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# An Investigation of the Contributions of Gender, Shopping Orientation, Online Experience, and Website's Interactive Features to Consumers' Intentions to Engage in Apparel E-commerce Shopping

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An Investigation of the Contributions of Gender, Shopping Orientation,  
Online Experience, and Website's Interactive Features to Consumers'  
Intentions to Engage in Apparel E-commerce Shopping

by

Amanda J. Wynn

A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
in  
Information Systems

Graduate School of Computer and Information Sciences  
Nova Southeastern University

2009

We hereby certify that this dissertation, submitted by Amanda J. Wynn, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the dissertation requirements for the degree of Doctor of Philosophy.

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Graduate School of Computer and Information Sciences  
Nova Southeastern University

2009

An Abstract of a Dissertation Submitted to Nova Southeastern University  
in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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December 2009

E-commerce has experienced exponential growth within the last few years. The rapid growth of e-commerce has created a need to improve consumer acceptance and the consumer's intention to engage in e-commerce. Female consumers have yet to embrace e-commerce as readily as male consumers. Differences between male and female consumer shopping behavior were examined.

This study developed and empirically tested a model to predict the consumer's intention to engage in apparel e-commerce shopping based on the constructs of gender, shopping orientation, online experience, and Website's interactive features. Male and female U.S. consumers age 18 and older were surveyed to determine their intention to engage in apparel e-commerce shopping. A total of 240 responses were received. After the pre-analysis data screening, a total of 216 responses were available for further analyses. Factor analysis was conducted by using principal component analysis (PCA) with VARIMAX rotation. The PCA resulted in four new factors including consumer shopping preference (CSP), personalization Website features (PWF), shopping environment (SE), and social interaction (SI). The statistical method Ordinal Logistic Regression (OLR) was used to predict whether gender (G1), CSP, PWF, SE, and SI have a significant influence on the consumer's intention to engage in apparel e-commerce shopping. Results of the OLR indicated that CSP was the only significant predictor of INT. A second OLR model was developed to determine the interaction effect of G1, CSP, PWF, SE, and SI used to predict the probability of INT. Results indicated the interactions of G1 and CSP, CSP and PWF, G1 and PWF, as well as SE and SI were significant predictors of INT.

Two important contributions of this study include 1) an investigation of the key constructs that contribute to the consumer's intention to engage in apparel e-commerce shopping, and 2) an investigation of the interaction effect between the key constructs used to predict the consumer's intention to engage in apparel e-commerce shopping. The investigation results provide online retailers with the knowledge of how to increase e-commerce acceptance through understanding differences in male and female consumer shopping behaviors.

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## Table of Contents

**Abstract** iii  
**List of Tables** vii  
**List of Figures** viii

### Chapters

#### **1. Introduction 1**

Statement of the Problem 1  
Research Goals 5  
Research Questions 8  
Relevance and Significance 9  
Limitations and Delimitations 9  
    Limitations 9  
    Delimitations 10  
Barriers and Issues 10  
Definition of Terms 12  
Summary 13

#### **2. Review of the Literature 15**

Introduction 15  
Gender and E-commerce 16  
Shopping Orientation 26  
Website's Interactive Features 36  
Online Experience 55  
TAM and Behavior Intention 64  
Summary of What Is Known and Unknown in the Literature 77  
Contribution of this Study 78

#### **3. Methodology 80**

Instrument Development 81  
    Gender 81  
    Shopping Orientation 81  
    Website's Interactive Features 83  
    Online Experience 85  
    Intention to Engage in Apparel E-commerce Shopping 86  
Reliability and Validity 87  
    Reliability 87  
    Validity 88  
    Internal Validity 89  
    External Validity 89

Instrument Validation 89  
Population and Sample 90  
Pre-Analysis Data Cleaning 91  
Data Analysis 92  
Resources 94  
Summary 94

**4. Results 97**

Overview 97  
Data Collection and Analysis 97  
    Pre-Analysis Data Screening 97  
    Descriptive Analysis of Study Participants 99  
    Factor Analysis 101  
    Reliability Analysis 103  
    Ordinal Logistic Regression 103  
Summary of Results 106

**5. Conclusions, Implications, Recommendations, and Summary 108**

Conclusions 108  
Implications 111  
Study Limitations 112  
Recommendations and Future Research 113  
Summary 114

**Appendixes**

- A. Survey Instrument 118**
- B. Revised Final Survey Instrument 123**
- C. IRB Approval Letter 128**

**Reference List 129**

## **List of Tables**

### **Tables**

1. Summary of Literature Related to Gender 18
2. Summary of Literature Related to Shopping Orientation 28
3. Summary of Literature Related to Website's Interactive Features 40
4. Summary of Literature Related to Online Experience 56
5. Summary of Literature Related to TAM and Behavior Intention 66
6. Descriptive Data of the Study Participants 99
7. Factor Analysis Results: PCA VARIMAX Rotated Component Matrix 102
8. Reliability Analysis Results 103
9. OLR Analysis Results 104
10. OLR Parameter Estimates 104
11. OLR Interaction Effect Analysis Results 105
12. OLR Interaction Effect Parameter Estimates 106

## **List of Figures**

### **Figures**

1. Conceptual Framework for Consumers' Intention to Engage in Apparel E-commerce Shopping 8
2. Mahalanobis Distance 98

## Chapter 1

### Introduction

#### **Statement of the Problem**

The research problem this study addressed was the gap between male and female consumer spending and acceptance of e-commerce (Chiu, Lin, & Tang, 2005; Rodgers & Harris, 2003; Zhou, Dai, & Zhang, 2007). The Online Shopping Acceptance Model (OSAM) explores user acceptance of e-commerce by examining online shopping behavior differences between males and females (Zhou et al.). Females make up the majority of Internet traffic and contribute to over 70% of all purchases in traditional stores (Zhou et al.). However, males make more purchases and spend more money online (Li, Kuo, & Rusell, 1999; Stafford, Turan, & Raisinghani, 2004; Susskind, 2004). A traditional store is defined as a physical brick-and-mortar store offering products or services that can be physically touched or observed before the purchase (Childers & Offstein, 2007; Collier & Bienstock, 2006). Even though females currently dominate traditional shopping, females have yet to embrace e-commerce (Zhou et al.). E-commerce is defined as the “sale and purchase of products and services over the Internet” (Keeney, 1999, p. 533). E-commerce is still considered a new and largely unexplored retail channel (Zhang, Prybutok, & Strutton, 2007). The shopping orientation of a consumer is defined as a “range of attitude, interest, and opinion statements related to the topic of shopping” (Brown, Pope, & Voges, 2003, p. 1668). Males and females have different shopping

orientations, which results in different shopping behaviors (Swaminathan, Lepkowska-White, & Rao, 1999). For example, the inability to touch or try on the apparel may have a negative influence on female shopping behaviors, since females demonstrate a stronger need for tactile input than males (Citrin, Stem, Spangenberg, & Clark, 2003).

There has been a recent shift in shopping orientation as the traditional search and experience characteristics of products have changed due to the multimedia properties of e-commerce (Zhou et al., 2007). Products sold via e-commerce are classified into two product types: search products, which require no tactile orientation, and experience products, which require tactile orientation (Axelsson, 2008; Citrin et al., 2003). For example, compact discs (CDs) are now considered search products whereas apparel items are now considered experience products (Zhou et al.). Therefore, the shopping orientation of consumers has expanded beyond convenience. However, as apparel items have become experience products, the number of online shoppers purchasing them may be constrained by “the inability to touch or try on apparel items” (Zhou et al., p. 45).

Traditionally, males have been more willing to engage in e-commerce than females (Li et al., 1999; Van Slyke, Comunale, & Belanger, 2002; Susskind, 2004). Males are more likely to purchase search products while females are more likely to purchase experience products (Van Slyke et al.; Zhou et al., 2007). Traditionally, search products have sold better via e-commerce than experience products (Grannis, Davis, & Sullivan, 2007). Nevertheless, online purchases of apparel are growing. According to Grannis et al., during 2006 for the first time in history, Americans spent more online on apparel than on computers. Therefore, experience products are now outperforming search products in terms of e-commerce sales. This increase in experience product e-commerce

sales has contributed to an influx of new companies, liberal shipping policies, and an integration of new technologies (Grannis et al.). Increasing e-commerce acceptance of experience products such as apparel should be a top priority for online retailers, specifically to attract female consumers (Zhou et al.). Little research has been conducted to examine the influence of gender on the user's intention to engage in e-commerce shopping and the recent shift in shopping orientation of experience products such as apparel (Chiu et al., 2005; Garbarino & Strahilevitz, 2004; Ha & Stoel, 2004; Rodgers & Harris, 2003; Zhou et al.).

Apparel retailers are integrating new technologies into their Websites to ease the minds of those consumers who may hesitate to purchase apparel online (Grannis et al., 2007). Yet, because consumers cannot feel the fabric or try on a garment to check the fit, online retailers need to understand how to provide Website interactive features during the online shopping experience (Kim, Kim, & Lennon, 2006). A Website's interactive features are Website tools used to facilitate interactions between humans and technology during the shopping and purchasing process (Kim et al., 2006; Zeithaml, Parasuraman, & Malhotra, 2002). Examples of a Website's interactive features include chat rooms, virtual fitting rooms, and personal assistants. Current Internet technologies allow consumers to zoom and rotate merchandise as well as see an apparel item in different colors. By influencing the consumer's online experience, a Website's interactive features have become an increasingly important determinant of the success of e-commerce (Yang, 2001). As apparel items have become experience products, a Website's interactive features enable consumers to experience the product using functions on the e-commerce Website (Zhou et al., 2007). Moreover, current e-commerce Websites that lack

interactive features may hinder the online experience as well as limit the acceptance of e-commerce (Kim & Stoel, 2005). In addition, since females are more socially oriented than males, improving online communications that enable consumers to share their online experiences may attract more females to e-commerce (Zhou et al.). There is a need to understand how to provide more Website interactive features such as virtual fitting rooms, chat rooms, and personal assistants in order to meet the different shopping orientations of male and female consumers (Zhou et al.).

Even though e-commerce simulates a traditional store online, e-commerce has yet to master the recreation of the shopper's experience in a traditional store (Collier & Bienstock, 2006). Recreation is defined as simulating a traditional store on a Website (Chen, Gillenson, & Sherrell, 2004). The online experience refers to the feelings consumers have while performing online activities (Zhou et al., 2007). A consumer's "online experience during a shopping event is an important determinant of whether the online navigation will lead to a successful purchase transaction" (Zhou et al., p. 55). Therefore, the increasing demand for e-commerce requires that Websites be adapted to make a positive impression on the consumer. However, researchers have given little attention to the influence gender has on the user's shopping orientation and online experience in e-commerce endeavors (Zhou et al.). The online experience has "rarely been examined in terms of its effect on online shopping behavior" (Zhou et al., p. 55). Also, the interaction between a consumer's shopping orientation and other factors such as a Website's interactive features remains unclear and needs further investigation (Zhou et al.).

## **Research Goals**

The main goal of this research study was to empirically assess the contribution of gender, shopping orientation, online experience, and Website's interactive features to consumers' intentions to engage in apparel e-commerce shopping. OSAM explains changes in gender patterns on e-commerce by investigating shopping orientation and the acceptance of e-commerce (Rodgers & Harris, 2003; Zhou et al., 2007). The online experience is formed during the navigation process; therefore, OSAM utilizes the online experience to predict consumer acceptance of e-commerce (Zhou et al.). Even though OSAM explores gender, shopping orientation, and online experience, Zhou et al. identified research issues that merit further investigation. Additional research is needed in order to understand how a Website's interactive features enhance the consumer's shopping orientation and online experience. "The antecedents of either a positive or negative online experience are not clear yet" (Zhou et al., p. 55). Further research is needed to understand the relationship between the online experience and online shopping acceptance (Zhou et al.).

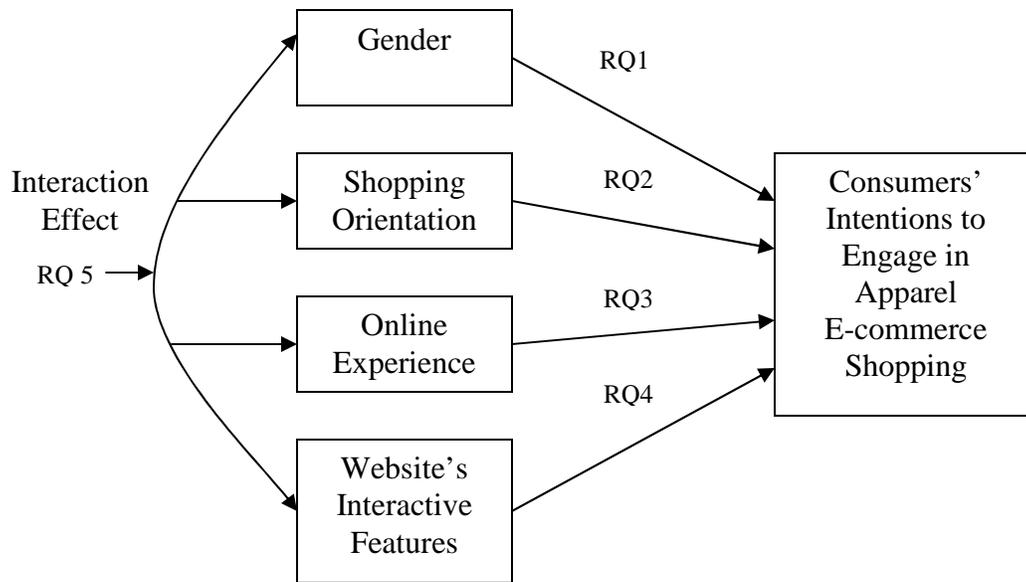
The need for this study was demonstrated by the work of Chiu et al. (2005), Stafford et al. (2004), Venkatesh and Morris (2000), as well as Zhou et al. (2007). According to Stafford et al. and Zhou et al., males make more purchases as well as spend more money online than females. However, males are convenience shoppers whereas females are motivated by social interaction. "The function of shopping online as a social activity is weak compared with shopping in traditional stores" (Zhou et al., p. 45). Hence, this study determined if, and to what degree, gender influences shopping orientation.

The use of a system such as an e-commerce Website can be explained by a consumer's perceived ease of use and perceived usefulness (Chen, Gillenson, & Sherrell, 2002). The influence of perceived ease of use on intentions is greater for females than males, which suggests a gender impact of perceived ease of use on a female consumer's attitude and online purchase intentions (Venkatesh & Morris, 2000). Differences in gender may also contribute to shopping orientation and purchase intentions because products promoted through e-commerce create a different stimuli and image interpretation than products displayed in a traditional retail store (Chiu et al., 2005). This study measured purchase intentions, not actual purchases, since the Theory of Planned Behavior (TPB) and Theory of Reasoned Action (TRA) indicate consumer behavior intentions can be a strong predictor of their actual behavior (Ajzen, 1991; Fishbein & Ajzen, 1975).

This dissertation builds on previous research by Zhou et al. (2007). Zhou et al. developed OSAM in order to predict and explain consumer acceptance of online shopping through extending the belief-attitude-intention relationship based on the Technology Acceptance Model (TAM), which was created by Davis (1989). TAM is the classical information systems model that is the basis for understanding the impact of external variables on users' intentions and, ultimately, actual behaviors (Legris, Ingham, & Collerette, 2003). OSAM is consistent with traditional consumer decision-making models because it implements the understanding that "consumer attitudes should influence intentions, while intentions influence behaviors" (Zhang et al., 2007, p. 81). OSAM extends TAM by examining how consumer demographics, such as gender, have indirect or direct effects on online shopping intentions. Thus, this research investigated

the role gender plays on apparel e-commerce Websites. Zhou et al. highlighted the need for elaborating on OSAM by examining current trends, such as targeting female consumers in order to account for the growing number of female Internet users. Further research is needed to examine the influence gender has on the consumer's intention to engage in apparel e-commerce shopping.

The first specific goal of this study was to assess the contribution gender has on the user's intention to engage in apparel e-commerce shopping. The second specific goal of this study was to assess the contribution shopping orientation has on the user's intention to engage in apparel e-commerce shopping. The third specific goal of this study was to assess the contribution the online experience has on the user's intention to engage in apparel e-commerce shopping. The fourth specific goal of this study was to assess the contribution Website's interactive features have on the user's intention to engage in apparel e-commerce shopping. Finally, the fifth specific goal of this study was to assess the interaction effect among gender, shopping orientation, online experience, and Website's interactive features when contributing to the consumers' intention to engage in apparel e-commerce shopping. The main research question that this study addressed was: What effects do gender, shopping orientation, online experience, and Website's interactive features have on consumers' intention to engage in apparel e-commerce shopping?



**Figure 1.** Conceptual Framework for Consumers' Intention to Engage in Apparel E-commerce Shopping

### Research Questions

The following are five specific research questions this study addressed:

- 1.) What is the contribution that gender has on the user's intention to engage in apparel e-commerce shopping?
- 2.) What is the contribution that shopping orientation has on the user's intention to engage in apparel e-commerce shopping?
- 3.) What is the contribution that the online experience has on the user's intention to engage in apparel e-commerce shopping?
- 4.) What is the contribution that Website's interactive features have on the user's intention to engage in apparel e-commerce shopping?
- 5.) What is the interaction effect among gender, shopping orientation, online experience, and Website's interactive features when contributing to consumers' intention to engage in apparel e-commerce shopping?

## **Relevance and Significance**

The significance of this study involved the exponential growth of e-commerce. In 2010, e-commerce sales are expected to account for 13% of all retail sales, up from 7% in 2004 (Chung & Chang, 2005). By 2010, apparel is predicted to be the second largest product category in online sales, representing \$28.4 billion in projected sales (Internet Retailer, 2004). Online retailers can take advantage of the rapid growth of e-commerce by improving consumer acceptance and the consumer's intention to engage in e-commerce. As females currently make the majority of household purchases, reducing negative perceptions of online shopping plays an important role in the continued growth of e-commerce (Garbarino & Strahilevitz, 2004). Negative perceptions about a product or service often result in lower intentions to purchase the product or service (Rodgers & Harris, 2003). In order to increase e-commerce acceptance, consumers need to have a positive perception of e-commerce (Rodgers & Harris). Understanding what causes gender differences of user perceptions towards e-commerce will enable researchers to explain online purchase intentions (Chiu et al., 2005).

## **Limitations and Delimitations**

### *Limitations*

This research study limited participation to a sample of participants provided by Zoomerang<sup>TM</sup>. Participants were required to complete the survey online. Therefore, the results may be geared towards more technical savvy consumers. One limitation involved the distribution method of the survey instrument. A link to the survey was sent via e-mail to participants requesting their participation in the study. Some of the participants may have not received the e-mail within the timeframe of the survey period or may have

overlooked the e-mail message. A reminder e-mail was sent in order to encourage participation. Another limitation included the response rate. This study addressed the response rate by providing the option for participants to enter a drawing to win one of four \$50 cash prizes. The survey instrument was distributed by Zoomerang™ to a group of participants provided by their TrueSample™ feature. Zoomerang™ required the projected total of participants. This study required at least 200 responses. The final limitation involved the representativeness of the sample to the target population. This study targeted male and female U.S. consumers who are age 18 or older. Zoomerang™'s TrueSample™ attribute feature was used to ensure the sample is representative of the target population. Specific attributes including age, country, and online shopping interest were selected to target the right sample participants.

#### *Delimitations*

A delimitation of this study involved the type of e-commerce Websites investigated. The scope of this study was limited to apparel e-commerce Websites. Although participants may use other e-commerce Websites, only intention to use apparel e-commerce Websites was investigated. Moreover, additional predictors of intention have been reached; however this research study restricted the constructs investigated to gender, shopping orientation, online experience, and Website's interactive features.

#### **Barriers and Issues**

The gap between male and female online shopping acceptance has not been eliminated because e-commerce Websites have failed to improve their online shopping environments in order to attract female consumers (Zhou et al., 2007). Not all female traditional store consumers have been converted into online consumers. E-commerce

does not appear to appeal to some females as much as the traditional store (Zhou et al.). Different shopping orientations and misconceptions about online shopping may prevent females from utilizing e-commerce.

The lack of communication may be a barrier for females, since females tend to be more socially oriented than males (Zhou et al., 2007). Specific products such as apparel items may increase the barrier to e-commerce for females, as they cannot fully experience the products online. Apparel items cannot be touched or physically checked for fit on a Website. Many retailers are attempting to overcome social and product type barriers by implementing Website interactive features that enable consumers to experience the product online through technology. Selling apparel online is a challenge for e-commerce, as little is known about online consumer behavior (Goldsmith & Goldsmith, 2002).

Another barrier to this study involved difficulty in collecting data due to the lack of female consumers utilizing e-commerce. Data for this study was collected from an equally distributed sample of males and females. The collected data was analyzed to understand gender differences in intentions to engage in apparel e-commerce shopping. The rapid change of e-commerce and the addition of new Website interactive features may influence consumer behavior intentions. New Website interactive features can be added to an e-commerce Website at any time. Many Websites are incorporating new interactive features in order to enhance the consumer's shopping orientation and online experience.

On the study survey instrument, questions about the consumer's intention to engage in apparel e-commerce shopping were written in broad relative terms in order to prevent difficulty in remembering exact information about previous online purchases

(Seock & Norton, 2008). A timeframe was specified in questions regarding behavior intentions (Ajzen & Fishbein, 1980). This was a time-sensitive study that required the surveys to be completed quickly. A short survey period reduced the amount of new Website interactive features developed and added to e-commerce Websites. The rapid change of e-commerce Websites should not affect the overall assessment of the contribution of gender, shopping orientation, online experience, and Website's interactive features on the consumer's intention to engage in apparel e-commerce shopping.

### **Definition of Terms**

**E-commerce** – the “sale and purchase of products and services over the Internet” (Keeney, 1999, p. 533).

**Online Experience** - the feelings consumers have while performing online activities (Zhou et al., 2007).

**Online Shopping Acceptance Model (OSAM)** – research model that explores user acceptance of e-commerce through examining online shopping behavior differences between males and females (Zhou et al., 2007).

**Recreation** – the simulation of a traditional store on a Website (Chen et al., 2004).

**Shopping Orientation** - a “range of attitude, interest, and opinion statements related to the topic of shopping” (Brown et al., 2003, p. 1668).

**Technology Acceptance Model (TAM)** - the classical information systems model that is the basis for understanding the impact of external variables on user's intentions and ultimately actual behavior (Davis, 1989; Legris et al., 2003).

**Theory of Planned Behavior (TPB)** – theory indicating human behavior is guided by behavioral beliefs, normative beliefs, and control beliefs leading to a behavioral intention (Ajzen, 1991; Fishbein & Ajzen, 1975).

**Theory of Reasoned Action (TRA)** – theory used to predict and understand human behavior based on the affect attitudes and subjective norms have on behavior intentions (Ajzen, 1991; Fishbein & Ajzen, 1975; Yu & Wu, 2007).

**Traditional Store** - a physical brick-and-mortar store offering products or services that can be physically touched or observed before the purchase (Childers, & Offstein, 2007; Collier & Bienstock, 2006).

**Website's Interactive Features** - Website tools used to facilitate interactions between humans and technology during the shopping and purchasing process (Kim et al., 2006; Zeithaml et al., 2002).

## **Summary**

Chapter one served as an introduction to this research study by presenting the problem to be addressed, research goals, and conceptual framework. The research problem this study addressed was the gap between male and female consumer spending and acceptance of e-commerce (Chiu et al., 2005; Rodgers & Harris, 2003; Zhou et al., 2007). A definition of e-commerce was presented along with a discussion of the major issues facing apparel retailers. Research studies related to emerging e-commerce trends were presented. The constructs of gender, shopping orientation, online experience, and Website's interactive features were presented and discussed.

In addition, measurable research goals were presented along with five specific research questions this study addressed. The main goal of this study was to empirically

assess the contribution of gender, shopping orientation, online experience, and Website's interactive features to consumers' intentions to engage in apparel e-commerce shopping. The need for this study was demonstrated by Chiu et al. (2005), Stafford et al. (2004), Venkatesh and Morris (2000), as well as Zhou et al. (2007). The specific constructs of gender, shopping orientation, online experience, and Website's interactive features were assessed to determine their effects on the consumers' intention to engage in apparel e-commerce shopping.

The relevance and significance of this study were presented in chapter one, highlighting the exponential growth of e-commerce. Online retailers can take advantage of the rapid growth of e-commerce by improving consumer acceptance and the consumer's intention to engage in e-commerce. Literature indicates that reducing negative perceptions of online shopping plays an important role in the continued growth of e-commerce, as females currently make the majority of household purchases (Garbarino & Strahilevitz, 2004). Thus, the relevance and significance for this study is the investigation of factors that contribute to the consumers' intention to engage in apparel e-commerce shopping. The significance of this study was demonstrated by the work of Rodgers and Harris (2003) as well as Chiu et al. (2005). Understanding what causes gender differences of user perceptions towards e-commerce will enable researchers to explain online purchase intentions (Chiu et al.).

The final section of chapter one included a discussion of the known limitations and delimitations. Barriers and issues associated with the study were also presented. Chapter one concluded with a definition of terms section.

## Chapter 2

### Review of the Literature

#### **Introduction**

This chapter provides a literature review addressing the relevant literature associated with consumer acceptance of e-commerce. “Building a solid theoretical foundation based on quality resources enables researchers to better explain as well as understand problems and solutions that address actual issues with which practitioners are struggling” (Levy & Ellis, 2006, p. 184). This study sought to understand how different constructs including gender, shopping orientation, Website’s interactive features, and online experience influence the consumer’s intention to engage in apparel e-commerce shopping. The literature presented in this review was drawn from a variety of fields, including information systems (IS), e-commerce, technology, business, marketing, and retailing. According to Levy and Ellis, “quality IS research literature from leading, peer-reviewed journals should serve as the major base of literature review as it provides sufficient theoretical background” (p. 185). A methodological approach was used to locate quality peer-reviewed journals that support the theoretical framework for this research. The main constructs for this study identified from the literature include gender, shopping orientation, Website’s interactive features, and online experience. This study assessed the influence each contribution has on the consumer’s intention to engage in apparel e-commerce shopping. A thorough examination of each contribution was conducted to reveal what is already known about each. Literature presented on each

contribution frames the research questions and approach for this study. The literature review ensured that this research study is based on a solid theoretical framework and that this study makes a significant contribution to the current research.

### **Gender and E-commerce**

Male and female consumers are often interested in different products. Male consumers usually prefer hardware, software, and electronics while female consumers usually prefer food, beverages, and apparel (Zhou et al., 2007). During the early stages of e-commerce, the types of products sold online were male-oriented; therefore, females were not able to find products online that interested them (Van Slyke, Comunale, & Belanger, 2002). However, even though online apparel sales have surpassed online computer sales, males continue to make more purchases online and spend more money online (Grannis et al., 2007; Li et al., 1999; Stafford et al., 2004; Susskind, 2004). Online retailers have the need to understand how to motivate female consumers to engage in apparel e-commerce shopping (Van Slyke et al.).

The lack of tactile feedback on e-commerce Websites for experience products such as apparel creates a barrier, especially for females (Zhou et al., 2007). Therefore, the shopping orientation for females is usually different from the shopping orientation for males, as females tend to be more social (Zhou et al.). Website interactive features are often used in order to provide more social interaction for females as well as enable consumers to experience products online. The consumer's online experience can determine his or her perceptions of an e-commerce Website and whether the consumer will return to the e-commerce Website in the future (Constantinides, 2004; Koufaris, 2002).

Understanding the differences between male and female perceptions of e-commerce helps online retailers address consumer concerns about shopping online (Van Slyke et al., 2002). These differences provided insight into how e-commerce Websites can be adapted to address online shopping concerns. Females have yet to welcome e-commerce as readily as males (Van Slyke et al.). Even though both males and females equally visit e-commerce Websites, males are more likely to purchase products or services from the Website (Van Slyke et al.). Males and females tend to approach e-commerce differently, as females shop in a planned fashion and males are more impulsive shoppers (Zhang et al., 2007). Females have less gratification with e-commerce and are more skeptical of e-commerce than males, perhaps due to the lack of an emotional bond with the online retailer (Rodgers & Harris, 2003). In contrast, males have greater trust of e-commerce and perceive e-commerce as more convenient than females (Bourlakis, Papagiannidis, & Fox, 2008). While males are more likely to shop via e-commerce, females are more likely to shop in general (Stafford et al., 2004).

In order to reach the growing segment of female Internet users, online retailers need to understand what motivates female consumers to engage in e-commerce (Van Slyke et al., 2002). Online content needs to be diversified in order to encourage both male and female consumers to spend time exploring e-commerce Websites (Wang, Chen, Chang, & Yang, 2007). The number of females using the Internet and the growth of online apparel sales are both expected to continue (Siddiqui, O'Malley, McColl, & Birtwistle, 2003). Understanding the differences in intentions to engage in e-commerce may help eliminate the gender gap between male and female spending online (Van Slyke et al.).

Females have traditionally been and continue to be the principle buying agents for households; therefore, females are more likely to have greater satisfaction with shopping (Alreck & Settle, 2002). This trend of females being the main household shoppers may eventually move to e-commerce as the number of females online continues to increase (Van Slyke et al., 2002). Some female consumers are starting to favor the convenience of e-commerce shopping similar to their male counterparts, due to time constraints and hectic lifestyles (Ergin & Akbay, 2008). Online retailers need to focus on gender differences, as gender plays a significant role in e-commerce patterns and consumer choices (Ergin & Akbay). Table 1 presents a summary of the literature related to gender.

Table 1. Summary of literature related to Gender

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Alreck & Settle (2002)	Empirical and survey	A convenience sample of 600 adult consumers in the Mid-Atlantic region of the USA were surveyed.	The survey instrument was used to measure gender differences in shopping attitudes, shopping styles, and image profiles. Respondents indicated the extent to which they agreed or disagreed with 24 statements about shopping. The survey items were based on the comments of consumers who attended a focus group on shopping practices.	Females have traditionally been and continue to be the principle-buying agents for households; therefore females are more likely to have greater satisfaction with shopping.

Table 1. Summary of literature related to Gender (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Bourlakis, Papagiannidis, & Fox (2008)	Literature review	Relevant material published in professional associations' magazines, government reports, and practitioners' journals from 2005 onwards were analyzed.	A literature review thematic chart of 19 research articles was constructed highlighting major findings. Central themes included motivating factors for online shopping, inhibiting factors, and areas of improvement.	Males have greater trust of e-commerce, and perceive e-commerce as more convenient than females.
Constantinides (2004)	Literature review	48 academic papers were reviewed on consumer behavior in e-commerce.	The academic papers were allocated into three main categories of online experience elements including functionality factors, psychological factors, and content factors. Sub-categories included usability, interactivity, trust, aesthetics, and marketing mix.	The consumer's online experience can determine his or her perceptions of an e-commerce Website and whether the consumer will return to the e-commerce Website in the future.

Table 1. Summary of literature related to Gender (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Ergin & Akbay (2008)	Empirical and survey	A convenience sample of 382 adults between age 20 to 60 years were surveyed. A total of 363 responses were received.	A survey instrument consisting of 13 survey items was used to measure reasons for shopping online or not. The study examined whether there is a significant difference between male and female online shopping frequency as well as the total amount spent online.	Some female consumers are starting to favor the convenience of e-commerce shopping, similar to their male counterparts, due to time constraints and hectic lifestyles. Online retailers need to focus on gender differences as gender plays a significant role in e-commerce patterns and consumer choices.
Grannis, Davis, & Sullivan (2007)	Empirical and survey	170 retailers	Forrester Research, Inc. surveyed 170 retailers for their annual shop.org study.	In 2006, Americans spent more online on clothing than computers for the first time in history.

Table 1. Summary of Literature Related to Gender (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Koufaris (2002)	Theoretical, empirical, and survey	280 subjects from Dynamic logic database completed the survey	A survey instrument was used to measure consumer intention to return, shopping enjoyment, perceived control, and concentration. TAM was applied to test how well the perceived usefulness and perceived ease of use of an e-commerce Website predicts the user's intention to return. Consumers visited Booksamillion.com and then answered a survey about their online experience.	The consumer's online experience can determine his or her perceptions of an e-commerce Website and whether the consumer will return to the e-commerce Website in the future.
Li, Kuo, & Rusell (1999)	Empirical and survey	A sample of respondents was drawn from an online panel of 50,000 Internet users. Panel members were invited via e-mail to participate in a survey. A total of 999 respondents completed the survey.	A survey instrument was used to measure shopping orientation, online buying behavior, and demographics - gender differences. Online buying behavior was measured by the frequency in which consumers made purchases online.	Males are more frequent Web buyers than females.

Table 1. Summary of literature related to Gender (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Rodgers & Harris (2003)	Empirical and survey	227 individuals from a small Midwestern city. All participants were non-students who were 18 or older and had made at least one purchase online.	A survey instrument was used to determine whether males and females differ in their e-commerce experiences and attitudes. Attitude, trust, e-commerce experience, and purchase frequency were measured using a 5-point semantic differential scale and bipolar adjectives.	Females have less gratification with e-commerce and are more skeptical of e-commerce than males, perhaps due to the lack of an emotional bond with the online retailer.
Siddiqui, O'Malley, McColl, & Birtwistle (2003)	Exploratory qualitative research and evaluation of Websites	14 Websites, 25 interviews, and one focus group	Research was undertaken in three stages including exploratory qualitative research to examine the online presence of fashion retailers, evaluation of 14 Websites, and 25 interviews as well as one focus group. Constructs included gender, retail channel, and Website design.	The number of females using the Internet and the growth of online apparel sales are both expected to continue.

Table 1. Summary of literature related to Gender (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Stafford, Turan, & Raisinghani (2004)	Empirical and survey	The sample included 217 students enrolled in business administration courses in the United States, Finland, and Turkey.	An online survey instrument was used to compare and contrast gender differences in three different consumer markets.	Males continue to be early adopters of the Internet and online services. While males are more likely to shop via e-commerce, females are more likely to shop, in general.
Susskind (2004)	Empirical and survey	204 residents from a northeastern state.	A telephone survey was used to collect perceptions of Internet usage and e-commerce.	Females reported spending less money online as compared to their male counterparts.
Van Slyke, Comunale, & Belanger (2002)	Empirical and survey	511 subjects who ranged in age from 17 to 48 years old	A survey instrument was used to test whether gender is a significant predictor of online shopping intentions and whether online shopping perceptions differ by gender.	Gender is a significant predictor of a user's intention to make purchases online. Males are more likely than females to purchase products and/or services online.
Wang, Chen, Chang, & Yang (2007)	Empirical and survey	226 total responses including 92 online users and 134 non-online users	A survey instrument was used to measure online shopping attitude, subjective norms, shopping perception behavior, and online shopping behavior intention.	Online content needs to be diversified in order to encourage both male and female consumers to spend time exploring e-commerce Websites.

Table 1. Summary of literature related to Gender (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Zhang, Prybutok, & Strutton (2007)	Theoretical and survey	332 responses were collected from a college of business class.	A survey instrument was used to evaluate online consumer shopping behavior and measure purchase intention as well as purchase frequency. The purchase frequency was assessed by asking respondents how many purchases they had made online within the last six months.	Significant relationships may exist between gender, purchase intention, and actual purchase behavior online. Intention to purchase is greater for males whenever either males or females engage in e- commerce. Males are more impulsive online shoppers than females. Males purchase online more frequently than females.

Table 1. Summary of literature related to Gender (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Zhou, Dai, & Zhang (2007)	Theoretical and literature review	64 articles from 36 different journals were reviewed	Empirical studies from information systems journals were reviewed in order to explain intended or actual online shopping behavior. The literature review indicated nine factors influencing e-commerce shopping including demographics, Internet experience, normative beliefs, shopping orientation, shopping motivation, personal traits, online experience, psychological perception, and online shopping experience. The literature review on consumer factors influencing online shopping acceptance results in the development of an Online Shopping Acceptance Model (OSAM).	Male consumers usually prefer hardware, software, and electronics, while female consumers usually prefer food, beverages, and apparel. The lack of tactile feedback on e-commerce Websites for experience products such as apparel creates a barrier, especially for females. Therefore, the shopping orientation for females is usually different than the shopping orientation for males, as females tend to be more social prone.

## **Shopping Orientation**

The consumer's shopping orientation is defined as a "range of attitude, interest, and opinion statements related to the topic of shopping" (Brown et al., 2003, p. 1668). Previous studies have indicated that shopping orientation is an important indicator for determining whether consumers intend to engage in e-commerce (Brown et al.; Jayawardhena, Wright, & Dennis, 2007). The lack of human interaction provided on e-commerce Websites may influence the consumer's shopping orientation (Jayawardhena et al.). Consumers often perceive traditional stores as tangible and e-commerce as virtual (Rajamma, Paswan, & Ganesh, 2007). Traditional store shopping can be an emotionally fulfilling experience; however, shopping online does not always provide the same experience due to limitations (Koufaris, 2002). Unlike traditional store shopping, e-commerce "occurs at a distance rather than face-to-face" (Van Slyke et al., 2002, p. 84). E-commerce has brought shopping home to consumers (Ergin & Akbay, 2008).

Consumers who prefer traditional stores value the assurance and enjoyment of shopping compared to online consumers (Rajamma et al., 2007). Therefore, some consumers may have uncertainties about e-commerce Websites due to the consumers' dependence on traditional store shopping (Van Slyke et al., 2002). Traditional stores are normally associated with human interaction and a tangible nature (Rajamma et al.). Consumers have different needs and wants; therefore, they will shop where they are best served (Burke, 2002). Online retailers have the need to understand which variables, such as shopping orientation, influence the consumer's decision to use e-commerce, as the understanding of consumer behavior online is limited (O'Cass & Fenech, 2003).

A consumer's shopping orientation may influence his or her intention to engage in e-commerce shopping as intentions may vary for different products (Brown et al., 2003). Consumers may find it challenging to make informed decisions online because it is difficult to judge the quality of certain products such as apparel items on a Website (Van Slyke et al., 2002). Product type is an important factor in e-commerce as consumers may pose questions regarding the color, size, and fabric of apparel items (Axelsson, 2008). Consumers need to be able to touch the fabric and check the fit of apparel items (Rajamma et al., 2007). Products such as CDs are normally standardized, whereas apparel comes in different sizes and colors (Axelsson). Experience products such as items of apparel require detailed information and usually need to be personally evaluated or tried for fit (Brown et al.). Apparel items require consumers to decide on several factors before their purchase decision (Axelsson). Therefore, online retailers need to understand how consumers use their products in order to assist consumers with their online purchase decisions (Axelsson). Consumers make purchase decisions once they have enough information about the items' characteristics including price, size, color, and fabric (Ha & Stoel, 2004).

Consumers with strong intentions to search for apparel online are more likely to purchase apparel online (Xu & Paulins, 2005). Many consumers feel apparel is risky to purchase online due to uncertainty about color, fabric, and fit (Bhatnagar, Misra, & Rao, 2000). It is easier to gather information about apparel items in a traditional store because the apparel items can be tried on, compared, and physically evaluated (Axelsson, 2008). Previous research has also found that consumers who prefer to experience products are less likely to buy online (Li et al., 1999). Therefore, online retailers are starting to offer

technology that enables consumers to experience products online. Social motives can also influence a consumer's shopping orientation, as some consumers prefer to shop outside of the home for the social experiences (Li et al.). Previous studies have found the social component to be a significant predictor of consumer behavior (Kim, Kim, & Kumar, 2003; Xu & Paulins). E-commerce continues to be a solitary activity; however, Websites are offering more interactive features in order to increase social activity (Van Slyke et al.). Table 2 presents a summary of the literature related to shopping orientation.

Table 2. Summary of literature related to Shopping Orientation

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Axelsson (2008)	Case studies, interviews, and a survey	Survey instruments were sent to 200 consumers of an apparel company and 100 consumers of a CD company. A 40% response rate was received for both companies. Managers of the customer service departments as well as customer service employees were interviewed.	The study explores how product characteristics of apparel items and CDs influences consumer interaction. The survey instrument consisted of 20 survey items regarding the consumer's preferences of different communication media when communicating with the company. The interviews addressed communication strategies used between the company and the consumer.	Product type is an important factor in e-commerce as consumers may pose questions regarding the color, size, and fabric of apparel items. Products such as CDs are normally standardized, whereas apparel comes in different sizes and colors. Apparel items require consumers to make several decisions before their purchase decision.

Table 2. Summary of literature related to Shopping Orientation (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Bhatnagar, Misra, & Rao (2000)	Data Analysis	Online survey conducted by the Georgia Institute of Technology	This study analyzed the results of specific sections of the survey including security of transactions, opinion of vendors, purchasing behavior, and general demographics. Responses were categorized into two groups including financial risk and convenience of e-commerce. The framework implies the effects of risk and convenience are moderated by demographic factors.	Consumers feel that apparel is risky to purchase online due to uncertainty about color, fabric, and fit.
Brown, Pope, & Voges (2003)	Empirical and survey	A consumer panel of 9,640 Internet users. 964 users were randomly selected. A total of 437 usable responses were received.	An online survey was used to measure shopping enjoyment, convenience, loyalty, and purchase intention. Respondents rated their online purchase intention for a list of products including apparel.	The consumer's shopping orientation is defined as a "range of attitude, interest, and opinion statements related to the topic of shopping". Shopping orientation is an important indicator for determining whether consumers intend to engage in e-commerce.

Table 2. Summary of literature related to Shopping Orientation (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Burke (2002)	Empirical, survey, and evaluation	An online consumer panel including 2,120 consumers completed the survey.	The survey requested respondents to rate the importance of 10 different aspects of the shopping experience. Respondents evaluated 128 different aspects of the shopping experience including 58 online and 70 traditional store attributes.	Online retailers need to understand the value consumers place on technology as part of e-commerce. Consumers have different needs and wants; therefore they will shop where they are best served.
Ergin & Akbay (2008)	Empirical and survey	A convenience sample of 382 adults between age 20 to 60 years were surveyed. A total of 363 responses were received.	A survey instrument consisting of 13 survey items was used to measure reasons for shopping online or not. The study examined whether there is a significant difference between male and female online shopping frequency as well as the total amount spent online.	E-commerce has brought shopping home to consumers.

Table 2. Summary of literature related to Shopping Orientation (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Ha & Stoel (2004)	Empirical and survey	178 students at a large university	Survey measuring innovativeness, the frequency of apparel e-commerce shopping, and demographic information. This study examined the influence of innovativeness on apparel e-commerce shopping.	Consumers make purchase decisions once they have enough information about the items' characteristics including price, size, color, and fabric. Females were more likely to use the Internet to search for apparel information than males.
Jayawardhena, Wright, & Dennis (2007)	Empirical and survey	1,500 individuals randomly selected from a consumer panel of 10,000 UK Internet users. 396 users completed the survey.	A survey instrument was used to measure online experiences and motivations. Constructs included shopping orientation, online experience, purchase intention, and gender.	The lack of human interaction provided on e-commerce Websites may influence the consumer's shopping orientation. Prior purchase and gender have a significant effect on purchase intention.

Table 2. Summary of literature related to Shopping Orientation (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Kim, Kim, & Kumar (2003)	Theoretical and survey	A survey was sent to 3,000 adults in the U.S. who were listed on a mailing list broker database. 303 usable responses were received.	The research model for the study was developed based on Fishbein's behavioral intentions model in the context of apparel e-commerce shopping. The three main constructs included behavioral intention, attitude, and subjective norm.	The social component of e-commerce is a significant predictor of consumer behavior. The type of clothing offered through e-commerce may influence behavioral intentions.
Koufaris (2002)	Theoretical, empirical, and survey	280 subjects from Dynamic logic database completed the survey	A survey instrument was used to measure consumer intention to return, shopping enjoyment, perceived control, and concentration. TAM is applied to test how well the perceived usefulness and perceived ease of use of an e-commerce Website predicts the user's intention to return. Consumers visited Booksamillion.com and then answered a survey about their online experience.	Traditional store shopping can be an emotionally fulfilling experience; however, shopping online does not always provide the same experience due to limitations. Shopping enjoyment and perceived usefulness of an e-commerce Website strongly predict intention to return.

Table 2. Summary of literature related to Shopping Orientation (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Li, Kuo, & Rusell (1999)	Empirical and survey	A sample of respondents was drawn from an online panel of 50,000 Internet users. Panel members were invited via e-mail to participate in a survey. A total of 999 respondents completed the survey.	Constructs: shopping orientation, online buying behavior, and demographics - gender differences. Online buying behavior was measured by the frequency in which consumers made purchases online.	Consumers who prefer to experience products are less likely to buy online. Social motives can influence a consumer's shopping orientation, as some consumers prefer to shop outside of the home for the social experiences.
O'Cass & Fenech (2003)	Theoretical and survey	A random sample of 4,000 Australian Internet service provider subscribers was used. A total of 392 responses were received.	A survey instrument is used to examine user satisfaction with Websites and shopping orientation. TAM is the theoretical framework used to understand the adoption of e-commerce by Internet users.	Online retailers have the need to understand which variables, such as shopping orientation, influence the consumer's decision to use e-commerce, as the understanding of consumer behavior online is limited.

Table 2. Summary of literature related to Shopping Orientation (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Rajamma, Paswan, Ganesh (2007)	Empirical and survey	A mail survey was sent to 2,500 Internet-enabled households drawn from a metro area. A total of 689 responses were received.	A survey instrument was used to measure consumer motivation by having respondents indicate the importance of 27 motivating characteristics for shopping. The survey measured perceptions of online buying, traditional store buying, and consumer motivation.	Consumers often perceive traditional stores as tangible and e-commerce as virtual. Consumers who prefer traditional stores value the assurance and enjoyment of shopping compared to online consumers. Traditional stores are normally associated with human interaction and a tangible nature. Consumers need to be able to touch the fabric and check the fit of apparel items.

Table 2. Summary of Literature Related to Shopping Orientation (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Van Slyke, Comunale, & Belanger (2002)	Empirical and survey	511 subjects who ranged in age from 17 to 48 years old	A survey instrument was used to test whether gender is a significant predictor of online shopping intentions and whether online shopping perceptions differ by gender.	Unlike traditional store shopping, e-commerce “occurs at a distance rather than face-to-face”. Consumers may find it challenging to make informed decisions online, because it is difficult to judge the quality of certain products such as apparel items on a Website.
Xu & Paulins (2005)	Theoretical, focus group, and survey	A total of 129 sophomore college students participated in the focus groups. The survey was sent to a random sample of 1,500 undergraduate students. 697 surveys were completed.	A survey instrument was used to measure attitudes towards shopping for apparel, intentions of shopping online for apparel, demographics, and previous online shopping experience. A focus group measured prior experience with shopping online, satisfaction with shopping online, and general behaviors towards apparel shopping.	The fit of the apparel item was the biggest concern for consumers when shopping online for apparel. Consumers with strong intentions to search for apparel online are more likely to purchase apparel online.

### **Website's Interactive Features**

The interaction with virtual products such as apparel may become increasingly important to e-commerce due to the growing need to engage the consumer (Arnold & Reynolds, 2003). E-commerce Websites are a challenge for experience items such as apparel because consumers are limited in their ability to experience products online (Tractinsky & Lowengart, 2007). Although e-commerce cannot provide the exact traditional store shopping experience, it is still necessary to investigate whether social interaction online and Website's interactive features motivate consumers to shop online (Shang, Chen, & Shen, 2005). Some consumers desire traditional store features, such as social interaction, on e-commerce Websites (Rohm & Swaminathan, 2004). As females tend to view shopping as a social activity, they may view e-commerce less favorably due to the lack of interaction online (Van Slyke et al., 2002). While people usually assume e-commerce to be less enjoyable than traditional store shopping, online retailers are adding Website's interactive features in order to interact with consumers online (Shang et al.). The traditional face-to-face communication offered in traditional stores has to be replaced with other ways of communicating in order to successfully offer products via e-commerce (Axelsson, 2008). E-commerce Websites are becoming simulation and entertainment centers, as consumers want to experience traditional store features online (Tractinsky & Lowengart).

Apparel Websites are starting to incorporate interactive mix and match technology such as My Virtual Model<sup>TM</sup> and imaginariX<sup>TM</sup> in order to simulate the try on process (Lee, Fiore, & Kim, 2006). The mix and match technology enables consumers to select a variety of try on options including gender, height, and proportions. Lands' End is

an example of a retailer that has successfully implemented the My Virtual Model™ technology. Interactive technology such as My Virtual Model™ may give consumers confidence during the product evaluation process as well as increase their purchase intentions (Li, Daugherty, & Biocca, 2001). Online retailers can also overcome the lack of human and social interaction online by utilizing 3D features for consumers to coordinate different apparel items (Siddiqui et al., 2003). Integrating features of traditional stores will enable online retailers to enhance the consumer's shopping orientation for apparel items and develop a relationship with the consumer online (Burke, 2002; Siddiqui et al.).

Apparel items usually require tactile orientation in the purchase decision process (Rajamma et al., 2007). The time and effort used to locate clothing online by deciding on the size, color, and fabric may be an inconvenience to females (Rodgers & Harris, 2003). This inconvenience is further heightened by Websites failing to offer virtual try on features (Rodgers & Harris). A Website's interactive features engage female consumers by stimulating positive attitudes and purchase intentions (Chiu et al., 2005). The use of a Website's interactive features is an important factor in improving the consumer's desire to shop online as well as their purchase intentions (Fiore & Jin, 2003; Li et al., 2001).

Online retailers are starting to acknowledge the importance of the human element by providing virtual customer service representatives (Rajamma et al., 2007). Websites with a higher level of interactivity are perceived as more useful than Websites with lower levels of interactivity (Lee et al., 2006). Virtual model technology may reduce the negative effect of the inability to physically experience and interact with a product online (Li et al., 2001; Swinyard & Smith, 2003). Online retailers can reduce consumer

uncertainties about products through the visual design of the e-commerce Website (Tractinsky & Lowengart, 2007). Utilizing interactive technology by incorporating a Website's interactive features facilitates a useful and enjoyable online experience for the consumer (Lee et al.). These features can play a role in enhancing the user's online experience (Burke, 2002).

Personalization increases interaction and enhances the online experience, especially for females seeking an emotional experience online (Rodgers & Harris, 2003). Interactive Websites offer personalized information based on consumer inputs (Shankar, Smith, & Rangaswamy, 2003). Online retailers have the ability to personalize information and match products to consumers' needs if they will share information about themselves (Weathers, Sharma, & Wood, 2007). Amazon.com is an example of an e-commerce Website that allows consumers to personalize their experience by sorting product reviews in a variety of formats. Giving consumers greater control of their online experience may lead to greater personalization (Weathers et al.) Personalizing e-commerce provides consumers with an individualized shopping experience (Lee & Park, 2009). Online retailers may benefit from implementing personalization features in order to enhance the purchase intentions of their consumers (Lee & Park).

Additional Website's interactive features such as recommendations can also personalize the online experience for consumers. Recommendations from friends have a stronger influence on female purchase intentions than on male purchase intentions (Garbarino & Strahilevitz, 2004). Females tend to accept technology based on the opinions of others, while males accept technology based on its usefulness (Venkatesh, Morris, & Ackerman, 2000). In order to increase female consumer acceptance of e-

commerce, online retailers may consider offering rewards to consumers who recommend their Website to others. Links can be added to the Website enabling users to share their online experience with their friends. Social networking has become a means for consumers to recommend products to their friends (Davenport & Harris, 2009). In addition, females may be interested in having an emotional experience by interacting with other consumers who have used the products offered on the Website (Rodgers & Harris, 2003). Testimonials and online chat may provide the emotional experience some females need in order to engage in e-commerce. Females spend the majority of their time online using e-mail in order to connect with others (Garbarino & Strahilevitz, 2004). Enabling females to share their positive online experiences may reduce negative perceptions of online shopping and encourage other females to engage in e-commerce.

Online retailers can potentially influence consumer purchase intentions by offering similar products or accessories associated with the product the consumer is viewing on the e-commerce Website (Zhang et al., 2007). Predicting consumer taste is becoming a prominent factor of e-commerce (Davenport & Harris, 2009). In addition, recording consumer shopping habits helps speed up the selection and ordering process (Bourlakis et al., 2008). Amazon.com pioneered the widespread use of recommendations by making correlations with past consumer choices (Davenport & Harris). Several online retailers have found that offering product recommendations to consumers helps sell more products (Davenport & Harris). ChoiceStream<sup>TM</sup> is an example of a tool that provides product recommendations based on specific attributes. Overstock.com implemented the ChoiceStream<sup>TM</sup> gift finder feature during the 2006 holiday season, and as a result their revenue increased by 250% from consumers who used the feature (Davenport & Harris).

Offering elements of a traditional store via technology may help promote e-commerce.

Table 3 presents a summary of the literature related to Website's interactive features.

Table 3. Summary of literature related to Website's Interactive Features

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Arnold & Reynolds (2003)	Empirical and interviews	98 individuals including 33 males and 65 females ranging in age from 18 to 55 years.	Interviews were conducted to uncover the hedonic reasons in which people shop. Six broad categories of hedonic shopping motivations emerged from the interviews including adventure shopping, social shopping, gratification shopping, idea shopping, role shopping, and value shopping.	The interaction with virtual products such as apparel may become increasingly important to e-commerce due to the growing need to engage the consumer. Research suggests a direct link between shopping motivations and satisfaction/loyalty.

Table 3. Summary of literature related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Axelsson (2008)	Case studies, interviews, and a survey	Survey instruments were sent to 200 consumers of an apparel company and 100 consumers of a CD company. A 40% response rate was received for both companies. Managers of the customer service departments as well as customer service employees were interviewed.	The study explores how product characteristics of apparel items and CDs influences consumer interaction. The survey instrument consisted of 20 survey items regarding the consumer's preferences of different communication media when communicating with the company. The interviews addressed communication strategies used between the company and the consumer.	The traditional face-to-face communication offered in traditional stores has to be replaced with other ways of communicating in order to successfully offer products via e-commerce.
Bourlakis, Papagiannidis, & Fox (2008)	Literature review	Relevant material published in professional associations' magazines, government reports, and practitioners' journals from 2005 onwards were analyzed.	A literature review thematic chart of 19 research articles was constructed highlighting major findings. Central themes included motivating factors for online shopping, inhibiting factors, and areas of improvement.	Recording consumer shopping habits helps speed up the selection and ordering process.

Table 3. Summary of literature related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Burke (2002)	Empirical, survey, and evaluation	An online consumer panel including 2,120 consumers completed the survey.	The survey requested respondents to rate the importance of 10 different aspects of the shopping experience. Respondents evaluated 128 different aspects of the shopping experience including 58 online and 70 traditional store attributes.	A Website's features can play a role in enhancing the user's online experience.
Chiu, Lin, & Tang (2005)	Theoretical and survey	1,000 surveys were mailed to customers of an Internet service provider in Taiwan. 376 customers completed the survey.	The conceptual framework for the study modified TAM in order to address behavioral intentions of online purchasing. Each construct including personal awareness of security, personal innovativeness, perceived ease of purchasing, and perceived usefulness was measured using a 5-point Likert scale.	A Website's interactive features engage female consumers by stimulating positive attitudes and purchase intentions. The four constructs measured in the study have an indirect influence on online purchase intentions through the attitudes of consumers.

Table 3. Summary of literature related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Davenport & Harris (2009)	Literature review and interviews	Representatives from 18 organizations were interviewed. The literature review consisted of technical and management literature by leading academic researchers.	The study explains why prediction and recommendation technologies are used and applied to a variety of products. Interviews of representatives from software companies offering recommendation systems for online shopping were conducted to gain insight into how predictive and recommendation technologies help promote products online.	Social networking has become a means for consumers to recommend products to their friends. Predicting consumer taste is becoming a prominent factor of e-commerce. Amazon.com pioneered the widespread use of recommendations by making correlations with past consumer choices. Several online retailers have found that offering product recommendations to consumers helps sell more products.

Table 3. Summary of literature related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Fiore & Jin (2003)	Empirical, Website evaluation, and survey	103 undergraduate students from a large Mid-western university in the U.S. All subjects met the requirement of having previous Internet experience.	Survey participants were asked to evaluate the mix and match function on Guess.com. After the Website evaluation, the survey participants answered a series of questions regarding their overall evaluation of the e-commerce Website, willingness to purchase, willingness to return, and likelihood to visit the online retailer's brick-and-mortar store.	The use of a Website's interactive features is an important factor in improving the consumer's desire to shop online as well as their purchase intentions. The mix and match function enhanced consumer responses towards an e-commerce Website. Enhancing the interactivity provides e-commerce Websites with a competitive advantage.

Table 3. Summary of literature related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Garbarino & Strahilevitz (2004)	Empirical and survey	Study 1: 260 respondents from a university community participated in focus groups and interviews, Study 2: 276 surveys were collected from members living around a southeastern university, Study 3: 182 undergraduate students and 38 MBA students from a private southeastern university. Each sample included different participants.	Study 1: Examines how gender influences decisions to buy online by having participants answer survey questions regarding Web usage, perceived risks of purchasing online, and basic demographics. Study 2: Examines gender differences when the consumer has received a recommendation from a friend, examines ways in which risk perceptions may be reduced. Study 3: Tests whether males or females are more likely to purchase online after receiving a recommendation from a friend.	Females spend the majority of their time online using e-mail in order to connect with others. Recommendations from friends have a stronger influence on female purchase intentions than on male purchase intentions. Results indicated that females have a higher perceived risk in online purchasing than males. Females had a stronger increase in their willingness to purchase online after receiving a recommendation from a friend.

Table 3. Summary of Literature Related to Website's Interactive Features (continued)

Study	Methodology	Sample	Instruments / Constructs	Main findings or contributions
Lee, Fiore, & Kim (2006)	Theoretical and survey	206 undergraduate students from a large Midwestern university in the U.S.	The study focuses on image interactivity technology (IIT) of a Website by applying TAM to examine factors influencing consumer attitudes towards online retailers. Study participants were asked to evaluate an apparel e-commerce Website. The participants completed a survey before and after exposure to a stimulus. The before treatment exposure involved an 11-item shopping orientation scale. The after exposure treatment involved a five-item scale for each TAM constructs including perceived usefulness, perceived ease of use, and perceived enjoyment.	Apparel Websites are starting to incorporate interactive mix and match technology such as My Virtual Model™ and imaginariX™ in order to stimulate the try on process. Websites with a higher level of interactivity are perceived as more useful than Websites with lower levels of interactivity. Utilizing interactive technology though incorporating a Website's interactive features facilitates a useful and enjoyable online experience for the consumer.

Table 3. Summary of literature related to Website's Interactive Features (continued)

Study	Methodology	Sample	Instruments / Constructs	Main findings or contributions
Lee & Park (2009)	Empirical and survey	A sample of 2,000 consumers who had made at least one online purchase of apparel items was used. A valid sample of 204 responses were received.	A survey instrument was used to measure three types of online service personalization for online apparel shopping. The three types included offer, recognition, and personal advice. The sample was limited to consumers who had prior online apparel purchase experiences. The consumer's online apparel purchase history was based on the frequency, amount, and number of Websites used.	Personalizing e- commerce provides consumers with an individualized shopping experience. Online retailers may benefit from implementing personalization features in order to enhance the purchase intentions of their consumers.
Li, Daugherty, & Biocca (2001)	Empirical	30 undergraduate students from a major Midwestern university.	Qualitative research methods were used to explore consumer experiences while examining 3-D visualizations of products. Verbal reports were developed for each product. Data collected was used to provide evidence of what consumers think when they virtually experience products.	Interactive technology such as 'My Virtual Model' may give consumers confidence during the product evaluation process as well as enhance their purchase intentions. Virtual model technology may reduce the negative effect of the inability to physically experience and interact with a product online.

Table 3. Summary of literature related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Rajamma, Paswan, & Ganesh (2007)	Empirical and survey	A mail survey was sent to 2,500 Internet-enabled households drawn from a metro area. 689 responses were received.	A survey instrument was used to measure consumer motivation by having respondents indicate the importance of 27 motivating characteristics for shopping. The survey measured perceptions of online buying, traditional store buying, and consumer motivation.	Apparel items usually require tactile orientation in the purchase decision process. Online retailers are starting to acknowledge the importance of the human element by providing virtual customer service representatives.

Table 3. Summary of Literature Related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Rodgers & Harris (2003)	Empirical and survey	227 individuals from a small Midwestern city. All participants were non-students who were 18 or older and had made at least one purchase online.	A survey instrument was used to determine whether males and females differ in their e-commerce experiences and attitudes. Attitude, trust, e-commerce experience, and purchase frequency were measured using a 5-point semantic differential scale and bipolar adjectives.	The time and effort used to locate clothing online by deciding on the size, colors, and fabric may be an inconvenience to females. This inconvenience is further heightened by Websites failing to offer virtual try on features. Personalization increases interaction and enhances the online experience, especially for females seeking an emotional experience on the Website. Females may be interested in having an emotional experience by interacting with other consumers who have used the products offered on the Website.

Table 3. Summary of literature related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Rohm & Swaminathan (2004)	Empirical and survey	Online sample: 1,000 consumers from an online grocery retailer based in the northeastern U.S. 412 usable responses were received from the online shoppers. Off-line sample: 350 brick-and-mortar grocery consumers were mailed a survey. 103 consumers completed the mail survey.	A survey instrument containing 31 items on a 7-point Likert scale was used to measure shopping motivations. The measures included shopping convenience, information seeking, immediate possession, social interaction, retail shopping experience, and variety seeking.	Some consumers desire traditional store features, such as social interaction, on e-commerce Websites. The desire for convenience and social interaction was identified by consumers in both the online and brick-and-mortar context.
Shang, Chen, & Shen (2005)	Empirical and survey	The sample consisted of 478 members of a computer magazine mailing list and 650 students from three universities.	A survey instrument was used to examine whether intrinsic motivations can be used to explain the consumer's acceptance of online shopping. Survey items measured cognitive absorption, perceived ease of use, perceived usefulness, and fashion involvement.	Although e-commerce cannot provide the exact traditional store shopping experience, it is still necessary to investigate whether social interaction online and Website's interactive features motivate consumers to shop online.

Table 3. Summary of Literature Related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Shankar, Smith, & Rangaswamy (2003)	Empirical and survey	Data set 1: A random sample of 1,000 hotel customers, 144 usable responses were received. Data set 2: A random sample of 2,000 Marriott customers, 593 usable responses were received.	The study predicted the effects of Website factors, service attributes, and prior experience with a service on satisfaction and loyalty. A survey instrument was used to measure the customer's satisfaction with their most recent online reservation.	Interactive Websites offer personalized information based on consumer inputs. Results indicated that the depth of information provided on a Website increases consumer satisfaction and in turn reinforces loyalty.
Siddiqui, O'Malley, McColl, & Birtwistle (2003)	Exploratory qualitative research and evaluation of Websites	14 Websites, 25 interviews, and one focus group	Research was undertaken in three stages including exploratory qualitative research to examine the online presence of fashion retailers, evaluation of 14 Websites, and 25 interviews as well as one focus group. Constructs included gender, retail channel, and Website design.	Online retailers can overcome the lack of human and social interaction online by utilizing 3D features for consumers to coordinate different apparel items. Integrating these features enables online retailers to enhance the consumer's shopping orientation for apparel items and develop a relationship with the consumer online.

Table 3. Summary of Literature Related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Swinyard & Smith (2003)	Empirical and survey	4,000 U.S. households with Internet access received a survey, 1,738 surveys were returned.	A survey instrument was used to examine the lifestyle characteristics of online households. The survey measurements included 14 Internet behaviors, 38 online shopping lifestyle statements, and 13 Internet use themes.	Virtual model technology may reduce the negative effect of the inability to physically experience and interact with a product online.
Tractinsky & Lowengart (2007)	Literature Review	The study took a multidisciplinary approach to the literature review by analyzing research studies related to marketing, information technology, and human-computer interaction.	The study developed a conceptual framework of consumer attitude formation towards an e-commerce Website. Constructs included consumer characteristics, design characteristics, perceived aesthetic qualities of a Website, product characteristics, and shopping task characteristics.	E-commerce Websites are a challenge for experience items such as apparel as consumers are limited in their ability to experience products online. Online retailers can reduce consumer uncertainties about products through the visual design of the e-commerce Website.

Table 3. Summary of literature related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Van Slyke, Comunale, & Belanger (2002)	Empirical and survey	511 subjects who ranged in age from 17 to 48 years old	A survey instrument was used to test whether gender is a significant predictor of online shopping intentions and whether online shopping perceptions differ by gender.	As females tend to view shopping as a social activity, they may view e-commerce less favorably due to the lack of interaction online.
Venkatesh, Morris, & Ackerman (2000)	Longitudinal field investigation and surveys	The sample included 420 workers at four organizations. A total of 355 usable responses were received.	The research investigated gender differences in the context of individual adoption and usage of technology in the workplace using TPB. User reactions and technology usage were studied over a five-month period. Participants received a full day of training. User reactions were measured after the training, after one-month experience, and after three months experience. A survey instrument and a follow-up survey instrument were used to track respondents over time.	Females tend to accept technology based on the opinions of others, while males accept technology based on its usefulness.

Table 3. Summary of literature related to Website's Interactive Features (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Weathers, Sharma, & Wood (2007)	Empirical, product evaluation, and survey	Study 1: 203 undergraduate students, Study 2: 85 undergraduate students	The study assessed the influence of three online retailer communication practices including evoking vividness through pictures, giving consumers control of the information presentation, and presenting information from third-part sources. Respondents were presented with products, and then evaluated experience and search qualities of each product.	Online retailers have the ability to personalize information and match products to consumers' needs if they will share information about themselves. Giving consumers greater control of their online experience may lead to greater personalization.
Zhang, Prybutok, & Strutton (2007)	Theoretical and survey	332 responses were collected from a college of business class.	A survey instrument was used to evaluate online consumer shopping behavior and measure purchase intention as well as purchase frequency. The purchase frequency was assessed by asking respondents how many purchases they had made online within the last six months.	Online retailers can potentially influence consumer purchase intentions by offering similar products or accessories associated with the product the consumer is viewing on the e-commerce Website.

## **Online Experience**

The user's online experience is defined as the feelings consumers have while performing online activities (Zhou et al., 2007). The quality of the user's online experience can have a significant influence on his or her perceptions of e-commerce Websites (Constantinides, 2004). Consumers want an online experience that is engaging, memorable, and interactive (Breitenback & Van Doren, 1998). E-commerce presents an opportunity for online retailers to create an interactive environment that allows consumers to gather information, evaluate products, assess purchase options, and directly buy products from a Website (Ranganathan & Jha, 2007). The unique characteristics of e-commerce, including the inability to touch a product and absence of face-to-face interactions, create uncertainty among some consumers regarding their online purchase decisions (Ha & Stoel, 2009). A Website's interactive features create a positive online experience by reducing uncertainty about purchasing online (Constantinides). In turn, consumers who have a positive online experience are more likely to return to the e-commerce Website (Koufaris, 2002).

The user's online experience can be enhanced by offering more interaction and personalized services (Constantinides, 2004). The online experience should immerse the consumer in a world of interaction by providing a rich, engaging online experience (Griffiths & Howard, 2008). The challenge for online retailers is to provide the consumer with an online experience that is not easily replicated (Breitenback & Van Doren, 1998). Furthermore, an e-commerce Website should be stimulating in order to provide a compelling online experience (Sanchez-Franco & Roblan, 2005). Consumers want to have a fun and entertaining shopping experience when shopping for apparel (Burke,

2002). Previous studies have found that a consumer's prior online experience can be a strong determinant of their online shopping behaviors and purchase intentions (Lee & Park, 2009; Ranganathan & Jha, 2007; Yoh, Damhorst, Sapp, & Lacznik, 2003). Online retailers can optimize e-commerce opportunities by improving the online experience for consumers (Siddiqui et al., 2003). Investigating the online experience is critical to the success of online retailers, as consumers require more product detail on e-commerce Websites than in traditional stores (Griffiths & Howard, 2008). Table 4 presents a summary of the literature related to online experience.

Table 4. Summary of Literature Related to Online Experience

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Breitenback & Van Doren (1998)	Literature review	50 Websites across various industries were reviewed and evaluated.	A quantitative analysis identified industry utilization of online marketing techniques. The study outlines the e-commerce adoption process based on the Diffusion of Innovation Theory. The process includes awareness, interest, evaluation, trial, and adoption.	Consumers want an online experience that is engaging, memorable, and interactive. The challenge for online retailers is to provide the user with an online experience that is not easily replicated.

Table 4. Summary of literature related to Online Experience (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Burke (2002)	Empirical, survey, and evaluation	An online consumer panel including 2,120 consumers completed the survey.	The survey requested respondents to rate the importance of 10 different aspects of the shopping experience. Respondents evaluated 128 different aspects of the shopping experience including 58 online and 70 traditional store attributes.	Consumers want to have a fun and entertaining shopping experience when shopping for apparel.
Constantinides (2004)	Literature review	48 academic papers were reviewed on consumer behavior in e-commerce.	The academic papers were allocated into three main categories of online experience elements including functionality factors, psychological factors, and content factors. Sub-categories included usability, interactivity, trust, aesthetics, and marketing mix.	The quality of the user's online experience can have a significant influence on his or her perceptions of the e-commerce Websites. A Website's interactive features create a positive online experience by reducing uncertainty about purchasing online. The user's online experience can be enhanced by offering more interaction and personalized services.

Table 4. Summary of literature related to Online Experience (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Griffiths & Howard (2008)	Interviews	Senior managers from fashion retailers and consumer electronics retailers	The qualitative study involved piloting and pre-testing the questions used in the interviews. Primary data from the interviews was synthesized into five main themes of pricing, online strategy, new media, online transactional barriers, and social commerce.	The online experience should immerse the consumer in a world of interaction by providing a rich engaging online experience. Investigating in the online experience is critical to the success of online retailers, as consumers require more product detail on e-commerce Websites than in traditional stores.
Ha & Stoel (2009)	Empirical and survey	298 college students at a large Midwestern university. All of the participants had experience browsing and/or purchasing products online.	A survey instrument was used to understand consumer acceptance of e-commerce. The survey instrument consisted of four parts including online experience, e-commerce quality, TAM variables of trust, ease of use, usefulness, and intention, as well as demographic information. Survey items were focused on the apparel e-commerce shopping context.	The unique characteristics of e-commerce, including the inability to touch a product and absence of face-to-face interactions, create uncertainty among some consumers regarding their online purchase decisions.

Table 4. Summary of literature related to Online Experience (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Koufaris (2002)	Theoretical, empirical, and survey	280 subjects from Dynamic logic database completed the survey	A survey instrument was used to measure consumer intention to return, shopping enjoyment, perceived control, and concentration. TAM is applied to test how well the perceived usefulness and perceived ease of use of an e-commerce Website predicts the user's intention to return. Consumers visited Booksamillion.com and then answered a survey about their online experience.	Consumers who have a positive online experience are more likely to return to the e-commerce Website.

Table 4. Summary of literature related to Online Experience (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Lee & Park (2009)	Empirical and survey	A sample of 2,000 consumers who had made at least one online purchase of apparel items was used. A valid sample of 204 responses were received.	A survey instrument was used to measure three types of online service personalization for online apparel shopping. The three types included offer, recognition, and personal advice. The sample was limited to consumers who had prior online apparel purchase experiences. The consumer's online apparel purchase history was based on the frequency, amount, and number of Websites used.	A consumer's prior online experience can be a strong determinant of their online shopping behaviors and purchase intentions.
Ranganathan & Jha (2007)	Empirical and survey	214 online shoppers in Illinois were surveyed. All of the participants had prior online shopping experience.	A survey instrument was used to measure different aspects of consumers' online shopping experience, online purchase behavior, and online shopping intention. Additional survey items measured demographic information, the number of purchases made in the last six months, and the amount the consumer spent in online shopping.	E-commerce presents an opportunity for online retailers to create an interactive environment allowing consumers to gather information, evaluate products, assess purchase options, and directly buy products from a Website.

Table 4. Summary of Literature Related to Online Experience (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Sanchez-Franco & Roblan (2005)	Empirical and survey	Subscribers located in three discussion mailing lists. 221 experiential users and 119 goal-directed users completed a survey.	A survey instrument was used to test the relationships between usefulness, ease of use, intention, flow, attitude, and usage. The survey analyzed Web acceptance and usage between goal-directed users and experiential users.	An e-commerce Website should be stimulating in order to provide a compelling online experience.
Siddiqui, O'Malley, McColl, & Birtwistle (2003)	Exploratory qualitative research and evaluation of Websites	14 Websites, 25 interviews, and one focus group	Research was undertaken in three stages including exploratory qualitative research to examine the online presence of fashion retailers, evaluation of 14 Websites, and 25 interviews as well as one focus group. Constructs included gender, retail channel, and Website design.	Online retailers can optimize e-commerce opportunities by improving the online experience for consumers.

Table 4. Summary of literature related to Online Experience (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Yoh, Damhorst, Sapp, & Laczniak (2003)	Empirical and survey	A random sample of 1,600 U.S. households was used. A total of 355 responses were received with an almost equal number of male and female respondents.	A mail survey instrument was used to measure prior experience with the Internet, beliefs about Internet apparel shopping, and apparel purchase intention via the Internet. TRA and components of the theory of innovation adoption were integrated to develop a model of consumer adoption of the Internet for apparel shopping. The hypothesized model was used to explain apparel purchase intentions via the Internet.	A consumer's prior online experience can be a strong determinant of their online shopping behaviors and purchase intentions.

Table 4. Summary of Literature Related to Online Experience (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Zhou, Dai, & Zhang (2007)	Theoretical and literature review	64 articles from 36 different journals were reviewed	Empirical studies from information systems journals were reviewed in order to explain intended or actual online shopping behavior. The literature review indicated nine factors influencing e-commerce shopping including demographics, Internet experience, normative beliefs, shopping orientation, shopping motivation, personal traits, online experience, psychological perception, and online shopping experience. The literature review on consumer factors influencing online shopping acceptance results in the development of an Online Shopping Acceptance Model (OSAM).	The user's online experience is defined as the feelings consumers have while performing online activities. The online experience is unique because it is formed as the user navigates the e-commerce Website.

## **TAM and Behavior Intention**

TAM can be used to understand online shopping behavior (Zhang et al., 2007). Previous studies have attempted to explain purchase intentions by implementing TAM, TRA, and TPB; however, additional research is needed in order to compare differences from the gender perspective (Chiu et al., 2005). From the perspective of TPB, the role of gender is a key moderating variable in the context of technology adoption (Venkatesh, Morris, & Ackerman, 2000). Males and females adopt different decision processes when evaluating new technology (Venkatesh et al.). Individual differences such as gender have a significant influence on TAM (Agarwal & Prasad, 1999; Venkatesh & Davis, 2000). TAM, TPB, and TRA all predict behavior based on the users' intentions (Mathieson, 1991). TRA can be used to explain why consumers engage in e-commerce (Yu & Wu, 2007). Based on TRA, TAM was developed in order to explain determinants of user acceptance in a wide range of computer technologies (Chen et al., 2004; Davis, 1989). TPB provides a good fit in explaining intention and usage behavior for both males and females (Venkatesh et al.).

TAM provides a foundation for research investigating consumer acceptance of e-commerce (Ha & Stoel, 2009). E-commerce can be perceived as the consumer's adoption of the Internet as a means to shop and purchase online (Shang et al., 2005). E-commerce can be viewed as a system that allows consumers to enhance their shopping productivity (Koufaris, 2002). Therefore, based on TAM, the consumer's use of e-commerce could be explained by their perceived usefulness and perceived ease of use of the e-commerce Website (Shang et al.). Perceived ease of use refers to whether the consumer will engage in e-commerce shopping based on the usefulness of an e-commerce Website (Suki,

Ramayah, & Suki, 2008). E-commerce requires consumer acceptance of new technologies, as various Website's interactive features results in new consumer behaviors (Lee & Park, 2009). Ha and Stoel highlighted the need to develop a richer understanding of TAM in the consumer context in order to enhance the consumer's online experience.

TAM is widely used to study e-commerce; however, it does not capture characteristics specific to online shopping (Zhou et al., 2007). Previous studies have suggested that TAM be integrated with other acceptance models in order to improve predictability (Chen et al., 2004; Hu, Chau, Sheng, & Tam, 1999). OSAM was developed to predict and explain consumer acceptance of e-commerce through incorporating the TAM belief-attitude-intention-behavior relationship (Davis, 1989; Zhou et al.). Behavior intention has a strong influence on the user's actual shopping behavior (Chen et al., 2002). OSAM was developed in order to capture consumer factors in traditional stores for the context of online shopping (Zhou et al.). TAM provides the basis for tracking the influence external variables have on beliefs, attitudes, and intentions (Legris et al., 2003).

TAM can be applied to test how well the model predicts the user's intention to use technology such as e-commerce (Koufaris, 2002). Previous studies have used intention as a measurement of acceptance based on the assumption that a user's behavior intention significantly correlates with their actual behavior (Chau, 1996; Chen et al., 2004; Hu et al., 1999). Actual system use can also be determined by the user's behavior intention towards using the technology (Chen et al., 2004). TPB suggests that "behavior intentions are the most direct, dominant factor in determining the decision to take a specific action or not" (Wang et al., 2007, p. 297). Therefore, this study used intention as

a measurement of the acceptance of e-commerce. Table 5 presents a summary of the literature related to TAM and behavior intention.

Table 5. Summary of literature related to TAM and Behavior Intention

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Agarwal & Prasad (1999)	Theoretical	468 surveys were distributed to employees at a Midwest Fortune 100 corporation. 230 usable responses were returned.	Respondents scored the survey items on a 7-point Likert scale. Usage intentions are assessed in order to predict actual usage. The constructs measured include individual differences, beliefs about usefulness, beliefs about ease of use, attitude, and behavioral intentions.	Results validated TAM's relationships between beliefs, attitude, and behavioral intentions. Individual differences such as gender have a significant influence on TAM.
Chau (1996)	Theoretical and survey	330 surveys were distributed to administrative staff at an organization.	The survey instrument contained three major parts including questions related to Microsoft Word, Microsoft Excel, and personal information about the respondent. Survey items related to the software package included the frequency of use, ease of use, perceived usefulness, and intention to use.	Intention was used as a measurement of acceptance based on the assumption that a user's behavior intention significantly correlates with their actual behavior.

Table 5. Summary of literature related to TAM and Behavior Intention (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Chen, Gillenson, & Sherrell (2002)	Theoretical and survey	An online survey was sent to 1,865 registered users of a non-profit organization, 253 responses were received.	The research applied TAM and the innovation diffusion theory to examine consumer behavior in the context of e-commerce. A survey instrument of 23 items was used to measure six variables including compatibility, perceived usefulness, perceived ease of use, attitude, behavioral intention to use, and actual use.	Consumer acceptance of an e-commerce Website can be predicted reasonably well based on the consumer's intention. Behavior intention has a strong influence on the user's actual shopping behavior.

Table 5. Summary of Literature Related to TAM and Behavior Intention (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Chen, Gillenson, & Sherrell (2004)	Theoretical and survey	1,865 registered users of a non-profit organization, 253 responses were received.	Constructs including consumer acceptance, adoption, and behavior prediction were measured using a survey instrument on a 5-point Likert scale. Respondents were instructed to answer survey items based on their experience shopping at an online store they had used during the last six months. A model of consumer acceptance of the virtual store is proposed based on TAM and the innovation diffusion theory.	TAM was developed based on TRA in order to explain determinants of user acceptance in a wide-range of computer technologies. TAM can be integrated with other acceptance models in order to improve predictability. Actual system use can be determined by the user's behavior intention towards using the technology.
Chiu, Lin, & Tang (2005)	Theoretical and survey	1,000 surveys were mailed to customers of an Internet service provider in Taiwan. 376 customers completed the survey.	The conceptual framework for the study modified TAM in order to address behavioral intentions of online purchasing. Each construct including personal awareness of security, personal innovativeness, perceived ease of purchasing, and perceived usefulness was measured using a 5-point Likert scale.	Previous studies have attempted to explain purchase intentions by implementing TAM, TRA, and TPB; however, additional research is needed in order to compare differences from the gender perspective.

Table 5. Summary of literature related to TAM and Behavior Intention (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Davis (1989)	Theoretical and survey	Study 1: 120 users within IBM Canada's Toronto Development Laboratory, 112 responses were obtained. Study 2: 40 MBA students at Boston University.	Study 1: A survey instrument was used to rate the usefulness and ease of use of two systems. Study 2: Participants evaluated two IBM PC-based graphic systems.	TAM was developed based on TRA in order to explain determinants of user acceptance in a wide-range of computer technologies. Perceived usefulness and perceived ease of use are fundamental determinants of user acceptance.
Ha & Stoel (2009)	Empirical and survey	298 college students at a large Midwestern university. All of the participants had experience browsing and/or purchasing products online.	A survey instrument was used to understand consumer acceptance of e-commerce. The survey instrument consisted of four parts including online experience, e-commerce quality, TAM variables of trust, ease of use, usefulness, and intention, as well as demographic information. Survey items were focused on the apparel e-commerce shopping context.	TAM provides a foundation for research investigating consumer acceptance of e-commerce. Ha and Stoel highlight the need to develop a richer understanding of TAM in the consumer context in order to enhance the consumer's online experience.

Table 5. Summary of literature related to TAM and Behavior Intention (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Hu, Chau, Sheng, & Tam (1999)	Theoretical and survey	1,728 surveys were distributed to physicians who practiced in public tertiary hospitals in Hong Kong, 421 were completed and returned.	The study examines that applicability of TAM in explaining a physician's decision to accept telemedicine technology. A 7-point Likert scale survey instrument was used to measure the physician's perceived usefulness, perceived ease of use, attitude, and behavioral intention towards using telemedicine technology.	This study suggests that TAM be integrated with other acceptance models in order to improve predictability. Intention was used as a measurement of acceptance based on the assumption that a user's behavior intention significantly correlates with their actual behavior.
Koufaris (2002)	Theoretical, empirical, and survey	280 subjects from Dynamic logic database completed the survey	A survey instrument was used to measure consumer intention to return, shopping enjoyment, perceived control, and concentration. TAM is applied to test how well the perceived usefulness and perceived ease of use of an e-commerce Website predicts the user's intention to return. Consumers visited Booksamillion.com and then answered a survey about their online experience.	E-commerce can be viewed as a system that allows consumers to enhance their shopping productivity. TAM can be applied to test how well the model predicts the user's intention to use technology such as e-commerce.

Table 5. Summary of literature related to TAM and Behavior Intention (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Lee & Park (2009)	Empirical and survey	A sample of 2,000 consumers who had made at least one online purchase of apparel items was used. A valid sample of 204 responses were received.	A survey instrument was used to measure three types of online service personalization for online apparel shopping. The three types included offer, recognition, and personal advice. The sample was limited to consumers who had prior online apparel purchase experiences. The consumer's online apparel purchase history was based on the frequency, amount, and number of Websites used.	E-commerce requires consumer acceptance of new technologies, as various Website's interactive features results in new consumer behaviors.
Legris, Ingham, & Colletette (2003)	Theoretical and literature review	Reviewed 80 articles, selected 22 articles for analysis covering 28 measurements.	The data analysis involved grouping the articles into three software tool categories including office automation, software development, and business application.	TAM provides the basis for tracking the influence external variables have on beliefs, attitudes, and intentions.

Table 5. Summary of literature related to TAM and Behavior Intention (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Mathieson (1991)	Theoretical	262 juniors and seniors enrolled in an introductory management course at a western university.	The study compares how TAM and TPB predict user intention. Data was collected using two computer programs. 149 students completed the TAM program and 113 students completed the TPB program.	TAM, TPB, and TRA all predict behavior based on the users' intentions. Results indicate TAM supplies general information on user opinions about a system while TPB provides more specific information.
Shang, Chen, & Shen (2005)	Empirical and survey	The sample consisted of 478 members of a computer magazine mailing list and 650 students from three universities.	A survey instrument was used to examine whether intrinsic motivations can be used to explain the consumer's acceptance of online shopping. Survey items measured cognitive absorption, perceived ease of use, perceived usefulness, and fashion involvement.	E-commerce can be perceived as the consumer's adoption of the Internet as a means to shop and purchase online. Based on TAM, the consumer's use of e-commerce could be explained by their perceived usefulness and perceived ease of use of the e-commerce Website.

Table 5. Summary of literature related to TAM and Behavior Intention (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Suki, Ramayah, & Suki (2008)	Empirical and survey	The sample included 120 MBA students at a school in Malaysia. A total of 101 responses were received.	The study examined the relationship between perceived ease of use, cognitive absorption, perceived usefulness, and fashion involvement with purchase intentions. A survey instrument of 40 survey items was used to measure each construct. TAM was used to test the relationship between behavior intention and the actual use of online shopping.	Perceived ease of use refers to whether the consumer will engage in e-commerce shopping based on the usefulness of an e-commerce Website.
Venkatesh & Davis (2000)	Theoretical	The sample included 200 employees from four different organizations including manufacturing, financial services, accounting services, and international banking.	Participants completed a training within their organization and then responded to a survey administered online. Constructs measured included perceived usefulness, perceived ease of use, intention to use, and usage behavior.	Individual differences such as gender have a significant influence on TAM. A theoretical extension of TAM was developed explaining usage intentions in terms of social influences.

Table 5. Summary of literature related to TAM and Behavior Intention (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Venkatesh, Morris, & Ackerman (2000)	Longitudinal field investigation and surveys	The sample included 420 workers at four organizations. A total of 355 usable responses were received.	The research investigated gender differences in the context of individual adoption and usage of technology in the workplace using TPB. User reactions and technology usage were studied over a five-month period. Participants received a full day of training. User reactions were measured after the training, after one-month experience, and after three months experience. A survey instrument and a follow-up survey instrument were used to track respondents over time.	From the perspective of TPB, the role of gender is a key moderating variable in the context of technology adoption. Males and females adopt different decision processes when evaluating new technology. TPB provides a good fit in explaining intention and usage behavior for both males and females.

Table 5. Summary of literature related to TAM and Behavior Intention (continued)

<b>Study</b>	<b>Methodology</b>	<b>Sample</b>	<b>Instruments / Constructs</b>	<b>Main findings or contributions</b>
Wang, Chen, Chang, & Yang (2007)	Empirical and survey	226 total responses including 92 online users and 134 non-online users	A survey instrument was used to measure online shopping attitude, subjective norms, shopping perception behavior, online shopping behavior intention.	TPB suggests that “behavior intentions are the most direct, dominant factor in determining the decision to take a specific action or not”.
Yu & Wu (2007)	Theoretical and survey	900 surveys were distributed to students enrolled in three technology colleges in Taiwan, 693 surveys were returned.	A survey instrument is used to examine consumer shopping behavior and attitudes towards e-commerce shopping. TRA is used as a framework to analyze online shopping behavior intentions.	TRA can be used to explain why consumers engage in e-commerce. Results indicated that consumer shopping intentions could be predicted by shopping facilities, product information, variety of merchandise, discounts, and versatility of payment tools.
Zhang, Prybutok, & Strutton (2007)	Theoretical and survey	332 responses were collected from a college of business class.	A survey instrument was used to evaluate online consumer shopping behavior and measure purchase intention as well as purchase frequency. The purchase frequency was assessed by asking respondents how many purchases they had made online within the last six months.	TAM can be used to understand online shopping behavior.

Table 5. Summary of Literature Related to TAM and Behavior Intention (continued)

Study	Methodology	Sample	Instruments / Constructs	Main findings or contributions
Zhou, Dai, & Zhang (2007)	Theoretical and literature review	64 articles from 36 different journals were reviewed	Empirical studies from information systems journals were reviewed in order to explain intended or actual online shopping behavior. The literature review indicated nine factors influencing e-commerce shopping including demographics, Internet experience, normative beliefs, shopping orientation, shopping motivation, personal traits, online experience, psychological perception, and online shopping experience. The literature review on consumer factors influencing online shopping acceptance resulted in the development of an Online Shopping Acceptance Model (OSAM).	TAM is widely used to study e- commerce; however, TAM does not capture characteristics specific to online shopping. OSAM was developed to predict and explain consumer acceptance of e- commerce through incorporating the TAM belief- attitude-intention- behavior relationship. OSAM was developed in order to capture consumer factors in traditional stores for the context of online shopping.

## **Summary of What is Known and Unknown in the Literature**

A review of the e-commerce acceptance literature was presented in order to determine what is currently known and unknown within this field of research. TAM, TRA, and TPB have all been adapted in order to understand online shopping behavior and explain purchase intentions (Chiu et al., 2005; Zhang et al., 2007). Behavior intention was found to be a good predictor of the user's actual shopping behavior (Chen et al., 2002). Additional acceptance models have been developed by integrating TAM, since TAM does not capture characteristics specific to e-commerce (Chen et al., 2004; Hu et al., 1999; Zhou et al., 2007). OSAM is an example of a model that incorporates TAM in order to predict and explain consumer acceptance of e-commerce (Zhou et al.). OSAM captures consumer factors in traditional stores for the context of online shopping (Zhou et al.). This study used TAM, TRA, TPB, and OSAM as a basis for understanding the consumer's intention to engage in apparel e-commerce shopping.

A review of current e-commerce trends and issues was presented in order to discover what is already known in this research area. The review revealed four main contributions to the consumer's intention to engage in apparel e-commerce shopping. These contributions included gender, shopping orientation, Website's interactive features, and online experience. Gender differences influence e-commerce, as males are more likely to purchase online (Van Slyke et al.). E-commerce Websites can be a challenge for consumers to experience certain products such as apparel (Tractinsky & Lowengart, 2007). Females are less likely to engage in apparel e-commerce shopping because of the lack of tactile feedback (Zhou et al., 2007). There is a need to understand how to motivate female consumers to engage in apparel e-commerce shopping (Van Slyke et al.,

2002). The shopping orientation for males and females tends to be different (Zhou et al.). Online retailers need to understand how to adapt their Websites in order to encourage both male and female consumers to engage in e-commerce shopping (Wang et al., 2007). A Website's interactive features play an important role in engaging the consumer (Arnold & Reynolds, 2003). The literature review provided evidence that further research is needed to identify contributions related to e-commerce acceptance.

In e-commerce acceptance research, four constructs including gender, shopping orientation, Website's interactive features, and online experience have been found to have a significant influence on the user's intention to engage in apparel e-commerce shopping. Therefore, research studies related to these four constructs are presented in the literature review. The interaction effect between these four constructs also has been found to influence the user's intention to engage in apparel e-commerce shopping. Additional research is needed in order to clarify the complex relationships between these constructs. An investigation of the constructs is provided in order to address the research questions presented in this study.

### **Contribution of this Study**

The contribution of this study is that it extends e-commerce acceptance research related to gender, shopping orientation, Website's interactive features, and online experience as it applies to the consumer's intention to engage in apparel e-commerce shopping. The literature review research results indicated that e-commerce acceptance still remains an issue, particularly with female consumers. According to the literature, males make more purchases online and spend more money online than females (Grannis et al., 2007; Li et al., 1999; Stafford et al., 2004; Susskind, 2004). Evidence for the

importance of this study is the need online retailers have to eliminate the gender gap between male and female spending online (Van Slyke et al., 2002). The literature review supports the need for this study by investigating contributions to e-commerce acceptance and the consumer's intention to engage in apparel e-commerce shopping. These contributions including gender, shopping orientation, Website's interactive features, and online experience were presented in the literature review. This study contributed to the literature as it attempts to extend current e-commerce acceptance literature in order to understand the role gender, shopping orientation, Website's interactive features, and online experience play in the consumer's acceptance of e-commerce and the consumer's intention to engage in apparel e-commerce shopping.

## Chapter 3

### Methodology

The main goal of this study was to empirically assess the contribution of gender, shopping orientation, online experience, and Website's interactive features to consumers' intentions to engage in apparel e-commerce shopping. A survey instrument was used in order to address the main goal of this study. The survey was designed based on previous research studies (Chiu et al., 2005; Garbarino & Strahilevitz, 2004; Ha & Stoel, 2004; Li et al., 1999; Xu & Paulins, 2005). The independent variables measured in the study included gender, shopping orientation, online experience, and Website's interactive features. The dependent variable measured in the study was the consumer's intention to engage in apparel e-commerce shopping. Following the scale used by Xu and Paulins, the survey items for shopping orientation, Website's interactive features, online experience, as well as intention to engage in apparel e-commerce shopping used a 5-point Likert scale with 1 = Strongly Disagree, 2 = Disagree, 3 = Mixed Feelings, 4 = Agree, and 5 = Strongly Agree. Gender was measured using a 2-point scale in which 1 = Female and 2 = Male. The demographic survey items were measured on a 5-point scale. A copy of the survey instrument is available in Appendix A.

## **Instrument Development**

### *Gender*

Chiu et al. (2005) indicated that gender has the potential to determine the influence antecedents have on online purchase intentions. Chiu et al. analyzed responses to their survey items as a group and then divided the responses into a female group and a male group for comparison.

### *Shopping Orientation*

The shopping orientation construct was measured by examining shopping preferences, social interaction, and shopping orientation towards apparel. Following the measurements of O’Cass and Fenech (2003), survey items SO1, SO2, and SO3 in Appendix A assessed the shopping orientation construct. O’Cass and Fenech used three items to assess the shopping orientation construct. O’Cass and Fenech determined the influence shopping orientation has on e-commerce acceptance by collecting data using a survey. O’Cass and Fenech used an expert panel of consumer behavior research judges to assess the content validity of the survey items. A series of focus groups were utilized by O’Cass and Fenech to assess the content and face validity of the survey items. O’Cass and Fenech used Cronbach’s alpha to validate whether their survey instrument was a reliable measure of the shopping orientation construct. The Cronbach’s alpha for the shopping orientation construct measured by O’Cass and Fenech was 0.79 indicating that their survey instrument was a reliable measure of the shopping orientation construct. Thus, this study adopted all three items developed by O’Cass and Fenech to measure shopping orientation (See items SO1-SO3 in Appendix A).

Following the measurements of Swaminathan et al. (1999), survey item SO4 in Appendix A was adapted to assess the social interaction of the shopping orientation construct. Swaminathan et al. conducted a factor analysis in order to assess the validity of the social interaction scale. The factor analysis of the social interaction survey item measured by Swaminathan et al. resulted in a factor loading of 0.79. In addition, following the measurements of Xu and Paulins (2005), survey items SO5 and SO7 in Appendix A also assessed the social interaction of the shopping orientation construct. Xu and Paulins used a focus group and a survey in order to collect data regarding attitudes towards shopping online for apparel. The survey developed by Xu and Paulins was based on variables identified in the focus group and literature review.

Following the measurements of Xu and Paulins (2005), survey item SO6 in Appendix A measured the consumer's shopping orientation towards apparel. In addition, following the measurements of Li et al. (1999), survey items SO8 and SO9 in Appendix A also assessed the consumer's shopping orientation towards apparel. Li et al. sent their online surveys to a panel of Internet users, and post-stratification adjustments were used to select respondents based on their age and gender. Their respondents were asked to rate 12 channel attributes on a scale ranging from one to five. Li et al. used exploratory factor analysis to extract three factors: communication, distribution, and accessibility. These three factors measured by Li et al. accounted for 57% of the total variance. Li et al. measured shopping orientation using a series of statements that were factor analyzed. Li et al. did not have any cross loadings between factors. This study also analyzed survey responses by gender and shopping orientation. Responses to the apparel shopping orientation survey items collected in this study provided information on whether

consumers prefer to touch the fabric of apparel and try on the apparel before making a purchase. Survey items SO1 to SO9 listed in Appendix A assessed the shopping orientation construct. All of the shopping orientation survey items were measured on a 5-point Likert scale with 1 = Strongly Disagree, 2 = Disagree, 3 = Mixed Feelings, 4 = Agree, and 5 = Strongly Agree (Xu & Paulins).

#### *Website's Interactive Features*

The Website's interactive features construct was measured by examining interactivity, specific Website's interactive features, Website recommendation, and previous interactions with apparel e-commerce Websites. Following the measurements of Rohm and Swaminathan (2004), survey item WIF1 in Appendix A assessed the Website's interactive features construct. The Rohm and Swaminathan measure is applicable to this study as this measure determines the role Website's interactive features play in terms of the level of interactivity provided on e-commerce Websites. In addition, following the measurements of Li et al. (1999), survey items WIF2 and WIF3 in Appendix A assessed the construct of Website's interactive features in terms of interactivity and specific Website's interactive features.

Following the measurements of Kim and Stoel (2005), survey items WIF4, WIF5, WIF6, WIF7, and WIF8 in Appendix A assessed Website's interactive features. The survey items used by Kim and Stoel measure specific types of Website's interactive features. The Kim and Stoel measure is applicable to this study as this measure determines whether specific Website's interactive features are helpful to consumers when shopping for apparel online.

Following the measurements of Kim, Kim, and Kandampully (2007), Website's interactive features survey item WIF9 in Appendix A assessed consumer perceptions of the My Virtual Model™ technology on apparel e-commerce Websites. A content analysis was used by Kim et al. to assess characteristics of e-commerce Websites. Kim et al. implemented a coding guide to identify attributes, which were categorized. Kim et al. classified the My Virtual Model™ attribute in the customization category. A second researcher checked the reliability and consistency of the coding for Kim et al. An inter-coder reliability of 0.92 was calculated for Kim et al. by dividing the number of agreements by the total number of items. The two coders discussed the discrepancies and came to an agreement on each attribute for Kim et al.

Following the measurements of Garbarino and Strahilevitz (2004), survey item WIF10 in Appendix A assessed the Website's interactive features construct. Garbarino and Strahilevitz used an experiment to determine whether a Website recommendation from a friend would have a stronger influence on females than males. Garbarino and Strahilevitz gave each participant two scenarios in which one had no recommendation and the other had a recommendation from a close friend. Garbarino and Strahilevitz used ANCOVA analysis to analyze the interactions between gender and a Website recommendation on the likelihood of purchasing.

Following the measurements of Van der Heijden, Verhagen, and Creemers (2003), the final Website's interactive features survey item, WIF11, in Appendix A assessed how previous interactions on apparel e-commerce Websites determine the user's future intentions to engage in apparel e-commerce shopping. The Van der Heijden et al. measure is applicable to this study as this measure determines the role Website's

interactive features played in creating clear and understandable interactions during previous interactions on e-commerce Websites. Survey items WIF1 to WIF11 measured the Website's interactive features construct. All of the Website's interactive features survey items were measured on a 5-point Likert scale with 1 = Strongly Disagree, 2 = Disagree, 3 = Mixed Feelings, 4 = Agree, and 5 = Strongly Agree (Xu & Paulins, 2005).

### *Online Experience*

The online experience construct was measured by examining traditional store shopping versus e-commerce shopping, user-friendliness of the e-commerce Website, and the appeal of interactive features. Following the measurements of Goldsmith and Goldsmith (2002), survey items OE2 and OE4 in Appendix A assessed the consumer's online experience in terms of their experience in a traditional store versus an e-commerce Website. Goldsmith and Goldsmith examined their online experience survey items using factor analysis.

Following the measurements of Jahng, Jain, and Ramamurthy (2007), survey items OE1, OE3, OE5, and OE6 in Appendix A measured the consumer's online experience in terms of the user-friendliness of an e-commerce Website and the appeal of interactive features. In addition, the measures used by Jahng et al. demonstrate how the online experience on an e-commerce Website compares with the experience provided in a traditional store. The Jahng et al. measure is applicable to this study as this measure determines how the online experience influences the consumer's intention to engage in apparel e-commerce shopping. Survey items OE1 to OE6 measured the online experience construct. All of the online experience survey items were measured on a 5-point Likert

scale with 1 = Strongly Disagree, 2 = Disagree, 3 = Mixed Feelings, 4 = Agree, and 5 = Strongly Agree (Xu & Paulins, 2005).

#### *Intention to Engage in Apparel E-commerce Shopping*

The intention to engage in apparel e-commerce shopping was measured using survey items developed in previous studies (Chiu et al., 2005; Garbarino & Strahilevitz, 2004). Following the measurements of Chiu et al., survey items INT1, INT2, INT3, and INT4 in Appendix A assessed consumer intentions to shop and purchase apparel online. Chiu et al. used four items to assess intention to engage in apparel e-commerce shopping. Chiu et al. measured their consumer intention construct using a 5-point Likert scale. Chiu et al. used Cronbach's alpha to test whether their survey instrument was a reliable measure of the consumer's intention to engage in e-commerce. The Cronbach's alpha for the consumer intention construct measured by Chiu et al. exceeded 0.7 indicating that their survey instrument was a reliable measure of the consumer intention construct. Thus, this study adopted all four items developed by Chiu et al. to measure intention to engage in apparel e-commerce shopping (See items INT1-INT4 in Appendix A). Chiu et al. tested the discriminant validity of the consumer intention construct using the Bonferroni method under an overall 0.01 level. Chiu et al. received a chi-square test critical value of 11.58, successfully achieving discriminant validity. The overall goodness-of-fit indices for Chiu et al. met the standard of a chi-square/d.f. lower than 2.0 according to Hatcher (1994).

Following the measurements of Garbarino and Strahilevitz (2004), survey item INT5 in Appendix A assessed the intentions of a consumer to engage in apparel e-commerce shopping based on a friend's recommendation of an e-commerce Website.

Garbarino and Strahilevitz used four different purchase scenarios and specific survey items to determine whether consumers would be more likely to purchase an item online if a friend recommended the e-commerce Website. Garbarino and Strahilevitz used ANCOVA analysis to determine the interaction between gender and the specific survey items related to the consumer's likelihood of purchase after a recommendation. The results for Garbarino and Strahilevitz indicated a strong significant interaction between gender and the likelihood of purchase after a recommendation. All of the intention to engage in apparel e-commerce shopping survey items were measured on a 5-point Likert scale with 1 = Strongly Disagree, 2 = Disagree, 3 = Mixed Feelings, 4 = Agree, and 5 = Strongly Agree (Xu & Paulins, 2005).

### **Reliability and Validity**

#### *Reliability*

Reliability is an evaluation of the accuracy of a measure (Straub, 1989). The reliability of a measure indicates the "stability and consistency with which the instrument measures the concept" (Sekaran, 2003, p. 203). The reliability of the constructs was tested using Cronbach's coefficient alpha. The closer the Cronbach's coefficient is to 1.0, the more accurate the construct measure (Sekaran). In general, a Cronbach alpha of .60 is poor, .70 is acceptable, and above .80 is good (Sekaran). This study used Nunally's (1978) cutoff Cronbach's alpha value of .70 for acceptable reliability in order to measure the reliability of each construct.

In addition to the Cronbach alpha for each construct, a Cronbach alpha if item is deleted analysis was conducted for the items of each measured construct. This analysis provided a total reliability measure for each item within a measured construct indicating

the overall Cronbach alpha for that construct, given that the item is deleted from the reliability measure (i.e. taken out of the factor). Appropriate review and consideration for removal of a survey item can make a construct measure more reliable (Santos, 1999). Therefore, survey items that resulted in a Cronbach alpha if item is deleted score higher than the overall Cronbach alpha for that construct were subjected to further investigation and were considered for removal prior to full data analysis (Gliem & Gliem, 2003).

### *Validity*

Validity provides “evidence that the instrument, technique, or process used to measure a concept does indeed measure the intended concept” (Sekaran, 2003, p. 425). The construct validity for this study was established using factor analysis. Factor analysis was used to reduce the number of variables to a manageable set of factors (Sekaran). An expert panel was used to attest the content validity of the survey items and instructions. Cronbach (1971) suggested having experts in the field of study evaluate the instrument of measure. The expert panel checked the accuracy of each survey item in order to make sure the respondents clearly understand every question. The survey instrument went through a series of reviews. Revisions were made to the survey items based on the feedback from the expert panel. Cronbach suggested a review process in which experts in the field evaluate versions of the survey instrument again and again until a consensus is reached. The final approval of the survey instrument was determined once the expert panel reached a consensus. After the expert panel approved the survey items and instructions, the survey was adapted to an online survey using Zoomerang<sup>TM</sup>.com.

### *Internal Validity*

Internal validity determines “whether the observed effects could have been caused by or correlated with a set of unhypothesized and/or unmeasured variables” (Straub, 1989, p. 151). This study minimized the threat to internal validity by using instruments validated by previous research. Validated instruments were identified for measuring each research question in this study.

### *External Validity*

External validity determines the generalizability of the results to other settings (Sekaran, 2003). The generalizability of this study was based on the participants who complete the survey online. The generalizability of the results may be limited to online shoppers. According to Hair, Anderson, Tatham, and Black (1998), the generalizability of a study increases by using relevant variables identified in previous research and excluding irrelevant variables. According to Zhou et al. (2007), gender, shopping orientation, Website’s interactive features, and online experience have all been identified by previous research as important factors. This study increased the generalizability of the results and reduced the threat to external validity by including gender, shopping orientation, Website’s interactive features, and online experience.

### *Instrument Validation*

Instrument validation is a “prior and primary process in confirmatory empirical research” (Straub, 1989, p. 162). According to Straub, instrument validation is based on content validity, construct validity, and reliability. Content validity “ensures that the measure includes an adequate and representative set of items that tap the concept” (Sekaran, 2003, p. 206). Construct validity ensures that “measures show stability across

methodologies” and reliability ensures “measures show stability across the units of observation” (Straub, p. 150). This study used previously validated instruments in order to ensure the measures are adequate and representative as well as show stability across methodologies and units of observations. In addition, an expert panel was used to validate whether the complete survey instrument adequately measures each construct.

### **Population and Sample**

The target population for this study included male and female U.S. consumers age 18 and older. This study used Zoomerang<sup>TM</sup>'s TrueSample<sup>TM</sup> attribute feature in order for the sample to be representative of the target population. The sample for this study included male and female U.S. consumers age 18 and older. TrueSample<sup>TM</sup> enables online research by measuring audiences using comprehensive demographic and behavioral data. The validity of the TrueSample<sup>TM</sup> participants is verified against extensive databases and consumer demographics. Zoomerang<sup>TM</sup>'s TrueSample<sup>TM</sup> tool enables a survey instrument to be distributed to a sample of participants who meet specific criteria. The attribute feature Zoomerang<sup>TM</sup> offers was used to specify the participant criteria based on demographic selections, geographic selections, and shopping/consumption selections. The specific criteria included age, country, and online shopping interest. The TrueSample<sup>TM</sup> attribute feature was used to screen out participants who did not meet the sample criteria (Seock & Norton, 2008). Furthermore, an equal number of males and females were included in the sample by using the TrueSample<sup>TM</sup> attribute feature. This study specified an equal gender distribution for the sample in order to collect data regarding the lack of female consumers utilizing e-commerce.

The online survey resource, Zoomerang<sup>TM</sup>.com, was used to collect data for this study. Approval was received from the Institutional Review Board (IRB) before any data was collected. A copy of the IRB approval letter is available in Appendix C. The survey instrument was distributed via the Web to participants including male and female U.S. consumers age 18 and older. Data was collected by distributing the online survey to participants who met the specific study criteria. Zoomerang<sup>TM</sup>'s TrueSample<sup>TM</sup> feature ensured that respondents could not complete a survey twice. Approximately 9,000 surveys were distributed online. The average response rate for online surveys is usually over 20% (Boyer & Hult, 2005). The number of responses received for this study was estimated to be at least 200. Due to the historical low response rates of surveys, the study sought to improve the response rate by providing an incentive of being entered into a drawing to win one of four \$50 cash prizes. The participants remained anonymous even if they selected to enter the drawing by filling out an entry form with their name and contact information, which was separated from the survey.

### **Pre-Analysis Data Cleaning**

The pre-analysis data cleaning involved detecting any irregularities in order to ensure the accuracy of the data analysis. Data was collected using an online survey in order to minimize data entry error. Missing data involving respondents failing to provide a response to a survey item was prevented by the Web-based survey. The survey was set up to ensure that a response has been entered for each survey item before the survey could be submitted online. Requiring a response for each survey item ensured the validity of the data. However, the data collected via the online survey was scanned in order to ensure no missing values were present.

The survey responses were analyzed on a case-by-case basis. Response sets in which respondents submitted the same answer for all survey items were further investigated. For example, a response set may have strongly agree for every survey item. If the response set was confirmed to have the same answers for every survey item, then the response was considered for elimination prior to final analysis. Outliers or extreme cases were identified in order to prevent skewed data. Since this study is based on multiple variables, the data was analyzed for multivariate outliers. Multivariate outliers are considered “cases with unusual combination of scores on two or more variables” (Mertler & Vannatta, 2001, p. 27). Mahalanobis distance analysis was used to determine whether outlier cases were eliminated. The Mahalanobis distance was calculated by computing the associated F-value (Hansen, 2005).

### **Data Analysis**

Factor analysis was conducted on 31 survey items including nine survey items on the shopping orientation construct, 11 survey items on the Website’s interactive features construct, six survey items on the online experience construct, and five survey items on the intention to engage in apparel e-commerce shopping construct. Factor analysis was used to reduce the number of survey items for each construct in order to maintain reliability and validity. Factors were extracted by using principal component analysis with VARIMAX rotation. Factor loading explains the correlation between survey items and constructs (Hair et al., 1998). According to Hair et al., loadings greater than 0.50 are considered very significant. Survey items that did not make the loading cutoff of 0.50 were eliminated from the analysis. The results of the factor analysis were summarized in a table.

In addition, ordinal logistic regression (OLR) analysis was used to analyze the relationship between gender, shopping orientation, online experience, and Website's interactive features and their influence on consumers' intentions to engage in apparel e-commerce shopping. OLR provides a direct test of the relationship between the independent variables (Ward & Lee, 2000). The OLR analysis was conducted for all three independent variables in order to predict the probability of the dependent variable. The estimate for each independent variable was used to predict the probability of the consumer's intention to engage in apparel e-commerce shopping. OLR was used since the variables in this study are ordinal. The goal of the OLR analysis was to use a set of predictors in order to predict the probability of the dependent variable using a non-linear combination of the predictors (Spais & Vasileiou, 2006). OLR led to the identification of which of the predictor constructs could significantly contribute to the probability of predicting consumers' intention to engage in apparel e-commerce shopping. This study developed two OLR models, with one including all of the independent variables to predict the probability of the dependent variable. Then a second OLR model was developed in which the interaction effect of all of the independent variables was used to predict the probability of the dependent variable. The OLR model can be stated as  $p(Y) = 1/(1 + \text{Exp}(-(b_1X_1 + b_2X_2 + \dots + b_iX_i + c)))$  (Sprinthall, 1997). This study's OLR model was  $p(\text{INT}) = 1/(1 + \text{Exp}(-(b_{\text{SSO}}S_{\text{SO}} + b_{\text{SIE}}S_{\text{IE}} + b_{\text{SOE}}S_{\text{OE}} + c_{\text{INT}})))$ , in which  $b_{\text{SSO}}$ ,  $b_{\text{SIE}}$ , and  $b_{\text{SOE}}$  are the standard regression coefficients of  $S_{\text{SO}}$ ,  $S_{\text{IE}}$ ,  $S_{\text{OE}}$ , and  $c_{\text{INT}}$  is the intercept coefficient for INT.

## **Resources**

The primary resources necessary to accomplish the study goals included use of the Internet as well as references from peer-reviewed journals and textbooks. Research portals including ProQuest Direct and Science Direct were used to identify peer-reviewed journals. Data was collected via an online survey using Zoomerang<sup>TM</sup>.com. The Statistical Package for the Social Science (SPSS) was used to analyze the data collected from the survey.

## **Summary**

Chapter three provided an overview of the methodology that was used for this study. This chapter described this study as a predictive study that attempted to predict the consumer's intention to engage in apparel e-commerce shopping based on the contributions of gender, shopping orientation, online experience, and Website's interactive features. The methods that were used to answer the research questions were discussed including instrument development, reliability and validity, population and sample, pre-analysis data cleaning, data analysis, and resources.

Following the recommendations of Xu and Paulins (2005), all of the survey items, except the gender item, were measured using a 5-point Likert scale. The survey instrument consisted of items related to gender, shopping orientation, online experience, and Website's interactive features. Demographic data including gender was collected in order to segment the results by males and females. The target population for this study included male and female U.S. consumers age 18 and older. In order to reach this population, Zoomerang<sup>TM</sup>'s TrueSample<sup>TM</sup> technique was used to ensure the sample was

representative of the target population. An equal gender distribution was specified in order to gain an understanding of the lack of female consumers utilizing e-commerce.

This chapter discussed issues of reliability and validity, including internal validity, external validity, and instrument validation. Relevant issues on each topic were presented from literature (Cronbach, 1971; Gliem & Gliem, 2003; Hair et al., 1998; Santos, 1999; Sekaran, 2003; Straub, 1989). A discussion of each topic provided the steps that were taken to ensure the results of this study are both reliable and valid. The reliability of each construct was tested using Cronbach's coefficient alpha. In addition to the Cronbach alpha for each construct, a Cronbach alpha if item is deleted analysis was conducted for the items of each measured construct. This analysis provided a total reliability measure for each item within a measured construct indicating the overall Cronbach alpha for that construct, given that the item is deleted from the reliability measure (i.e. taken out of the factor).

The final sections of chapter three addressed the pre-analysis data cleaning, statistical methods that were used to analyze the data, as well as the resources necessary to complete the analysis. Issues involving the pre-analysis data cleaning were discussed to ensure the accuracy of the data analysis. The data analysis for this study involved factor analysis. Principal component analysis with VARIMAX rotation was used to determine the correlation between survey items and constructs. In addition, the statistical method OLR was used to analyze the relationship between gender, shopping orientation, online experience, and Website's interactive features and their influence on the consumer's intention to engage in apparel e-commerce shopping. A discussion of OLR

was provided along with the respective equation. The chapter concluded with a discussion of the resources necessary to conduct this study.

## Chapter 4

### Results

#### **Overview**

This chapter presents the results of the analyses completed for the current study. The chapter is organized in a similar format to Chapter 3 for consistency. First, the survey procedures are explained, followed by the results of the pre-analysis data screening. Next, the results from the reliability and validity analyses are presented. Finally, a summary of the OLR analysis is presented. The chapter concludes with a summary of the study results.

The survey instrument, in Appendix A, was designed and distributed in a Web-based format using Zoomerang<sup>TM</sup>.com. The electronic delivery format was selected in order to minimize data entry errors. An e-mail solicitation was sent to a group of consumers who were age 18 and older. The sample included an equal number of male and female consumers. The survey distribution took place over a 9-day period starting at the end of August 2009 and ending at the beginning of September 2009. The sample included 9,342 consumers. A total of 240 completed responses were received, representing a response rate of approximately 3%.

#### **Data Collection and Analysis**

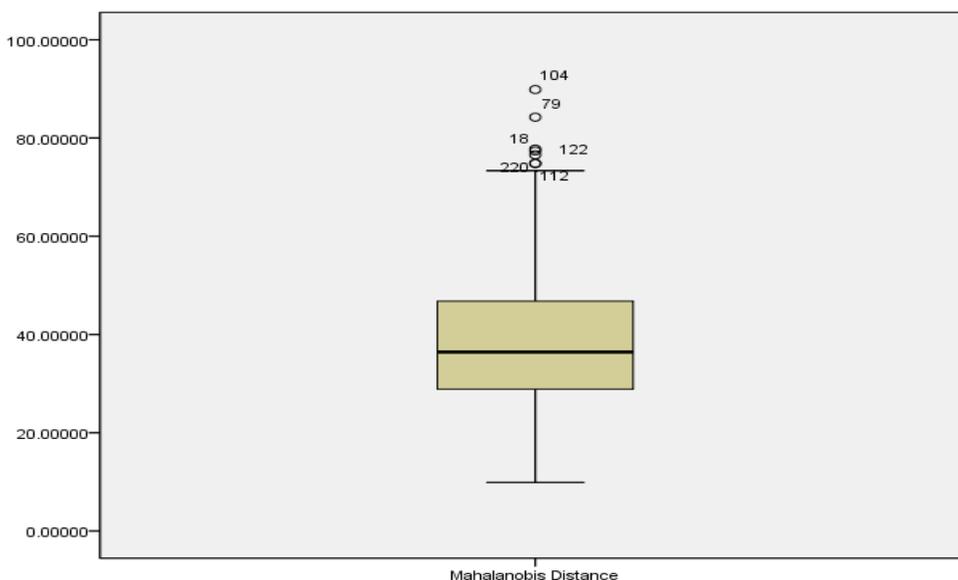
##### *Pre-Analysis Data Screening*

A total of 240 responses were originally received from the survey participants. A pre-analysis data cleaning was conducted on the data received before the final analyses.

This data cleaning was conducted in order to ensure the accuracy of the data collected, identify any missing data, as well as identify extreme cases or outliers. Missing data was not an issue, as the Zoomerang™ online survey setup required a response for each survey item in order for the participant to complete the survey. The data was automatically collected in Zoomerang™ preventing the need for any manual data entry. These safeguards were implemented in order to ensure the accuracy of the data.

A visual inspection of the response sets was conducted to identify any participants who may have selected the same response option for each survey item. The inspection resulted in the identification of 22 cases with the exact score on all responses. These 22 cases were eliminated from the final analyses.

A Mahalanobis Distance analysis was conducted in order to identify extreme values and outliers. Figure 2 illustrates the results of the Mahalanobis Distance analysis. Case ID 104 and 79 were removed due to their extreme values.



**Figure 2.** Mahalanobis Distance

As a result, a total of 24 cases were removed. The analyses revealed 22 same value response sets and two outliers in the data set. After the removal of these responses, a total of 216 responses were available for further analyses.

#### *Descriptive Analysis of Study Participants*

The participants in this study consisted of approximately 58% females and 42% males. The respondents represented all age ranges above age 18 with the majority of respondents identifying the 40 to 49 years category. The highest level of education for almost half of the respondents was a high school diploma or a GED. Approximately 46% had received a bachelor's degree or higher. Over half of the respondents were married, followed by 30% who were single. Approximately 52% of the respondents had a full-time employment status. All income levels were represented. Approximately 52% of all respondents shopped online at least once per month including 4% who shopped more than once per week. The distribution of the data collected represents a diverse group of U.S. consumers. Table 6 summarizes the descriptive data of the study participants.

Table 6. Descriptive Data of the Study Participants

<b>Item</b>	<b>Frequency</b>	<b>Percentage</b>
<i>Gender</i>		
Female	125	57.9%
Male	91	42.1%
<i>Age Range</i>		
18 to 29 years	48	22.2%
30 to 39 years	49	22.7%
40 to 49 years	65	30.1%
50 years and older	53	24.5%
I prefer not to respond.	1	0.5%

Table 6. Descriptive Data of the Study Participants (Continued)

<b>Item</b>	<b>Frequency</b>	<b>Percentage</b>
<i>Education Level</i>		
Graduated from high school or GED	105	48.6%
Bachelor's degree	67	31.0%
Master's degree	28	13.0%
Doctoral degree	5	2.3%
I prefer not to respond.	11	5.1%
<i>Marital Status</i>		
Single	65	30.1%
Married	111	51.4%
Separated	8	3.7%
Divorced	29	13.4%
I prefer not to respond.	3	1.4%
<i>Employment Status</i>		
Full-time employee	112	51.9%
Part-time employee	28	13.0%
Student	18	8.3%
Not Employed	54	25.0%
I prefer not to respond.	4	1.9%
<i>Annual Income</i>		
Less than \$29,999	58	26.9%
\$30,000 to \$59,999	70	32.4%
\$60,000 to \$99,999	45	20.8%
More than \$100,000	22	10.2%
I prefer not to respond.	21	9.7%
<i>Online Shopping Frequency</i>		
Never	25	11.6%
Less than once a month	80	37.0%
Once a month	73	33.8%
Once a week	30	13.9%
More than once per week	8	3.7%

### *Factor Analysis*

Factor analysis was conducted by using principal component analysis (PCA) with VARIMAX rotation in order to maintain the validity of the survey items for each construct. Each item was reviewed to determine whether the loadings were greater than the 0.50 suggested loading cutoff (Hair et al., 1998). All of the survey items made the 0.50 loading cutoff. Therefore, none of the items were deleted from the final analysis. The PCA resulted in four factors extracted, with a total cumulative variance of 60%. The four new factors were named: (1) consumer shopping preferences (CSP); (2) personalization Website features (PWF); (3) shopping environment (SE); and (4) social interaction (SI). Appendix B includes a revised final survey instrument, which categorizes the survey items by the four new factors. Table 7 summarizes the factor analysis results.

Table 7. Factor Analysis Results: PCA VARIMAX Rotated Component Matrix

Factor		Component				Alpha if deleted
		1	2	3	4	
Consumer Shopping Preferences (CSP)	SO1	0.902	0.145	-0.168	0.017	0.932
	SO3	0.896	0.161	-0.221	-0.029	0.930
	SO2	0.895	0.142	-0.213	0.048	0.932
	OE6	0.669	0.432	-0.035	-0.082	0.935
	WIF11	0.651	0.427	-0.135	-0.214	0.933
	WIF3	0.630	0.288	-0.249	-0.122	0.936
	OE1	0.609	0.401	-0.260	-0.300	0.933
	OE3	0.577	0.401	-0.206	-0.277	0.935
	WIF4	0.525	0.514	-0.012	-0.327	0.937
	WIF5	0.524	0.521	0.129	-0.282	0.938
	OE2	0.506	0.304	-0.469	-0.179	0.938
Personalization Website Features (PWF)	WIF10	0.158	0.759	-0.114	0.210	0.816
	WIF8	0.149	0.754	0.000	0.088	0.818
	WIF6	0.289	0.732	-0.066	0.014	0.812
	WIF9	0.331	0.697	0.080	-0.101	0.821
	WIF7	0.075	0.695	-0.069	0.205	0.832
	WIF2	0.331	0.563	0.025	0.103	0.835
Shopping Environment (SE)	SO9	-0.137	-0.056	0.750	0.098	0.748
	SO6	-0.008	0.077	0.727	-0.278	0.786
	SO8	-0.305	-0.040	0.716	0.226	0.737
	OE5	-0.065	-0.004	0.663	0.126	0.761
	WIF1	-0.193	-0.130	0.625	0.281	0.761
	OE4	-0.146	0.033	0.516	0.277	0.782
Social Interaction (SI)	SO7	-0.130	0.228	0.073	0.811	0.694
	SO4	-0.200	0.076	0.210	0.778	0.655
	SO5	0.022	0.057	0.302	0.658	0.764
	Cronbach alpha	0.940	0.848	0.795	0.784	

### *Reliability Analysis*

Cronbach's alpha and Cronbach alpha if item is deleted tests were performed on all four new factors. Cronbach's alpha reliability tests were conducted for the CSP, PWF, SE, and SI constructs in order to determine whether the reliability of each factor could be improved. The results demonstrated high reliability as all of the constructs had a Cronbach's alpha above the desired 0.70 minimum for acceptable reliability (Nunally, 1978). Table 8 presents the reliability analysis results.

Table 8. Reliability Analysis Results

<b>Variable</b>	<b>Cronbach's Alpha</b>
CSP	0.940
PWF	0.848
SE	0.795
SI	0.784

In addition, a Cronbach's alpha if item is deleted analysis was conducted in order to test the reliability of each item within the measured construct. Each item was reviewed to determine whether the Cronbach alpha if item is deleted score was higher than the overall Cronbach alpha score for that construct. None of the items had a Cronbach alpha if item is deleted score higher than the overall Cronbach alpha construct score. As a result of this analysis, no improvements could be made by eliminating any of the items. Therefore, none of the items were removed for the full data analysis.

### *Ordinal Logistic Regression*

An OLR model was developed in order to test the prediction of the dependent variable (INT) based on the combination of the five independent variables (G1, CSP, PWF, SE, and SI). The OLR model for predicting INT based on five predictors (G1, CSP, PWF, SE, and SI) showed a significant improvement in fit over a null model without any

predictors:  $-2 \text{ Log Likelihood} = 423.926$ ,  $\chi^2(5) = 219.343$   $p < .001$ . Table 9 presents the results of the OLR analysis.

Table 9. OLR Analysis Results

<b>Model</b>	<b>-2 Log Likelihood</b>	<b>Chi-Square</b>	<b>df</b>	<b>Sig.</b>
Intercept Only	643.270			
Final	423.926	219.343	5	.000*

\* -  $p < .001$

The OLR analysis results indicated one of the five predictors (CSP) was significant ( $p < .001$ ). CSP had a positive parameter estimate, which indicates that the probability of INT increased as CSP increased. Table 10 summarizes the OLR parameter estimates.

Table 10. OLR Parameter Estimates

		<b>Estimate</b>	<b>Std. Error</b>	<b>Wald</b>	<b>df</b>	<b>Sig.</b>	<b>95% Confidence Interval</b>	
							<b>Lower Bound</b>	<b>Upper Bound</b>
Threshold	[INT = 1]	4.744	1.465	10.489	1	0.001	1.873	7.615
	[INT = 2]	6.824	1.510	20.414	1	0.000	3.864	9.785
	[INT = 3]	8.930	1.563	32.623	1	0.000	5.866	11.994
	[INT = 4]	12.479	1.662	56.353	1	0.000	9.221	15.738
Location	G1	-0.189	0.282	0.449	1	0.503	-0.743	0.364
	CSP	3.269	0.348	88.001	1	0.000 *	2.586	3.952
	PWF	-0.057	0.282	0.041	1	0.839	-0.610	0.495
	SE	-0.271	0.239	1.282	1	0.258	-0.740	0.198
	SI	-0.152	0.191	0.635	1	0.426	-0.527	0.222

\* -  $p < .001$

A second OLR model was developed to determine the interaction effect of G1, CSP, PWF, SE, and SI used to predict the probability of INT. The OLR results for predicting the probability of INT using the five independent variables and their two-way interaction demonstrated an overall significant model:  $-2 \text{ Log Likelihood} = 423.449$ ,

$\chi^2(5) = 219.821$   $p < .001$ . Table 11 presents the results of the OLR interaction effect analysis.

Table 11. OLR Interaction Effect Analysis Results

<b>Model</b>	<b>-2 Log Likelihood</b>	<b>Chi-Square</b>	<b>df</b>	<b>Sig.</b>
Intercept Only	643.270			
Final	423.449	219.821	10	.000*

\* -  $p < .001$

The OLR interaction effect results demonstrated that the interaction between G1 and CSP was significant ( $p = .005$ ). The interaction of G1 and CSP had a positive parameter estimate, indicating that the probability of INT increased as the interaction of G1 and CSP increased. In addition, the interaction of CSP and PWF had a positive parameter estimate and significance of  $p < .001$ . This finding suggests that the probability of INT increased as the interaction of CSP and PWF increased. Both the original OLR model and the OLR interaction effect model found CSP to be a significant predictor of INT. Additional interaction effect independent variable combinations, including G1 and PWF as well as SE and SI, had a significance level of  $p < .01$  on predicting the probability of INT. Table 12 summarizes the results of the OLR interaction effect analysis.

Table 12. OLR Interaction Effect Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[INT = 1]	0.300	0.770	0.151	1	0.697	-1.210	1.809
	[INT = 2]	2.340	0.758	9.535	1	0.002	0.855	3.825
	[INT = 3]	4.515	0.804	31.562	1	0.000	2.940	6.090
	[INT = 4]	8.050	0.941	73.207	1	0.000	6.206	9.894
Location	G1 * CSP	1.175	0.418	7.919	1	0.005**	0.357	1.994
	G1 * PWF	-1.828	0.514	12.620	1	0.000*	-2.836	-0.819
	G1 * SE	0.060	0.315	0.037	1	0.848	-0.557	0.677
	G1 * SI	0.489	0.341	2.056	1	0.152	-0.179	1.157
	CSP * PWF	0.478	0.136	12.352	1	0.000*	0.211	0.744
	CSP * SE	0.172	0.229	0.565	1	0.452	-0.277	0.622
	CSP * SI	-0.166	0.302	0.302	1	0.583	-0.757	0.426
	PWF * SE	0.018	0.279	0.004	1	0.947	-0.528	0.565
	PWF * SI	0.368	0.326	1.279	1	0.258	-0.270	1.007
SE * SI	-0.401	0.145	7.674	1	0.006**	-0.685	-0.117	

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

### Summary of Results

The purpose of this chapter was to present the results of all the analyses performed. This chapter provides the results of an empirical investigation designed to measure the contributions of G1, SO, WIF, and OE to the consumer's intention to engage in apparel e-commerce shopping. Before the final analysis, a pre-analysis data screening was conducted to ensure accuracy of the data collected. As a result, a total of 24 cases were removed.

Following the data cleaning, factor analysis was conducted in order to maintain reliability and validity of the survey items for each construct. The PCA resulted in four new factors: (1) consumer shopping preferences (CSP); (2) personalization Website features (PWF); (3) shopping environment (SE); and (4) social interaction (SI).

Cronbach's alpha and Cronbach alpha if item is deleted tests were performed on all four new factors in order to test the reliability. All four new factors had a Cronbach's alpha above the 0.70 desired minimum. The Cronbach alpha if item is deleted tests revealed that none of the items had a score higher than the overall Cronbach alpha for the construct. As a result, no improvements could be made by eliminating any of the items. In addition, this chapter provided a descriptive analysis highlighting the diversity of the study participants.

Two OLR models were developed in order to answer the five research questions presented in this study. The OLR analysis found CSP to be the only significant predictor of INT. This finding indicates that the probability of INT increased as CSP increased. The OLR interaction effect analysis revealed that the interaction of G1 and CSP was significant. This finding suggests that the probability of INT increased as the interaction of G1 and CSP increased. Both OLR models found CSP to be a significant predictor of INT. In addition, the interaction of CSP and PWF, G1 and PWF, as well as SE and SI were significant predictors of INT.

## Chapter 5

### Conclusions, Implications, Recommendations, and Summary

#### Conclusions

The chapter begins with conclusions drawn from the study results. All of the research questions for this study were outlined and reviewed. A discussion of the implications for this study is provided along with the contributions to the literature. Study limitations are identified and explained. Recommendations for future research are provided in order to extend the body of knowledge. The chapter concludes with a summary of the investigation.

The main goal was to empirically assess the contributions of gender, shopping orientation, online experience, and Website's interactive features to consumer's intentions to engage in apparel e-commerce shopping. The population of this study included male and female U.S. consumers who were age 18 and older. A total of 240 consumers responded and were representative of the population.

The first research question was: What is the contribution that gender has on the user's intention to engage in apparel e-commerce shopping? OLR was conducted to determine if gender (G1) was a predictor of INT. According to Mertler and Vannatta (2010), variables with significant values of  $p < .001$  indicate these variables are important predictors of the dependent variable. Evidence from the OLR analysis indicated that the G1 independent variable alone was not a significant ( $p = .503$ ) predictor of INT. The G1 variable was not significant, as the probability of INT was significantly influenced by

CSP instead. G1 by itself did not have an influence on predicting INT. However, the interaction effect of G1 and PWF was a significant ( $p = .000$ ) predictor of INT.

Therefore, the probability of INT increases as the interaction of G1 and PWF increases.

In addition, the interaction effect of G1 and CSP was a significant ( $p = .005$ ) predictor of INT. This finding suggests that the probability of INT increases as the interaction of G1 and CSP increases. The finding was further validated by previous researchers including Van Slyke et al. (2002), Zhang et al. (2007), and Zhou et al. (2007), indicating that gender and consumer's shopping preferences are important contributors in predicting the consumer's intention to engage in apparel e-commerce shopping.

The second research question was: What is the contribution that shopping orientation has on the user's intention to engage in apparel e-commerce shopping? Evidence from the OLR analysis indicated that CSP was a significant predictor of INT. CSP was the only significant predictor of INT among the five independent variables investigated. In addition, the OLR interaction effect model demonstrated interaction among G1 and CSP as well as CSP and PWF. This finding suggests that CSP has a significant influence on INT when combined with either G1 or PWF. Previous research studies including Brown et al. (2003), Burke (2002), and Jayawardhena et al. (2007) validate this finding, indicating that consumers will shop where they are best served.

The third research question was: What is the contribution that online experience has on the user's intention to engage in apparel e-commerce shopping? Evidence of the OLR analysis demonstrated that SE alone was not a significant predictor of INT. The SE variable was not a significant ( $p = .258$ ) predictor of INT, as consumers were more influenced by CSP instead. SE by itself did not have an influence on predicting INT.

However, the OLR interaction effect of SE and SI was a significant ( $p = .006$ ) predictor of INT. These results highlight the importance of SE and SI in predicting INT. In addition, the results further validated the recommendations from previous studies indicating that more research is needed for determining the influence the online experience has on INT (Constantinides, 2004; Ha & Stoel, 2009).

The fourth research question was: What is the contribution that Website's interactive features have on the user's intention to engage in apparel e-commerce shopping? Evidence of the OLR analysis indicated that PWF alone was not a significant predictor of INT. The PWF variable was not a significant ( $p = .839$ ) predictor of INT, as the probability of INT was significantly influenced by CSP instead. PWF by itself did not have an influence on predicting INT. However, the interaction effect of CSP and PWF was a significant predictor of INT. This finding suggests that the probability of INT increases as the interaction of CSP and PWF increases. The finding was further validated by previous researchers including Fiore and Jin (2003) as well as Li et al. (2001), indicating that PWF is an important factor in improving CSP. In addition, the OLR analyses indicated that SI was not a significant ( $p = .426$ ) predictor of INT. The interaction effect of PWF and SI was not a significant ( $p = .368$ ) predictor of INT either.

The fifth research question was: What is the interaction effect among gender, shopping orientation, online experience, and Website's interactive features when contributing to consumers' intention to engage in apparel e-commerce shopping? Evidence of the OLR interaction effect model indicated several interactions among all of the independent variables in predicting INT. Both CSP and PWF as well as G1 and PWF were significant ( $p = .000$ ) predictors of INT. In addition, the interaction of G1 and CSP

proved to be a significant ( $p = .005$ ) predictor of INT. The interaction of SE and SI also proved to be a significant ( $p = .006$ ) predictor of INT. These findings were validated by previous research that identified the importance of CSP in combination with G1 and PWF as well as the interaction of SE and SI (Zhou et al., 2007).

### **Implications**

The results of this investigation have several implications for the existing Information Systems (IS) body of knowledge, especially within e-commerce. Two prediction models were developed using G1, CSP, PWF, SE, and SI to predict INT. The context of this study was specifically among U.S. consumers who were age 18 or older. Two important contributions that this study makes to the IS literature are 1) an investigation of the key constructs that contribute to the consumer's intention to engage in apparel e-commerce shopping, and 2) an investigation of the interaction effect between the key constructs used to predict the consumer's intention to engage in apparel e-commerce shopping.

The investigation results also contribute to the IS field by providing online retailers with valuable information that can be used to adapt their e-commerce Websites. This study brings awareness to CSP as well as the interaction effect between G1 and CSP. Over half of all respondents indicated that e-commerce cannot provide the same shopping experience as traditional stores provide nor can offer the same level of interactivity consumers experience in a traditional store. A higher percentage of female respondents agreed that e-commerce cannot provide the same shopping experience or same level of interactivity consumers experience in a traditional store. However, over

half of all respondents indicated that they would purchase apparel online. Female respondents were more likely to purchase apparel online than male respondents.

Apparel fit was a major concern for the respondents, as 75% indicated the need to try on apparel before making a purchase and 83% indicated apparel fit as a main concern regarding apparel e-commerce shopping. Female respondents had a greater concern over apparel fit. A higher percentage of female respondents than male respondents expressed the need to try on apparel before making a purchase. In addition, half of all respondents would be more likely to shop for apparel online if a friend recommended an apparel e-commerce Website. Female respondents were more likely to shop for apparel online if a friend recommended an apparel e-commerce Website than were male respondents.

These findings highlight the importance of providing consumers with personalization Website features enabling them to share their online experiences. Respondents indicated that close-up or 3D images of apparel, product reviews or evaluations of products, as well as the My Virtual Model™ interactive feature were helpful when shopping for apparel online. Female respondents ranked all three of these personalization Website features higher than did the male respondents. Online retailers could incorporate these interactive features to improve interactivity on their e-commerce Websites. In addition, incorporating personalization Website features would help eliminate the gender gap in e-commerce as the female respondents indicated in this study their preferences of specific interactive features.

### **Study Limitations**

In this study, five limitations were identified. The first limitation was that apparel e-commerce Websites were specifically investigated. Therefore, the results might not be

generalizable to other types of e-commerce Websites. A second limitation includes the low survey response rate. Further research is needed to determine how additional U.S. consumers perceive apparel e-commerce shopping. A third limitation involves the high percentage of respondents who shop online. Approximately 88% of the respondents in this study had shopped online including 51% who shop online at least once a month. Different results may have been received among consumers who had a lower online shopping frequency. The fourth limitation involves the population used. This investigation was limited to U.S. consumers. Therefore, the results might not be generalizable to non-U.S. consumers. The fifth limitation includes the high number of respondents who had a not employed employment status. Approximately 25% of the respondents were not employed. Therefore, the results may be different for a sample with a lower unemployment status.

### **Recommendations and Future Research**

This investigation led to the identification of future research areas. The factor analysis section of this study led to the grouping of different survey items. Future research could be conducted using the revised survey instrument in Appendix B. In addition, this investigation was limited to U.S. consumers. This research could be expanded to include consumers outside of the U.S. More work is needed to determine the influence of new technologies, including mobile devices, on the consumer's acceptance of e-commerce. As consumers become more technically literate, their intention to use e-commerce may increase. Additional research is needed to determine how emerging Web technologies will benefit consumers and online retailers.

## Summary

This investigation addressed the problem with the gap between male and female acceptance of e-commerce. By examining factors that influence the consumer's intention to engage in apparel e-commerce shopping (INT), researchers Chiu et al. (2005), Rodgers and Harris (2003), and Zhou et al. (2007) have highlighted the need to investigate e-commerce acceptance by determining differences in online shopping behavior. Following a literature review, four factors were identified as possible contributing factors to intention to engage in apparel e-commerce shopping.

The first factor identified in the literature was gender (G1). The literature suggests a consensus among researchers that G1 plays a significant role in e-commerce acceptance (Bourlakis et al., 2008; Zhang et al., 2007; Zhou et al., 2007). As the segment of female Internet users continues to grow, online retailers have a need to understand what motivates these female consumers to engage in e-commerce (Van Slyke et al., 2002). Therefore, the contribution of G1 to the consumer's intention to engage in apparel e-commerce shopping was investigated.

The second factor identified in the literature was shopping orientation (SO). Previous research suggested that SO is a significant contributor to the consumer's intention to engage in apparel e-commerce shopping (Brown et al., 2003; Jayawardhena et al., 2007). Therefore, the contribution of SO to the consumer's intention to engage in apparel e-commerce shopping was investigated.

The third factor identified in the literature was Website's interactive features (WIF). According to the literature, WIF plays an important role in engaging the consumer in apparel e-commerce shopping (Arnold & Reynolds, 2003; Shang et al., 2005).

Consumers need to be able to experience the apparel item online before making a purchase (Rajamma et al., 2007). Thus, the contribution of WIF to the consumer's intention to engage in apparel e-commerce shopping was investigated.

The fourth factor identified in the literature was online experience (OE). Previous research suggests that the consumer's online experience plays a significant role in their intention to engage in apparel e-commerce shopping (Lee & Park, 2009; Ranganathan & Jha, 2007; Yoh et al., 2003). The unique characteristics of e-commerce compared to a traditional store create a need to provide consumers with a positive online experience via technology (Ha & Stoel, 2009). Thus, the contribution of OE to the consumer's intention to engage in apparel e-commerce shopping was investigated.

A predictive study was developed to predict the consumer's intention to engage in apparel e-commerce shopping based on the contribution of G1, SO, WIF, and OE. This study addressed five specific research questions:

- 1.) What is the contribution that gender has on the user's intention to engage in apparel e-commerce shopping?
- 2.) What is the contribution that shopping orientation has on the user's intention to engage in apparel e-commerce shopping?
- 3.) What is the contribution that the online experience has on the user's intention to engage in apparel e-commerce shopping?
- 4.) What is the contribution that Website's interactive features have on the user's intention to engage in apparel e-commerce shopping?

- 5.) What is the interaction effect among gender, shopping orientation, online experience, and Website's interactive features when contributing to consumers' intention to engage in apparel e-commerce shopping?

In order to address the specific research questions listed above, a survey instrument was created by using survey items from several valid research studies. SO was measured using nine survey items developed by Li et al. (1999), O'Cass and Fenech (2003), Swaminathan et al. (1999), as well as Xu and Paulins (2005). WIF was measured using 11 survey items developed by Garbarino and Strahilevitz (2004), Kim, Kim, and Kandampully (2007), Kim and Stoel (2005), Li et al. (1999), Rohm and Swaminathan (2004), as well as Van der Heijden et al. (2003). OE was measured using six survey items developed by Goldsmith and Goldsmith (2002) as well as Jahng et al. (2007). INT was measured using five survey items developed by Chiu et al. (2005) as well as Garbarino and Strahilevitz (2004).

The survey instrument was distributed online to a sample of U.S. consumers who were age 18 and older. A total of 240 completed responses were received. After the pre-analysis data screening, a total of 216 responses were available for further analyses. Factor analysis was conducted using principal component analysis (PCA) with VARIMAX rotation. The PCA resulted in four new factors including (1) consumer shopping preferences (CSP); (2) personalization Website features (PWF); (3) shopping environment (SE); and (4) social interaction (SI). An Ordinal Logistic Regression (OLR) model was developed in order to test the prediction of INT based on the combination of G1, CSP, PWF, SE, and SI. Results indicated CSP as the only significant predictor of INT. A second OLR model was developed to determine the interaction effect of G1, CSP,

PWF, SE, and SI used to predict the probability of INT. Results indicated several interactions among all of the independent variables in predicting INT. The interaction of G1 and CSP, CSP and PWF, G1 and PWF, as well as SE and SI all proved to be significant predictors of INT.

Following the analyses, the conclusions and implications were discussed and compared to the current literature. A total of five limitations were identified and explained. Finally, recommendations and future research were made in order to further the body of knowledge relating to e-commerce.

## Appendix A

### Survey Instrument

Dear Consumer,

You are invited to participate in a survey regarding apparel e-commerce shopping. The purpose of this study is to measure your overall perceptions of shopping for apparel on an e-commerce Website. Your participation in this survey is optional. Responding and submitting your responses to the survey questions indicates voluntary participation in the study.

The survey should take between 15 to 20 minutes to complete. All responses will be kept confidential. You will have the option at the end of the survey to enter a drawing to win one of four \$50 cash prizes. Your survey responses are vital to the improvement of apparel e-commerce shopping. Thank you for your interest and participation in this survey.

Sincerely,  
Amanda Wynn  
Nova Southeastern University Doctoral Student  
Graduate School of Computer & Information Sciences

#### Gender

Number	Survey Item	1	2
G1	Please indicate your gender.	Female	Male

#### Shopping Orientation

Number	Survey Item	1	2	3	4	5
SO1	E-commerce fits well with the way I like to shop.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
SO2	E-commerce fits my shopping style.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
SO3	E-commerce is compatible with my shopping needs.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree

SO4	One of the reasons I have not shopped online for apparel is that I prefer to interact with people face-to-face.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
SO5	Shopping for apparel online does not offer the social interaction I experience in a traditional store.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
SO6	One of the main concerns I have about shopping online for apparel is fit.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
SO7	Social interaction is an important part of my shopping for apparel.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
SO8	I like to see and touch apparel before I make a purchase.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
SO9	I like to try the apparel on before I make a purchase.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree

### Website's Interactive Features

Number	Survey Item	1	2	3	4	5
WIF1	E-commerce cannot offer the same level of interactivity I experience when shopping in a traditional store.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
WIF2	Interactive features on an e-commerce Website help determine whether or not I will shop for apparel online.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
WIF3	The degree of interactivity I received during my previous online shopping experiences for apparel was sufficient.  I find the following interactive features helpful when shopping for apparel online.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
WIF4	Close-up or 3D images of the apparel.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree

WIF5	Product reviews or evaluations of products.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
WIF6	A list of products related to the item I am viewing on the Website.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
WIF7	Live online chat with a customer service representative.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
WIF8	The ability to personalize the Website based on my needs.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
WIF9	Interactive features including My Virtual Model™ that enables me to see how the apparel item would look based on my measurements.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
WIF10	The ability to recommend an apparel item or Website via e-mail.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
WIF11	My previous interactions with apparel e-commerce Websites were clear and understandable.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree

### Online Experience

Number	Survey Item	1	2	3	4	5
OE1	Shopping online for apparel is an enjoyable experience.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
OE2	Shopping online for apparel is more enjoyable online than in a traditional store.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
OE3	Most apparel e-commerce Websites provide a user-friendly online experience.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
OE4	I find shopping online for apparel less pleasant than shopping for apparel in a traditional store.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree

OE5	E-commerce Websites cannot provide the same shopping experience as traditional stores provide.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
OE6	Interactive features offered on an e-commerce Website positively influence my online experience.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree

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### Intention to Engage in Apparel E-commerce Shopping

Number	Survey Item	1	2	3	4	5
INT1	I intend to shop online for apparel within the next few months.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
INT2	I plan to purchase apparel online within the next few months.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
INT3	Buying apparel online is something I would do.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
INT4	Overall, I would buy apparel online.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
INT5	If a friend recommended an apparel e-commerce Website, then I would be more likely to shop for apparel on the recommended Website.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree

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### Demographics

#### Please indicate your race/ethnicity.

- 1 = African American or Black
- 2 = Hispanic
- 3 = White (Non-Hispanic)
- 4 = Other
- 5 = I prefer not to respond.

#### Please indicate your age range.

- 1 = 18 to 29 years
- 2 = 30 to 39 years
- 3 = 40 to 49 years

- 4 = 50 years and older
- 5 = I prefer not to respond.

**Please indicate the highest level of education that you have completed.**

- 1 = Graduated from high school or GED
- 2 = Bachelor's degree
- 3 = Master's degree
- 4 = Doctoral degree
- 5 = I prefer not to respond.

**Please indicate your marital status.**

- 1 = Single
- 2 = Married
- 3 = Separated
- 4 = Divorced
- 5 = I prefer not to respond.

**Please indicate your employment status.**

- 1 = Full-time employee
- 2 = Part-time employee
- 3 = Student
- 4 = Not Employed
- 5 = I prefer not to respond.

**Please indicate your current annual income.**

- 1 = Less than \$29,999
- 2 = \$30,000 to \$59,999
- 3 = \$60,000 to \$99,999
- 4 = More than \$100,000
- 5 = I prefer not to respond.

## Appendix B

### Revised Final Survey Instrument

Dear Consumer,

You are invited to participate in a survey regarding apparel e-commerce shopping. The purpose of this study is to measure your overall perceptions of shopping for apparel on an e-commerce Website. Your participation in this survey is optional. Responding and submitting your responses to the survey questions indicates voluntary participation in the study.

The survey should take between 15 to 20 minutes to complete. All responses will be kept confidential. You will have the option at the end of the survey to enter a drawing to win one of four \$50 cash prizes. Your survey responses are vital to the improvement of apparel e-commerce shopping. Thank you for your interest and participation in this survey.

Sincerely,  
Amanda Wynn  
Nova Southeastern University Doctoral Student  
Graduate School of Computer & Information Sciences

#### Gender

Number	Survey Item	1	2
G1	Please indicate your gender.	Female	Male

#### Consumer Shopping Preferences

Number	Survey Item	1	2	3	4	5
CSP1	E-commerce fits well with the way I like to shop.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
CSP 2	E-commerce is compatible with my shopping needs.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
CSP 3	E-commerce fits my shopping style.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree

CSP 4	Interactive features offered on an e-commerce Website positively influence my online experience.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
CSP 5	My previous interactions with apparel e-commerce Websites were clear and understandable.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
CSP 6	The degree of interactivity I received during my previous online shopping experiences for apparel was sufficient.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
CSP 7	Shopping online for apparel is an enjoyable experience.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
CSP 8	Most apparel e-commerce Websites provide a user-friendly online experience.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
CSP 9	Close-up or 3D images of the apparel.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
CSP 10	Product reviews or evaluations of products.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
CSP 11	Shopping online for apparel is more enjoyable online than in a traditional store.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree

### Personalization Website Features

Number	Survey Item	1	2	3	4	5
PWF 1	The ability to recommend an apparel item or Website via e-mail.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
PWF 2	The ability to personalize the Website based on my needs.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
PWF 3	A list of products related to the item I am viewing on the Website.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree

PWF 4	Interactive features including 'My Virtual Model' that enables me to see how the apparel item would look based on my dimensions.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
PWF 5	Live online chat with a customer service representative.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
PWF 6	Interactive features on an e-commerce Website help determine whether or not I will shop for apparel online.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree

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### Shopping Environment

Number	Survey Item	1	2	3	4	5
SE 1	I like to try the apparel on before I make a purchase.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
SE 2	One of the main concerns I have about shopping online for apparel is fit.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
SE 3	I like to see and touch apparel before I make a purchase.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
SE 4	E-commerce Websites cannot provide the same shopping experience as traditional stores provide.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
SE 5	E-commerce cannot offer the same level of interactivity I experience when shopping in a traditional store.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
SE 6	I find shopping online for apparel less pleasant than shopping for apparel in a traditional store.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree

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### Social Interaction

Number	Survey Item	1	2	3	4	5
SI1	Social interaction is an important part of my shopping for apparel.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
SI2	One of the reasons I have not shopped online for apparel is that I prefer to interact with people face-to-face.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree
SI3	Shopping for apparel online does not offer the social interaction I experience in a traditional store.	Strongly Disagree	Disagree	Mixed Feeling	Agree	Strongly Agree

### Intention to Engage in Apparel E-commerce Shopping

Number	Survey Item	1	2	3	4	5
INT1	I intend to shop online for apparel within the next few months.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
INT2	I plan to purchase apparel online within the next few months.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
INT3	Buying apparel online is something I would do.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
INT4	Overall, I would buy apparel online.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree
INT5	If a friend recommended an apparel e-commerce Website, then I would be more likely to shop for apparel on the recommended Website.	Strongly Disagree	Disagree	Mixed Feelings	Agree	Strongly Agree

### Demographics

**Please indicate your race/ethnicity.**

1 = African American or Black

2 = Hispanic

3 = White (Non-Hispanic)

4 = Other

5 = I prefer not to respond.

**Please indicate your age range.**

- 1 = 18 to 29 years
- 2 = 30 to 39 years
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- 4 = 50 years and older
- 5 = I prefer not to respond.

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- 3 = Master's degree
- 4 = Doctoral degree
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- 4 = Divorced
- 5 = I prefer not to respond.

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- 1 = Full-time employee
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- 3 = Student
- 4 = Not Employed
- 5 = I prefer not to respond.

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- 3 = \$60,000 to \$99,999
- 4 = More than \$100,000
- 5 = I prefer not to respond.

## Appendix C

## IRB Approval Letter

NOVA SOUTHEASTERN UNIVERSITY  
Office of Grants and Contracts  
Institutional Review Board



**MEMORANDUM**

**To:** Amanda Wynn

**From:** Ling Wang, Ph.D.  
Institutional Review Board

**Date:** March 4, 2009

  
\_\_\_\_\_

**Re:** *An Investigation of the Contributions of Gender, Shopping Orientation, Online Experience, and Website's Interactive Features to Consumers' Intentions to Engage in Apparel E-commerce Shopping*

**IRB Approval Number:** wang02150901

---

I have reviewed the above-referenced research protocol at the center level. Based on the information provided, I have determined that this study is exempt from further IRB review. You may proceed with your study as described to the IRB. As principal investigator, you must adhere to the following requirements:

- 1) **CONSENT:** If recruitment procedures include consent forms these must be obtained in such a manner that they are clearly understood by the subjects and the process affords subjects the opportunity to ask questions, obtain detailed answers from those directly involved in the research, and have sufficient time to consider their participation after they have been provided this information. The subjects must be given a copy of the signed consent document, and a copy must be placed in a secure file separate from de-identified participant information. Record of informed consent must be retained for a minimum of three years from the conclusion of the study.
- 2) **ADVERSE REACTIONS:** The principal investigator is required to notify the IRB chair and me (954-262-5369 and 954-262-2020 respectively) of any adverse reactions or unanticipated events that may develop as a result of this study. Reactions or events may include, but are not limited to, injury, depression as a result of participation in the study, life-threatening situation, death, or loss of confidentiality/anonymity of subject. Approval may be withdrawn if the problem is serious.
- 3) **AMENDMENTS:** Any changes in the study (e.g., procedures, number or types of subjects, consent forms, investigators, etc.) must be approved by the IRB prior to implementation. Please be advised that changes in a study may require further review depending on the nature of the change. Please contact me with any questions regarding amendments or changes to your study.

The NSU IRB is in compliance with the requirements for the protection of human subjects prescribed in Part 46 of Title 45 of the Code of Federal Regulations (45 CFR 46) revised June 18, 1991.

**Cc:** Protocol File

3301 College Avenue • Fort Lauderdale, FL 33314-7796 • (954) 262-5369  
Fax: (954) 262-3977 • Email: [inga@nsu.nova.edu](mailto:inga@nsu.nova.edu) • Web site: [www.nova.edu/cwis/ogc](http://www.nova.edu/cwis/ogc)

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