. | -2 | -1 | 0 | 1 | 2 |
| ccc. Styles are more important than durability when I buy clothes. | -2 | -1 | 0 | 1 | 2 |
| ddd. I buy the new styles only after I have seen them in stores or pictures of them in magazines. | -2 | -1 | 0 | 1 | 2 |
| eee. I will not buy clothing until I have shopped around to be sure of getting the most for my money. | -2 | -1 | 0 | 1 | 2 |
| fff. I would not pay a lot of money for quality because styles of clothes change so fast. | -2 | -1 | 0 | 1 | 2 |

| |
|---------------------|
| DEMOGRAPHICS |
|---------------------|

Please answer the following questions or check the item that best describes you.

1. What is your age? _____
2. What is your gender?
 Male Female
3. What is your ethnicity (check all that apply)
 Black or African American Asian American
 White or European American Hispanic American
 Native American
 Other (Please specify) _____
 Non U.S. citizen (Please specify) _____
4. How long have you been using the Internet?
 Don't use Less than 6 months 6 months - 1 year
 1-2 years 2-3 years 3-4 years Over 4 years
5. How much time do you use the Internet for any reason each week?
 Don't use Less than 1 hour 1-5 hours 6-10 hours more than 10 hours
6. How long have you been shopping via the Internet?
 Don't use Less than 6 months 6 months - 1 year
 1-2 years 2-3 years 3-4 years Over 4 years
7. How much money would you say you spent last 12 months to buy clothing online?
 \$ _____

Thank you very much for your participation!

APPENDIX D: HIGH SERVICE QUALITY RETAIL SITE

Welcome to E-Apparel Shopping Site - Microsoft Internet Explorer

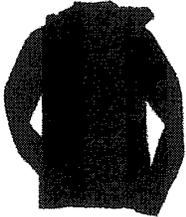
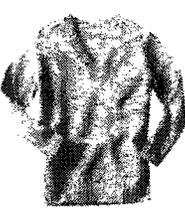
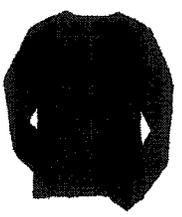
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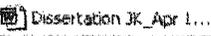
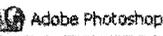
Address http://www.public.iastate.edu/~kimjihyu/sweater_index_H.htm Go Links

E-Apparel Shopping

Women: Sweaters

| | | | | |
|--|--|--|--|--|
|  |  |  |  |  |
| <u>cable pullover sweater</u> | <u>cashmere blend hooded sweater</u> | <u>lambswool patched sleeve sweater</u> | <u>split-neck cotton sweater</u> | <u>3/4-sleeved cardigan</u> |
| \$48.00 | \$48.00 | \$38.00 | \$28.00 | \$32.00 |
|  |  |  |  |  |
| <u>short-sleeved crewneck sweater</u> | <u>Classic cable crewneck sweater</u> | <u>Lambswool turtleneck sweater</u> | <u>Cotton/cashmere rollneck sweater</u> | <u>Deep V-neck hooded sweater</u> |
| \$28.00 | \$68.00 | \$58.00 | \$68.00 | \$48.00 |

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 [Returns or Exchanges](#)
 [Secure ordering](#)
 [Privacy](#)



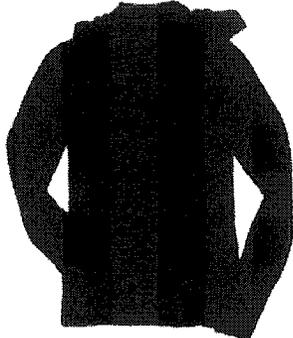
cable pullover sweater - Microsoft Internet Explorer

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E-Apparel Shopping



shown in: purple

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Click below to see another color:


[purple](#)


[grey heather](#)


[white](#)


[black](#)


[honeycomb](#)

If you need assistance or information, please contact us 24 hours a day, 7 days a week.

• call: 1.877.896.7171 (toll free)

Women: [Sweaters](#)

Cable pullover sweater

Supersoft cotton/acrylic knit.
Cable-knit body. Wide ribbed sleeves, hood and bottom.
Hit at hip.
60% cotton/40% acrylic.
Machine wash. Imported

\$ 48.00

Color:

Size: [size charts](#)

Quantity:

Ship to:

- [cable pullover sweater](#)
- [cashmere blend hooded sweater](#)
- [lambswool patched sleeve sweater](#)
- [split-neck cotton sweater](#)
- [3/4-sleeved cardigan](#)
- [short-sleeved crewneck sweater](#)
- [classic cable crewneck sweater](#)
- [lambswool turtleneck sweater](#)
- [cotton/cashmere rollneck sweater](#)
- [deep V-neck hooded sweater](#)

E-Apparel Shopping



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-  [white](#)
-  [black](#)
-  [honeycomb](#)

If you need assistance or information, please contact us 24 hours a day, 7 days a week.

call: 1.877.898.7171 (toll free)

Women: [Sweaters](#)

Cable pullover sweater

Supersoft cotton/acrylic
Cable-knit body. Wide ribbed sleeves, hood and bottom hem.
Hit at hip.
60% cotton/40% acrylic
Machine wash. Imported

\$ 48.00

Color:

Size:

Quantity:

Ship to:

cable pullover sweater
shown in: honeycomb close window



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E-Apparel Shopping

Women: [Sweaters](#)

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Ordering

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[Purchasing & Payment options](#)
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Address http://www.public.iastate.edu/~kimjihyu/H_returnexchange.htm

E-Apparel Shopping

Women: [Sweaters](#)

Returns & Exchanges

We will gladly accept returns of unworn, unwashed merchandise for full refund or exchange, on all merchandise purchased from our online store. For your convenience, we include a pre-printed return address label with your order. Once we receive your package, we will promptly refund your credit card or E-apparel shopping account. We will notify you via e-mail once your return has been processed. Please note that your financial institution will likely take approximately 7 business days to reflect this transaction.

We fully guarantee our merchandise to be free of manufacturing defects, and will accept any defective items for full refund or exchange. In all cases, refunds will be made in the form of the original payment.

Proof of purchase, packing slip invoice, is required for reimbursement of the full purchase price. When no proof of purchase is available, we refund the most recent price charged for items returned to us. A merchandise gift card is offered for items returned without proof of purchase.

Follow these instructions to return any online purchase by mail.

1. Detach the top customer portion of the return form for your records.
2. Circle the item(s) that you are returning or exchanging on the bottom portion of the return form and note the reason why.
3. Indicate if you want us to credit the card used to place the order or send you a refund check. If you'd like an exchange, let us know what you want by filling in the reverse side of the return form. We will pay the costs for shipping the exchange order.
4. Circle the name and address where we should send the check or exchange. If you want it sent to a different address, please complete the box on the reverse side of the return form.
5. Pack and seal your return securely, in the original package if possible, and include the return form. We've provided a return label as part of the return form. Packages

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APPENDIX E: LOW SERVICE QUALITY RETAIL SITE

Welcome to Apparel Shopping Site - Microsoft Internet Explorer

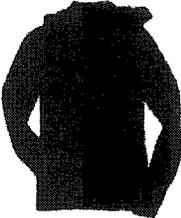
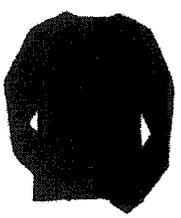
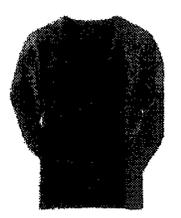
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Address: http://www.public.iastate.edu/~kimjihyu/sweater_index_1.htm

E-Apparel Shopping

Women: Sweaters

| | | | | |
|--|--|--|--|--|
|  |  |  |  |  |
| <u>cable pullover sweater</u> | <u>cashmere blend hooded sweater</u> | <u>lambswool patched sleeve sweater</u> | <u>split-neck cotton sweater</u> | <u>3/4-sleeved cardigan</u> |
| \$48.00 | \$48.00 | \$38.00 | \$28.00 | \$32.00 |
|  |  |  |  |  |
| <u>short-sleeved crewneck sweater</u> | <u>Classic cable crewneck sweater</u> | <u>Lambswool turtleneck sweater</u> | <u>Cotton/cashmere rollneck sweater</u> | <u>Deep V-neck hooded sweater</u> |
| \$28.00 | \$68.00 | \$58.00 | \$68.00 | \$48.00 |

[Customer service](#)

E-Apparel Shopping

Women: [Sweaters](#)

Cable pullover sweater



shown in: purple

Cable-knit body. Wide ribbed sleeves, hood and bottom.
Blend of cotton and acrylic.

\$ 48.00

Available in following colors:



Color:

Size:

Quantity:

Currently, we only ship items to the customer's billing address.

Customer Service - Microsoft Internet Explorer

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E-Apparel Shopping

Women: [Sweaters](#)

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Returns and Exchanges - Microsoft Internet Explorer

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Address http://www.public.iastate.edu/~kimjihyu/L_returnexchange.htm

E-Apparel Shopping Women: [Sweaters](#)

Returns & Exchanges

Currently, we will only accept returns of defected merchandise purchased from our online store for store credit or product exchange. Once we receive your package, we will send you an exchange item or issue you a store credit for next purchase.

Proof of purchase, packing slip invoice, is required for store credit or product exchange. When no proof of purchase is available, we refund the most recent price charged for items returned to us. A merchandise gift card is offered for items returned without proof of purchase.

Follow these instructions to return any online purchase by mail.

1. Detach the top customer portion of the return form for your records.
2. Circle the item(s) that you are returning or exchanging on the bottom portion of the return form. Make sure only defected items are returnable.
3. Indicate if you want us to issue a store credit or send you a exchange. If you'd like an exchange, let us know what you want by filling in the reverse side of the return form.
4. Circle the name and address where we should send the exchange.
5. Pack and seal your return securely, in the original package if possible, and include the return form. Packages must be returned prepaid.

Please send a merchandise for store credit or exchange to:

E-Apparel Shopping Returns
1430 Eaton Drive
Jersey City, New Jersey 07310

**** At this moment, retail store do not accept returns of merchandise purchased from our online store. Sorry for any inconvenience.**

EN 5:05 PM

APPENDIX F: DATA COLLECTION QUESTIONNAIRE

Questionnaire - Part I

Please complete Part I *before* examining the Web site.

Apparel Shopping Experiences

1. How long have you been using the following shopping methods for clothing purchases?

| | Never | Less than six months | Six months to one year | One to two years | More than two years |
|---------------------------------|-------|-------------------------|---------------------------|---------------------|------------------------|
| a. Department/Specialty stores | 1 | 2 | 3 | 4 | 5 |
| b. Discount stores/Outlet malls | 1 | 2 | 3 | 4 | 5 |
| c. Mail order catalog | 1 | 2 | 3 | 4 | 5 |
| d. Internet | 1 | 2 | 3 | 4 | 5 |
| e. TV shopping channels | 1 | 2 | 3 | 4 | 5 |

2. During the last 12 months, how often have you used the following sources to search for clothing product information?

| | Never | Once or twice | Every few months | Every month | At least once a week |
|-------------------------|-------|------------------|---------------------|----------------|-------------------------|
| a. Television | 1 | 2 | 3 | 4 | 5 |
| b. Friends/Family | 1 | 2 | 3 | 4 | 5 |
| c. Magazines/Newspapers | 1 | 2 | 3 | 4 | 5 |
| d. Retail stores | 1 | 2 | 3 | 4 | 5 |
| e. Mail order catalog | 1 | 2 | 3 | 4 | 5 |
| f. Internet | 1 | 2 | 3 | 4 | 5 |

3. How satisfied are you with clothing shopping via the following shopping methods?

| | Very dissatisfied | 1 | 2 | 3 | 4 | 5 | Very satisfied | N. A. |
|---------------------------------|----------------------|---|---|---|---|---|-------------------|-------|
| a. Department/Specialty stores | 1 | 2 | 3 | 4 | 5 | 6 | | 6 |
| b. Discount stores/Outlet malls | 1 | 2 | 3 | 4 | 5 | 6 | | 6 |
| c. Mail order catalog | 1 | 2 | 3 | 4 | 5 | 6 | | 6 |
| d. Internet | 1 | 2 | 3 | 4 | 5 | 6 | | 6 |
| e. TV shopping channels | 1 | 2 | 3 | 4 | 5 | 6 | | 6 |

4. How long have you been using the Internet for any reason?

___ Don't use ___ Less than a year ___ 1-2 years ___ 2-3 years ___ 3-4 years ___ Over 4 years

5. How much time do you use the Internet for any reason each week?

___ Don't use ___ Less than 1 hour ___ 1-5 hours ___ 6-10 hours ___ More than 10 hours

6. How long have you been shopping via the Internet?

___ Don't use ___ Less than a year ___ 1-2 years ___ 2-3 years ___ 3-4 years ___ Over 4 years

7. How much money did you spend on products or services during the last 12 months on the Internet?

\$ _____

8. When you made purchases of any products or services on the Internet, were they for your own use or for others as gifts? (Please check all that apply.)

___ No purchases made over the Internet ___ For my own use ___ For others as gifts

9. Estimate how much money you spent on clothing purchases during the last 12 months via the following sources.

- a. Department/Specialty stores \$ _____
- b. Discount stores/Outlet malls \$ _____
- c. Mail order catalog \$ _____
- d. Internet \$ _____
- e. TV shopping channels \$ _____

Tactile Experience of Products

To what extent do you agree or disagree with the following statements?

| | Strongly disagree | | | Neutral | | | Strongly agree |
|--|--------------------------|---|---|----------------|---|---|-----------------------|
| 1. The only way to make sure a product is worth buying is to actually touch it. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. When walking through stores, I can't help touching all kinds of products. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. If I can't touch a product, I am reluctant to purchase the product. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. I like to touch products even if I have no intention of buying them. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. I feel more confident making a purchase after physically examining a product. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. When browsing in stores, I like to touch lots of products. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Beliefs about Internet Shopping

To what extent do you agree or disagree with following statements?

| | Strongly disagree | | | Neutral | | | Strongly agree |
|--|--------------------------|---|---|----------------|---|---|-----------------------|
| 1. I plan to buy apparel using the Internet sometime this year. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Internet shopping for apparel fits my life style. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Internet shopping for apparel is convenient. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. I can find great deals for apparel on the Internet. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. I feel safe using my credit card to make purchases of apparel via the Internet. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. As compared to stores I shop in, many more styles of apparel are available on the Internet. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. I like being able to make price comparisons for apparel on the Internet. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. Apparel is easy to return when shopping using the Internet. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. As compared to stores, many more sizes of apparel are available on the Internet. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Purchasing apparel on the Internet saves my time. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| 11. Apparel purchased using the Internet is delivered quickly. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. Shopping for apparel via the Internet is easy. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Shipping and handling cost for apparel purchased on the Internet is too high. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. Internet shopping sites for apparel offer good customer service. | | | | | | | |
| 15. I enjoy shopping for apparel on the Internet. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. Considering everything, Internet shopping for apparel offers very good values. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Questionnaire - Part II

Complete Part II only *after* you have browsed the web site.

Apparel Product Evaluation

Please respond to the following questions based on your evaluation of the sweaters shown on the Internet site that you just browsed.

| | Strongly disagree | | | | Neutral | | | Strongly agree |
|--|--------------------------|---|---|---|----------------|---|---|-----------------------|
| 1. The sweaters seem to be well-constructed. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 2. The workmanship of the sweaters meets high standards. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 3. The sweaters are likely to be durable during wear and care. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 4. The sweaters are made of high quality materials/fabrics. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 5. The styles of the sweaters are fashionable. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 6. The designs of the sweaters are unique. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 7. The sweaters are not likely to stretch out during wear and care. --- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 8. The materials of the sweaters are likely to be soft and comfortable to wear. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 9. The sweaters are easy care. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 10. The colors of the sweaters are attractive. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 11. The overall appearance of the sweaters is attractive. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 12. The sweaters would last a long time. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 13. The sweaters are likely to not have much pilling. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 14. Overall quality of the sweaters is excellent. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 15. The prices of the sweaters are too high. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 16. If I purchased a sweater from this site for the indicated price, I would have to reduce the amount of money I spend on other things for a while. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 17. The physical risk associated with wearing a sweater (e.g., itching) is very high. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

- 18. The risk of receiving a poor performance from a sweater (e.g., shrinking after washing) is very high. ----- 1 2 3 4 5 6 7
- 19. The risk that I will be embarrassed socially due to wearing any of the sweaters is very high. ----- 1 2 3 4 5 6 7
- 20. The risk that I will feel uncomfortable psychologically due to wearing one of the sweaters is very high. ----- 1 2 3 4 5 6 7
- 21. The risk that the sweaters would go out of fashion soon is very high. ----- 1 2 3 4 5 6 7
- 22. I think that the purchase of a sweater from this site would lead to financial risk for me because of the possibility of high cleaning/repair costs of the sweater. ----- 1 2 3 4 5 6 7

Internet Retailer’s Site Evaluation

Please respond to following questions based on your evaluation of the Internet site that you just browsed.

| | Strongly disagree | | | | Neutral | | | | Strongly agree |
|--|--------------------------|---|---|---|----------------|---|---|--|-----------------------|
| [Q1-Q22] This Internet site: | | | | | | | | | |
| 1. is well-organized. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 2. has easy navigation. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 3. has easy layout (e.g., list of links). ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 4. has pleasing overall site design. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 5. is convenient to use. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 6. performs consistently (e.g., links). ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 7. offers reliable transactional security. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 8. has a privacy policy that will protect my personal information. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 9. offers various shipping methods and shipping destinations. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 10. has detailed customer service information. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 11. has very good return/exchange policy. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 12. charges reasonable shipping and handling fees. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 13. provides company contact information. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 14. offers very good customer service (e.g., 24/7 availability). ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 15. provides detailed product information. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 16. shows detailed pictures of the sweaters. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 17. provides good quality sweaters. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 18. offers a wide selection of sweaters. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 19. offers various size ranges of sweaters. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 20. offers a range of styles of sweaters. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 21. offers a good variety of colors of sweaters. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 22. offers very acceptable price ranges for the sweaters. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |

Please respond to following questions based on your evaluation of the Internet site that you just browsed.

[Q23-25] Overall quality of the service provided by this Internet site:

| | | | | | | | | | |
|-----|--------------|---|---|---|---|---|---|---|---------------|
| 23. | poor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | excellent |
| 24. | inferior | 1 | 2 | 3 | 4 | 5 | 6 | 7 | superior |
| 25. | low standard | 1 | 2 | 3 | 4 | 5 | 6 | 7 | high standard |

| | | Strongly disagree | | Neutral | | | Strongly agree | |
|-----|--|--------------------------|---|----------------|---|---|-----------------------|---|
| 26. | The shipping and handling fee when ordering a sweater from this Internet site is too high. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 27. | It would take a long time to receive an ordered item from this site. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 28. | It would take a great amount of effort to buy a sweater from this site. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 29. | This Internet site seems to be trustworthy. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 30. | This Internet site seems to be reliable. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 31. | Considering the shipping and handling costs, purchasing a sweater from this site is very risky. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 32. | Considering the level of transaction security on this site, purchasing a sweater from this site is very risky. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 33. | The risk of getting unprotected privacy of personal information on this site is very high. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 34. | The risk of not getting an item that is the same as pictured or described is very high. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 35. | The risk that I would feel uncomfortable psychologically due to buying a sweater from this site is very high. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 36. | The risk of not receiving an ordered item on time is very high. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 37. | The overall risk associated with buying a sweater from this site is very high. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

[Q38-Q43] I am very certain that the following attributes of the sweaters would be correct as described or as shown on the site:

| | | Strongly disagree | | Neutral | | | Strongly agree | |
|-----|-------------------------|--------------------------|---|----------------|---|---|-----------------------|---|
| 38. | size ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 39. | color ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 40. | style ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 41. | materials/fabrics ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 42. | fabric touch ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 43. | construction ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Please rate your perception of value of apparel shopping from the Internet site that you browsed.

| | Strongly disagree | | | | Neutral | | | Strongly agree |
|---|------------------------------|---|---|---|----------------|---|---|---------------------------|
| [Q1-Q13] The site offers sweaters that: | | | | | | | | |
| 1. I would enjoy. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 2. make me want to wear them. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 3. I would feel relaxed about wearing. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 4. would make me feel good. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 5. would give me pleasure. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 6. are reasonably priced. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 7. have a very good value for the money. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 8. are good quality for the price. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 9. are economical to own. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 10. would help me feel acceptable. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 11. would improve the way I am perceived. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 12. would make a good impression on other people. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 13. would give me social approval. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

[Q14-Q22] The site offers a shopping experience for sweaters that:

| | | | | | | | | |
|--|---|---|---|---|---|---|---|--|
| 14. I would enjoy. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 15. would make me want to shop from this site. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 16. I would feel relaxed about shopping on this site. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 17. would make me feel good. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 18. would give me pleasure. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 19. would be very good values. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 20. would save a lot of my time. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 21. would be very convenient. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 22. would enable me to have variety of sweaters to choose from. ---- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 23. would offer me a great deal. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

[Q24-Q27] Shopping for a sweater at this Internet site:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|--|
| 24. would help me feel acceptable. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 25. would improve the way I am perceived. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 26. would make a good impression on other people. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 27. would give me social approval. ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

Please rate your satisfaction with the sweater shopping experience on the Internet site:
[Q1-Q27] How satisfied are you with the following attributes available on the Internet site?

| | Very dissatisfied | | | | | Very satisfied | |
|--|----------------------|---|---|---|---|-------------------|---|
| 1. site organization ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. navigation to browse the site ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. layout of the site ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. technical performances of links and navigation ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. overall site design ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. transactional security for online purchases ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. privacy policy for the customer ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. overall quality of site design and navigation ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. options of shipping methods and shipping destinations ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. depth of customer service information ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. return/exchange policy ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. amount of shipping and handling fee ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. company contact information ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. customer service contactability ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. overall customer service offerings ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. overall quality of customer service ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. depth of product information ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. availability of pictures of sweaters ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. colors of sweaters ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. selections of sweaters ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. size ranges of sweaters ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 22. styles of sweaters ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23. quality of sweaters ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24. price ranges for sweaters ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 25. overall sweater offerings ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 26. overall quality of sweaters ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 27. overall sweater shopping experience at the Internet site ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Please rate the evaluation of your shopping experience on the Internet site:

| | Worse than expected | | | | | Better than expected | |
|---|------------------------|---|---|---|---|-------------------------|---|
| 1. Overall, the sweaters available from the Internet site were ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Overall, the customer service available from the Internet site was | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Overall, the site design and navigation of the Internet site was --- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Overall, sweater shopping experience on the Internet site was ---- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Please rate your intentions of possible future behavior regarding the site:

| If this Internet site becomes available, how likely are you to: | Highly unlikely | | | | | | Highly likely |
|---|--------------------|---|---|---|---|---|------------------|
| 1. visit this site again? ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. search for product information on this site? ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. purchase a sweater available on this site? ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. encourage friends and relatives to buy a sweater from this site? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. say positive things about this site to other people? ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. purchase a sweater from this site the very next time you need one? | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. recommend this site to your friends or family? ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. consider this site to be your first choice to buy a sweater? ----- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Please answer the following questions or check the item that best describes you.

1. What is your age? _____
2. What is your gender? _____ Male _____ Female
3. What is your ethnicity (check all that apply)

| | |
|--|---|
| <input type="checkbox"/> White or European American | <input type="checkbox"/> Asian American |
| <input type="checkbox"/> Black or African American | <input type="checkbox"/> Native American |
| <input type="checkbox"/> Latino or Hispanic American | <input type="checkbox"/> Other (Please specify) _____ |
4. What is your major? _____
5. What is your year in school?

| | |
|------------------------------------|---|
| <input type="checkbox"/> Freshman | <input type="checkbox"/> Graduate student—Masters |
| <input type="checkbox"/> Sophomore | <input type="checkbox"/> Doctoral student |
| <input type="checkbox"/> Junior | <input type="checkbox"/> Special student |
| <input type="checkbox"/> Senior | |

Thank you very much for your participation!

APPENDIX G: APPROVAL OF THE USE OF HUMAN SUBJECTS

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office of Research Compliance
Vice Provost for Research and
Advanced Studies
2810 Beardshear Hall
Ames, Iowa 50011-2030
515 294-4566
FAX 515 294-7288

TO: Jihyun Kim
FROM: Ginny Austin, IRB Coordinator
RE: IRB ID # 03-473

DATE REVIEWED: April 14, 2003

The project, "Medicating Effects of Perceived Risk on the Relationship Between Perceived Quality and Perceived Value of Internet Apparel Shopping" has been declared exempt from Federal regulations as described in 45 CFR 46.101(b)(2).

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

To be in compliance with ISU's Federal Wide Assurance through the Office of Human Research Protections (OHRP) all projects involving human subjects, must be reviewed by the Institutional Review Board (IRB). Only the IRB may determine if the project must follow the requirements of 45 CFR 46 or is exempt from the requirements specified in this law. **Therefore, all human subject projects must be submitted and reviewed by the IRB.**

Because this project is exempt it does not require further IRB review and is exempt from the Department of Health and Human Service (DHHS) regulations for the protection of human subjects.

We do, however, urge you to protect the rights of your participants in the same ways that you would if IRB approval were required. This includes providing relevant information about the research to the participants. Although this project is exempt, you must carry out the research as proposed in the IRB application, including obtaining and documenting (signed) informed consent, if applicable to your project.

Any modification of this research should be submitted to the IRB on a Continuation and/or Modification form to determine if the project still meets the Federal criteria for exemption. If it is determined that exemption is no longer warranted, then an IRB proposal will need to be submitted and approved before proceeding with data collection.

cc: AESHM
Mary Lynn Damhorst

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institute for Learning
Office of Research and
Innovation
Advanced Studies
Statistical Services
Information Systems
Study Abroad
Faculty Development

TO: Jihyun Kim

FROM: Ginny Austin, IRB Coordinator

RE: IRB ID # 03-815

DATE REVIEWED: November 4, 2003

The project, "Retail Web Site and Apparel Quality Evaluation Research" has been declared exempt from Federal regulations as described in 45 CFR 46.101(b)(2).

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

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Any modification of this research should be submitted to the IRB on a Continuation and/or Modification form to determine if the project still meets the Federal criteria for exemption. If it is determined that exemption is no longer warranted, then an IRB proposal will need to be submitted and approved before proceeding with data collection.

cc: AESHM

MICHIGAN STATE
UNIVERSITY

November 12, 2003

TO: Sally HELVENSTON
204 Human Ecology

RE: **IRB# 03-864** CATEGORY: EXEMPT 1-2

APPROVAL DATE: November 12, 2003

EXPIRATION DATE: October 12, 2004

TITLE: **MEDIATING EFFECTS OF PERCEIVED RISK ON THE RELATIONSHIP
BETWEEN PERCEIVED QUALITY AND PERCEIVED VALUE OF INTERNET
APPAREL SHOPPING**

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete and I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the **UCRIHS approved this project.**

RENEWALS: UCRIHS approval is valid until the expiration date listed above. Projects continuing beyond this date must be renewed with the renewal form. A maximum of four such expedited renewals are possible. Investigators wishing to continue a project beyond that time need to submit a 5-year application for a complete review.

REVISIONS: UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please include a revision form with the renewal. To revise an approved protocol at any other time during the year, send your written request with an attached revision cover sheet to the UCRIHS Chair, requesting revised approval and referencing the project's IRB# and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.

PROBLEMS/CHANGES: Should either of the following arise during the course of the work, notify UCRIHS promptly: 1) problems (unexpected side effects, complaints, etc.) involving human subjects or 2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.



OFFICE OF
**RESEARCH
ETHICS AND
STANDARDS**

University Committee on
Research Involving
Human Subjects

Michigan State University
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E-Mail: ucris@msu.edu

If we can be of further assistance, please contact us at (517) 355-2180 or via email: UCRIHS@msu.edu. Please note that all UCRIHS forms are located on the web: <http://www.humanresearch.msu.edu>

Sincerely,

Peter Vasilenko, Ph.D.
UCRIHS Chair

PV: jm

cc: Jihyun Kim
204 Human Ecology

APPENDIX H: CONSENT FORMS

INFORMED CONSENT DOCUMENT

Title of Study: Retail web site and apparel quality evaluation study
Investigators: Jihyun Kim, Ph.D. candidate (kimjihyu@iastate.edu)
 Dr. Mary Lynn Damhorst, Associate Professor
 Dr. Sally Helvenston, Associate Professor, Michigan State University

INTRODUCTION

The purpose of this study is to learn how people evaluate quality of apparel offered for sale on the Internet and also service quality of apparel retail web sites. You are being invited to participate in this study because you are likely target customers for the products sold on the websites.

DESCRIPTION OF PROCEDURES

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time without penalty or loss of benefits. If you agree to participate in this study, your participation will last for one 30 minute period. You will be asked to look at a specific Web site on the Internet and fill out a questionnaire regarding your evaluation of that Web site. The questionnaire will also ask questions about your shopping patterns to help us understand customers better. You may skip any question that you do not wish to answer or that makes you feel uncomfortable. We do not see any potential risks involved in this study.

BENEFITS

If you decide to participate in this study, you will receive extra credit for the course that you are recruited from. It is hoped that the information gained in this study will benefit consumers by increasing understanding consumer expectation for apparel shopping online and by making better website for shopping online. You will not have any costs from participating in this study. If you choose not to participate in this study, you may contact your instructor for an alternative extra credit opportunity.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. To ensure confidentiality to the extent permitted by law, the following measures will be taken: subjects will be assigned a numeric code used when entering the data. Your name will not be attached to the data or the results. Only the researcher and her major professor will have access to study records that will be kept in a locked filing cabinet. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact Dr. Mary Lynn Damhorst at 294-9919, 1071 LeBaron Hall, mldmhrst@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact the Human Subjects Research Office, 2810 Beardshear Hall, (515) 294-4566; meldrem@iastate.edu or the Research Compliance Officer, Office of Research Compliance, 2810 Beardshear Hall, (515) 294-3115; dament@iastate.edu

SUBJECT SIGNATURE

Your signature indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. You will receive a copy of the signed and dated written informed consent prior to your participation in the study.

Subject's Name (printed) _____

 Subject's Signature

 Date

INFORMED CONSENT DOCUMENT

Title of Study: Apparel Retail Web Site Evaluation Study
Investigators: Jihyun Kim, Instructor (kimjihyu@msu.edu)
Dr. Sally Helvenston, Associate Professor and Department Chair
Dr. Mary Lynn Damhorst, Associate Professor, Iowa State University

INTRODUCTION

The purpose of this study is to learn how people evaluate quality of apparel offered for sale on the Internet and also service quality of apparel retail web sites. You are being invited to participate in this study because you are likely target customers for the products sold on the websites.

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If you decide to participate in this study, you will receive extra credit for the course that you are recruited from. It is hoped that the information gained in this study will benefit consumers by increasing understanding consumer expectation for apparel shopping online and by making better website for shopping online. You will not have any costs from participating in this study.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. Your privacy will be protected to the maximum extent allowable by law. To ensure confidentiality to the extent permitted by law, the following measures will be taken: Your name will not be collected and attached to the data or the results; and your questionnaire will be assigned a numeric code used when entering the data. Only the researchers will have access to study records that will be kept in a locked filing cabinet. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

If you have any questions about this study, please contact Jihyun Kim by phone: (517) 353-5026, fax: (517) 517-432-1058, e-mail: kimjihyu@msu.edu, or regular mail: 315B Human Ecology, East Lansing, MI 48824. If you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish – Peter Vasilenko, Ph.D., chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, e-mail: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

SUBJECT SIGNATURE

Your signature below indicates your voluntary agreement to participate in this study.

Subject's Name (printed) _____

Subject's Signature

Date

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