Effects of Online Consumer Reviews on Attitudes and Behavioral Intentions toward Products and Retailers

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Abstract

The purpose of this dissertation is to examine the role of consumer reviews in consumers' decision making process. The current study aims to help researchers and practitioners understand how consumers process different type of information in online consumer reviews. The specific research objectives are to examine (1) how different type of online consumer reviews influence consumers' responses toward the reviews (2) how different types of individual characteristics influence consumer processing of the content of the reviews, and (3) how consumers' responses evoked by review content affect consumer attitudes and behavioral intentions toward the reviewed products and retailers. This study addressed two aspects of review-type: (1) type of product information in online consumer reviews (attribute-and-benefits reviews vs. benefits-only reviews), and (2) type of personal information disclosed by the reviewers (reviewers' personal information vs. reviewer stories).

The literature reviews guided the development of hypotheses and the model of the study in an online apparel store context. To test the hypotheses, this study employs an online experiment with a mock website. A total of 425 participants collected from consumer panels of marketing research firm were used for the analyses.

The analyses revealed that reviews containing reviewers' consumption stories, compared to those containing reviewer information, produce more positive thoughts, greater perceptions of reviews' informativeness, and more favorable attitudes toward the reviews. Contradicting the predictions, there was no moderating effect of individual

differences in chronic tendency to enjoy thinking and engage in thinking. Participants' responses evoked by the reviews showed positive relationships with their attitudes and behavioral intentions toward the reviewed product and the retailer. Further discussion about the results, implications, and suggestions for future research are provided.

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Chapter 1

Introduction and General Information

U.S. business-to-consumer (B2C) e-commerce sales have experienced a fast and continued growth since the first quarter in 2001 as can be seen in the growth in percentage of total retail sales attributable to e-commerce ("Quarterly retail e-commerce sales: 1st quarter 2011," 2011). Albeit at a slower pace than in the past, U.S. B2C e-commerce sales, accounting for $46.0 billion for the first quarter of 2011 (4.5 % of the total retail sales), has continued to grow even in the current economic downturn ("Quarterly retail e-commerce sales: 1st quarter 2011," 2011). According to a U.S. online retail forecast by Forrester Research, the current economic crisis has somewhat slowed the pace of e-commerce growth due to such factors as the lack of credit availability, low consumer confidence, decreased spending, and price-conscious behaviors. But, U.S. online retail sectors are expected to be less affected by the economic pressures than their offline counterparts (Evans, Sehgal, Bugnaru, & McGoan, 2009). This is partially because of the demographics of online consumers: half of online consumers are male while 70% of offline consumers are female; and online consumers are also wealthier with household incomes of $75,000-plus, 70% of whom think their financial situation will remain about the same or slightly better in the future (Evans et al., 2009). The slower pace of growth over the last few years may rather suggest that the e-commerce marketplace will enter a natural plateau, an early phase of maturation based on the expectations that the number of online purchases (average of 8 purchases per year) and sales (around 10%) will be stabilized (Evans et al., 2009). Online buyer penetration

shows that more than 70% of online buyers are ages between 19 and 64 with household incomes of $75,000 or more (Evans et al., 2009).

A series of advantages that e-commerce can provide include convenience in terms of shopping time, easy access to stores, price comparisons at multiple stores, and a vast array of detailed information aggregated by marketers, consumers and experts (Brown, Pope, & Voges, 2003; Dennis, Harris, & Sandhu, 2002; Kim, Kim, & Kandampully, 2007; Van den Poel & Leunis, 1999). However, consumer shopping behavior in online environments has limitations such as consumers' perceived risks (Bhatnagar, Misra, & Raghav, 2000; Forsythe & Shi, 2003; Teo & Yu, 2005), lack of trust (Pavlou, Liang, & Xue, 2007; Teo & Yu, 2005), lack of presence (Barlow, Siddiqui, & Mannion, 2004; Freeman, 2000), and the inability to physically examine products (Huang, Lurie, & Mitra, 2009). In the context of shopping for apparel, where experiential information (e.g., fit, touch, sound) plays a crucial role in choice, the inability to physically touch and try on an apparel product, which augments consumers' concerns with fit and size of garments (Kim & Damhorst, 2010), has been addressed as major impediments for consumers to shop online (Ha & Lennon, 2010; Kim & Lennon, 2008).

Acknowledging the impediments to the success of online stores, numerous studies have studied factors that affect consumer attitudes and behavioral intentions in consumer perceptions of usefulness, ease of use, enjoyment, and convenience (Childers, Carr, Peck, & Carson, 2001); and in website features such as website design/aesthetics (Ha, Kwon, & Sharron, 2007; Ha & Lennon, 2010; Kim et al., 2007; Kim, Kim, & Kandampully, 2009), technology tools enhancing interactivity with the website (Fiore, Jin, & Kim, 2005; Li,

Daugherty, & Biocca, 2001), information quality, task-relevant information, and service attributes on websites (Kim, Kim, & Sharron, 2006). Drawing on the previous studies on online shopping environments, Demangoet and Broderick (2010) suggest that consumers' perception of online shopping environment are holistically influenced by three categories of factors: ease of understanding (e.g., site organization, ease of use, and navigation organization), informativeness (e.g., product attribute description, and information content), and quality (aesthetic design, playfulness, entertainment, and flow).

One of the key advantages is that e-commerce provides extensive product information including detailed marketer-provided information, consumer reviews, and expert opinions (Bickart & Schindler, 2001; Chen & Xie, 2008; Demangeot & Broderick, 2010; Jepsen, 2007). An important factor that determines consumers' perceptions of online shopping environments is that the retail website provide quality information (Demangeot & Broderick, 2010). A notable change in consumer behavior over the few years is the emergence of information-based shoppers (Ante, 2009).

Consumers do more research than ever and look for consumer and expert opinions (Evans et al., 2009). Such non-marketer information (e.g., consumer reviews, and expert opinions) is increasingly important since the non-marketer information is perceived more credible than marketer-provided information (Bickart & Schindler, 2001; Park, Lee, & Han, 2007); is used as a cue for their choices (Huang & Chen, 2006); reduces consumers' perceived uncertainty (Hu, Liu, & Zhang, 2008; Weathers, Sharma, & Wood, 2007); and increases consumers' time spent in websites and purchase likelihood (Huang et al., 2009).

One of the sources of emerging product information is online consumer reviews (Chatterjee, 2001; Chen & Xie, 2008), which can be defined as any statement about products and services posted in online environments by potential or actual consumers. Since Amazon.com first launched the use of online consumer reviews in 1995, online consumer reviews have been incorporated by more e-tailers than ever before (Cenfetelli, Benbasat, & Al-Natour, 2008; "REI.com launches powerreviews solution," 2008). As a type of information that is not available in offline environments, online consumer reviews have become one of the most important sources for product information, which attract consumers making them stick to the retail websites (Ante, 2009; Evans et al., 2009). Through consumer reviews, consumers exchange product- and consumption-related information with other consumers (Bickart & Schindler, 2001). Seen as a more credible and relevant source than marketer-provided information (Chatterjee, 2001), online consumer reviews are now read by more online consumers than ever ("Majority of e-shoppers read customer reviews," 2008). According to a survey conducted in 2008, approximately 70% of Americans report that they read online consumer reviews and ratings before purchase (Ante, 2009). Through online consumer reviews, consumers build trust with the reviewed brands ("Online consumers place trust in user reviews," 2008; "Online shoppers trust brand with customer reviews," 2007). For example, Amazon.com, with more than five million consumer reviews, has become a retailer and a leading source of product information aided by the world's largest collection of product reviews (Ante, 2009).

Previous academic research on online consumer reviews has shown that online consumer reviews serve as a source of electronic word-of-mouth (eWOM), influencing consumers' product evaluations and consumer behavior (Chevalier & Mayzlin, 2006; Chiou & Cheng, 2003; Doh & Hwang, 2009; Duan, Gu, & Whinston, 2008a, 2008b; Forman, Ghose, & Wiesenfeld, 2008; Lee, Park, & Han, 2008; Mudambi & Schuff, 2010; Park & Kim, 2006; Park & Lee, 2009b; Park & Kim, 2008; Park & Lee, 2008; Park et al., 2007; Sen & Lerman, 2007). Specifically, previous literature has shown that consumers are more likely to be influenced by these reviews when they are longer (Chevalier & Mayzlin, 2006; Chiou & Cheng, 2003; Duan et al., 2008a; Mudambi & Schuff, 2010), greater in number (Chevalier & Mayzlin, 2006; Chiou & Cheng, 2003; Duan, Gu, & Whinston, 2008a, 2008b; Park & Kim, 2006; Park & Kim, 2008; Park & Lee, 2008; Park, Lee, & Han, 2008) and of higher quality (Chevalier & Mayzlin, 2006; Chiou & Cheng, 2003; Duan, Gu, & Whinston, 2008a, 2008b; Park & Kim, 2006; Park & Kim, 2008; Park & Lee, 2008; Park et al., 2008).

Problem Statement

Although B2C e-commerce sales have been increasing despite the current economic crisis and online apparel B2C sales have gained market share (Evans, 2009), consumer shopping behavior in online environments, especially shopping for apparel, has limitations such as consumers' perceived risks, lack of trust, and inability to physically examine products as discussed above. To reduce such deterrent effects on consumers, a significant portion of studies in apparel online environments have focused on website

features that can reduce perceived risk and increase consumers' perceptions of social presence, triability, emotions, and enjoyments which have been shown to increase consumers' attitudinal and behavioral responses toward products and retailers (Ha & Lennon, 2010; Lee et al., 2010; Kim & Lennon, 2010). However, relatively little research has been conducted from information processing perspectives in the context of apparel online environments.

Despite the increased attention paid to online consumer reviews by e-tailers and by consumers, little research has been conducted about how the content in the reviews affect consumers' processing of the reviews, and how consumers' responses to the reviews influence their attitudinal and behavioral responses to products and retailers. This study applies theories of consumer information processing to the online apparel shopping environments in order to understand how online apparel shoppers process information in online consumer reviews and respond to the reviews, and indirectly to the reviewed products, and the retailers.

Most previous research in the message effects in online consumer reviews has been conducted from the perspective of analytic processing. However, online consumer reviews are frequently in the form of narratives, where consumers share their experiences about products or brands with other consumers, (Delgadillo & Escalas, 2004). These narratives engage consumers in cognitive processes that cannot be fully explained by analytic theories. Therefore, this study develops and tests theoretical model that integrates analytic and narrative theories of information processing.

Research Objectives

The purpose of this dissertation study is to examine the role of consumer reviews in a consumer's decision making process. Specifically, this study focuses on the content in online consumer reviews. Thus, research objective 1 is to understand how differences in the content in online consumer reviews influence consumers' processing of the reviews, and how their responses toward the reviews influence consumers' attitudinal and behavioral responses toward products and retailers.

Previous research has shown that a number of individual difference variables play a role in influencing consumers' information processing and response to websites (Bagozzi & Dholakia, 2002; Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004). In relation to consumer reviews, it is necessary to address how individual differences among the readers of online reviews intertwine with the effects of different content in online consumer reviews. Thus, research objective 2 is to examine how different types of individual characteristics influence consumer processing of the content of the reviews.

Lastly, although a significant body of literature has studied online consumer reviews, little has explored the underlying processes of consumers' reading online consumer reviews. Research objective 3 is to examine how consumers' responses evoked by review content affect consumer attitudes and behavioral intentions toward the reviewed products and retailers.

Definition of Terms

- Attitude: A global feeling about a person, an object, or an issue (Cacioppo, Harkins, & Petty, 1981; Petty & Cacioppo, 1981).
- Attitude certainty: A degree of confidence with which the attitude is held toward the product displayed on the product webpage in an e-tail website (Abelson, 1988; Bennett & Harrell, 1975; Gross, Holtz, & Miller, 1995; Krosnick & Petty, 1995).
- Consumer information processing: Mental activities occurred in learning, evaluation, or decision processes in a consumption context (Wilkie & Farris, 1976).
- Narratives: Spoken or written stories of an event(s) (Polkinghorne, 1988).
- Need for cognition: Individuals' chronic tendency to enjoy thinking and engage in thinking (Cacioppo & Petty, 1982).
- Online consumer reviews: Any positive or negative statements about products and services made by potential and actual consumers (Park & Park, 2008).
- Perceived informativeness: Consumer perceptions of online consumer reviews' ability to provide helpful and relevant information (Ducoffe, 1996; Park & Lee, 2008).
- Transportation: The extents to which individuals are immersed into, i.e., get lost in, a narrative world (Green & Brock, 2000).
- Word-of-mouth: Informal, person-to-person communication regarding brands, products, services, and/or providers (Anderson, 1998; Katz & Lazarsfeld, 1955; Westbrook, 1987).

Chapter 2

Literature Review

Chapter Two offers a theoretical framework for this research. This chapter (1) provides an overview of the literature on online consumer reviews, (2) describes the theoretical background for the study, and (3) traces the development of the hypotheses. The first part of the chapter reviews the previous literature on consumer-generated information in offline and online contexts, online consumer reviews, and content types of reviews in relation to consumer responses to the reviews. This part of the literature review presents an overview of the phenomenon of consumer information processing of online consumer reviews and the gaps in the literature. The second part introduces consumer information processing models, elaboration likelihood model, transportation theory, and means-end theory that serve as the theoretical framework. Review of the literature that informs the theoretical framework for this study is to study consumer processing of online consumer reviews in a new way guided by different theoretical lenses. Finally, in the third part, hypotheses are developed and the proposed model is explained. This last part of the literature review is a small set of studies that point toward the hypotheses that will guide the current research.

Overview of the Literature on Consumer Information Processing and Online Consumer Reviews

Online consumer-generated information. In general, consumer information sources in the offline context can be classified into three types: (1) marketer-generated (e.g., commercial-like advertising), (2) consumer-generated (e.g., word-of-mouth), and (3) third-party (e.g., consumer report) information (Blackwell, Miniard, & Engel, 2006; Howard & Sheth, 1969). Similar types of information sources are available in online environments: (1) marketer-generated (e.g., product information on corporate/retailer websites, and online advertising), (2) consumer-generated (e.g., electronic word-of-mouth (eWOM) including online consumer reviews, discussion forms, and blogs), and (3) third-party (e.g., third-party reviews) information (Bickart & Schindler, 2001; Y. Chen & Xie, 2008; Park et al., 2007). Online consumer-generated information is distinct not only from seller-created and neutral (i.e., third-party) information but also from traditional consumer-generated information.

Online consumer-generated information versus seller-generated information. Online consumer-generated information is different from online seller-generated information in terms of its information content, perceived credibility, relevancy to consumers, ability to generate empathy, and format (Bickart & Schindler, 2001; Chen & Xie, 2008; Gruen, Osmonbekov, & Czaplewski, 2006; Park et al., 2007). The primary content of online consumer-generated text is most likely to be comprised of subjective product evaluations from user perspectives in usage situations while seller-generated content tend to be objective and product-oriented, often listing product attributes for

many and unspecified consumers (Chen & Xie, 2008). In addition, online consumer-generated information is generally perceived as more credible than seller-generated information since the former is written by fellow consumers who are perceived to have no intentions to manipulate the reader (Bickart & Schindler, 2001). Online consumer-generated texts include product evaluations with both strengths and weaknesses of a product while seller-generated texts tend to emphasize only the strengths and positive attributes of a product (Park et al., 2007). Moreover, online consumer-generated information tends to be more relevant to consumers than seller-generated information because it describes usage situations from a typical consumer's perspective in a real-world setting (Bickart & Schindler, 2001). Furthermore, online consumer-generated information has a greater ability to generate empathy among readers than seller-generated information because it includes personal stories in which reviewers share personal experiences of consumption situations (Bickart & Schindler, 2001). A final distinction between consumer-generated and seller-generated information is that while seller-generated information is provided in a relatively standard format, the format of online consumer-generated information varies by reviewers (Park et al., 2007). For example, some online consumer-generated text has emotional expressions while others include product-focused reviews. Some are long while others are short. Some consist of personal information others do not. Table 2.1 provides summary of characteristics of online consumer-generated and seller-generated information.

Table 2.1. Summary of characteristics of online consumer-generated and seller-generated information

	Online Consumer-Generated Information	Online Seller-Generated Information
Information content	Consumer-oriented; subjective from a consumer's perspective including personal feelings and satisfaction; focusing on product reviews from users' perspective (e.g., usage situations and product performance from a user's perspective)	Product-oriented; objective from a seller's perspective; focusing on product attributes for many and unspecified consumers (e.g., technical specifications, product performance by technical standards)
Perceived credibility	Perceived by consumers as more credible	Perceived by consumers as less credible
Relevancy	More relevant to consumers	Less relevant to consumers
Empathy	A greater ability to generate empathy among readers	A lesser ability to generate empathy among readers
Format	Information is presented in a flexible format	Information is presented in a standard format

Online consumer-generated information versus third-party information. Online consumer-generated information is also distinct from third-party information provided by such sites as: Consumersearch.com, CNET.com, ZDNET.com, swiminfo.com, wirelessdesign.com, enjoythemusic.com, and golfdigest.com. Third-party product reviews are popular in online environments (Chen & Xie, 2005). Chen and Xie (2008) point out that the information in third-party reviews tends to focus on quantifiable product attributes (e.g., performance, features, reliability) and is based on lab testing or expert evaluations. However, online consumer-generated information tends to come from personal experiences and personal usage situations, and evaluations are influenced by consumers' usage situations and taste preferences (Chen & Xie, 2008).

Online consumer-generated information (eWOM) versus traditional consumer-generated information (WOM). Finally, online consumer-generated information is

comparable to but distinct from traditional consumer-generated information. Any information exchanged in consumer-to-consumer communications, regardless of the medium, can be referred to simply as "Word of Mouth" (WOM). WOM is defined as informal, person-to-person communication regarding brands, products, services, and/or providers (Anderson, 1998; Katz & Lazarsfeld, 1955; Westbrook, 1987). The information may be positive, neutral, or negative. For example, positive WOM includes "pleasant, vivid, or novel experiences, recommendations to others, and even conspicuous display" while negative WOM includes "product denigration, relating unpleasant experiences, rumors, and private complaining" (Anderson, 1998, p. 6). Numerous studies have shown that WOM information is an important factor in consumer attitudes and behaviors in a wide range of product categories (Arndt, 1967; Day, 1971; Price & Feick, 1984). As a product information source that is perceived as more trustworthy (Murray, 1991), WOM information has a greater impact on consumers than other information sources such as radio advertising, newspaper advertising, magazine, and sales persons (Day, 1971; Herr, Kardes, & Kim, 1991; Katz & Lazarsfeld, 1955; Price & Feick, 1984). Previous studies have shown that WOM communication has a significant role in affecting consumer satisfaction (Swan & Oliver, 1989), attitude change (Day, 1971), product evaluation (Bone, 1995; Rurzynski & Bayer, 1977), brand trust and choice decisions (Arndt, 1967). It has been shown to be especially important for the diffusion of new products (Arndt, 1967) and less popular products (Zhu & Zhang, 2010).

Although online consumer-generated information is also a type of WOM, there are contrasts with traditional WOM in some aspects. To distinguish it from traditional

WOM, researchers refer to online consumer-generated information by such terms as electronic WOM (eWOM) (Amblee & Tung, 2008; Gruen et al., 2006; Hennig-Thurau et al., 2004), online WOM (Sun, Youn, Wu, & Kuntaraporn, 2006), WOM on the web (Riegner, 2007), word-on-line (Granitz & Ward, 1996), and word-of-mouse (Breazeale, 2009; Xia & Bechwati, 2008). Basically, traditional WOM (hereafter tWOM) is oral, face-to-face communication while online consumer-generated information (hereafter eWOM) is many-to-many communication transmitted through the Internet in a written communication mode (Chatterjee, 2001). This difference generates many other important distinctions.

Firstly, eWOM, compared to tWOM, has a scale advantage: the information flows through the Internet, which provides easy accessibility and bidirectional communication capabilities (Chatterjee, 2001; Dellarocas, 2003; Hung & Yiyan Li, 2007). Secondly, eWOM lasts longer and can be dispersed more widely than tWOM. eWOM information hardly ever expires since whatever is posted on the Internet becomes a part of public capital and potentially transmitted to hundreds or thousands of readers (Hung & Yiyan Li, 2007), while the information transmitted via tWOM lasts only as long as it stays in the listener's memory (Granitz & Ward, 1996). Thirdly, from a seller's perspective, eWOM communications available online allow sellers to monitor and sometimes control the information (Dellarocas, 2003), which is hard with tWOM. Fourthly, perhaps the most distinctive difference is in the strength and numbers of ties. Strength of tie refers to the relative strength of relationship between people who exchange information (Granovetter, 1973). In contrast to tWOM, in which information is exchanged among a few peers with

relatively strong ties (e.g., friends, family, colleagues, acquaintances), in eWOM, information flows among many people with relatively weak ties (Chatterjee, 2001; Schindler & Bickart, 2005). The Internet allows consumers to reach people beyond the physical, social, and cultural boundaries, which limit face-to-face tWOM communications (Granitz & Ward, 1996). In such online environments, consumers are free to visit any group they want to belong beyond their social environmental boundaries (Granitz & Ward, 1996).

Providers and receivers of eWOM can be total strangers with weak ties although the relative strength of ties varies by different types of eWOM (Chatterjee, 2001). In general, strong ties have a greater impact on receivers' purchase decisions than weak ties because of the frequency of communication activity and the nature of the interpersonal relationships between information providers and the receivers (Bansal & Voyer, 2000). In addition, the credibility problem of weak ties is compounded in the Internet by the fact that, being free from social roles, which are pretty fixed in offline contexts, individuals can create and change their online identities (Granitz & Ward, 1996). The capricious nature of online identities makes eWOM information subjective due to the absence of contextual cues (Dellarocas, 2003). Without such contextual cues, the text-based eWOM information is perceived as impersonal and less credible. Thus, it is hard to judge whether the information sender is really an expert or not, and whether there is a perceived similarity between the sender and the receiver(s), which all are important to establish the credibility of eWOM information (Bronner & de Hoog, 2010; Brown, Broderick, & Lee, 2007).

Nevertheless, consumers can gain benefits from weak ties since with weak ties there is a greater possibility of obtaining diverse information and having access to experts on specific topics. The information accumulated from many weak ties via the Internet is more diverse than that acquired via strong ties and these weak ties allow consumers access to experts whom they otherwise could not reach (Schindler & Bickart, 2005). The role of weak ties can be supported by the literature in that research has shown that weak ties play a significant role in innovation diffusion processes (Brown & Reingen, 1987) and in work environments, where employees seek help from distant employees (e.g., strangers) when they cannot get help from close colleagues (Constant, Sproull, & Kiesler, 1996). Table 2.2 lists a summary from the literature of characteristics of eWOM and tWOM.

Table 2.2. Summary of characteristics of eWOM and tWOM

	eWOM	**tWOM**
Scale	Unprecedented scale	Limited to peers in social network
Information dispersion/expiration	Multi-dispersion/ Hardly ever expires	WOM is transmitted in face-to-face communications/expires soon, except perhaps in the memory of the listener
Tie strength and number	Many weak ties	A few strong ties
Social environments	Beyond individuals' social and cultural environments	Limited to individuals' social and cultural environments
Information senders' identities	Volatile nature of online identities due to the absence of contextual cues	Presence of contextual cues to interpret the nature of identities
Perceived credibility	Lesser	Greater
Possibility of sellers' to control and monitor WOM information	Yes	No

eWOM. Similar to consumers' level of acceptance and reliance on tWOM (T. Hennig-Thurau & Walsh, 2003), eWOM has become an increasingly important source of consumer information (Dwyer, 2007; Hung & Yiyan Li, 2007; Mitchell & Khazanchi, 2010). Consumers now seem to be comfortable with eWOM information. For instance, Bailey (2005) revealed that a majority of the participants in his research were aware of the presence of product review websites (21%: very aware; 28%: aware; 38%: somewhat aware). Previous research has indicated that consumers pay attention to eWOM for various reasons, such as obtaining buying-related information social orientation, community membership, remuneration, and learning how a product is to be consumed (Hennig-Thurau & Walsh, 2003) and that eWOM covers topics that range beyond the topics most often discussed in tWOM, such as product recommendations, how-to-advice, and explanations about product-related topics (Granitz & Ward, 1996). Just as tWOM has a powerful impact on consumer decisions (Arndt, 1967; Day, 1971; Herr et al., 1991; Katz & Lazarsfeld, 1955; Price & Feick, 1984), eWOM has also been shown to influence consumers' cognitions (e.g., product knowledge development and persuasion knowledge development), behavioral outcomes (consideration set, and consumer reflexivity) (Hung & Yiyan Li, 2007), and sales (Chevalier & Mayzlin, 2006; Duan et al., 2008a, 2008b; Liu, 2006; Zhu & Zhang, 2010).

Various forms of eWOM possess different characteristics. Chatterjee (2001) states that eWOM can be differentiated by its accessibility, scope, and sources. Due to the deluge of the information transmitted via the Internet, all forms of eWOM are not equally accessed by consumers. Some forms of eWOM are more easily accessible than

others (Chatterjee, 2001). Based on different criteria, Schindler and Bickart (2005) divide eWOM by information flow, timing of interactions, interacting parties, and referability, which is defined as "the degree to which their information can be easily accessed by a large number of people" (Schindler & Bickart, 2005, p.38).

Among the various forms of eWOM information, online consumer reviews are considered one of the most easily accessible and dominant forms of eWOM since they are publicly available for a considerable period of time and since reviews and ratings of products or retailers are conveniently provided alongside product information and other tools on a website (Chatterjee, 2001; Schindler & Bickart, 2005). As Schindler and Bickart (2005) note, some forms of eWOM that have the quality of referability provide more opportunity for fellow consumers to benefit from other consumers' consumption experiences. Since this dissertation attempts to explore consumers' information processing from online consumer reviews, the next section surveys the previous literature specifically on online consumer reviews.

Online consumer reviews As discussed above, online consumer reviews are an easily accessible, dominant type of eWOM (Chatterjee, 2001; Schindler & Bickart, 2005) and therefore an increasingly important source of product information (Chen & Xie, 2008). An online consumer review can be defined as "any positive or negative statements made by potential, actual, or former customers about their experiences, evaluations, and opinions on products and services" (Park & Park, 2008, p. 744). Main outlets of online consumer reviews include e-tail websites (e.g., Amazon) (Chevalier & Mayzlin, 2006; Forman et al., 2008), web-based consumer opinion platforms (e.g.,

epinion.com) (Hennig-Thurau et al., 2004), and Internet forums (Bickart & Schindler, 2001; Godes & Mayzlin, 2004). Consumers also have opportunities to post reviews in other outlets, such as corporate websites (e.g., NIKEiD) and various social media (e.g., blogs, microblogging, Facebook, or YouTube). Previous studies have shown that the mere presence of online consumer reviews can increase the perceived usefulness as well as the perceived social presence of the outlet websites among consumers (Kumar & Benbasat, 2006) and also results in increased product sales regardless of the valence of the reviews (Mitchell & Khazanchi, 2010).

Various aspects of online consumer reviews. Previous research on online consumer reviews tends to compartmentalize aspects of online consumer reviews in order to make sense of the effectiveness of various aspects of reviews. Table 2.3 provides a summary of previous studies related to a variety of review aspects. The mostly widely studied aspects are the volume and the valence of online consumer reviews (Chiou & Cheng, 2003; Duan et al., 2008a, 2008b; Godes & Mayzlin, 2004; Harris & Gupta, 2008; Khare, Labrecque, & Asare, 2011; Liu, 2006; Mitchell & Khazanchi, 2010; Park & Kim, 2008; Park & Lee, 2008; Park et al., 2007; Zhu & Zhang, 2010). Volume, defined as the "total amount of WOM interactions" (Liu, 2006, p. 75), has been shown to positively correlate with consumer awareness of products (Duan et al., 2008a; Godes & Mayzlin, 2009; Liu, 2006; Park et al., 2007) and perceived popularity of products (Park & Lee, 2008). Valence, defined as "the nature of WOM messages (i.e., whether they are positive or negative)" (Liu, 2006, p. 75), has been shown in some studies to influence consumer attitudes toward products (Duan et al., 2008a; Liu, 2006).

Table 2.3. Previous studies on aspects of reviews

Study	Aspects of reviews	Theory	Product type	Findings
Chiou & Cheng (2003)	Volume; Valence	Accessibility-diagnosticity	Cell phones	Aspects of reviews interact with brand image: for reviews about a high image brand, the volume of reviews positively influences product evaluations and attitudes while for reviews about a low image brand, the volume does not matter.
Khare et al. (2011)	Volume; consensus; Precommitment	Cue-utilization and cue-diagnosticity	Movies	Review volume (high: 3470 vs. low: 62 reviews) interacts with review consensus, precommitment, and valence of the reviews.
Harris & Gupta (2008)	Volume	Dual processing models (ELM, HSM)	Laptops	Review volume (high: 10 vs. low 1) interacts with need for cognition (NFC). Under high NFC, volume does not matter. Under low NFC, volume positively influences attitudes and confidence.
Liu (2006)	Volume; Valence	WOM literature	Movies	Volume, not valence, positively influences box office revenues.
Godes & Mayzlin (2004)	Volume; Dispersion		TV program-ming	The dispersion of conversations across communities, not volume, has explanatory power for TV ratings.
Mitchell & Khazanchi (2010)	Volume; Valence		Various categoric al	Having reviews on retailer websites leads to higher product sales. Specifically, the volume significantly influences sales while the valence doesn't.
Park & Kim, (2008)	Volume; Type	ELM	PMPs	Aspects of reviews interact with expertise: for novices, the volume (not type) of reviews has a positive influence on purchase intention while, for experts, the type (not volume) of reviews has a positive influence on purchase intention.
Park, Lee, & Han (2008)	Volume; Quality	ELM	PMPs	Volume effects interact with review quality and involvement: for high involvement consumers, review quality (not volume) positively influences purchase intentions, while, for low involvement consumers, review volume (not quality) are more important.
Zhu & Zhang (2010)	Valence; Valence (average rating)	Psychological choice model	Video games	The volume of reviews is significant in explaining online game sales (for both less popular and popular games). The valence (average rating) and variation of ratings of reviews are significant for less popular and online games.

In general, studies have shown that consumers are more likely to be influenced by these reviews when they are (1) longer (Chevalier & Mayzlin, 2006; Chiou & Cheng, 2003; Duan et al., 2008a; Mudambi & Schuff, 2010), (2) greater in number (Chevalier & Mayzlin, 2006; Chiou & Cheng, 2003; Duan, Gu, & Whinston, 2008a, 2008b; Park & Kim, 2006; Park & Kim, 2008; Park & Lee, 2008; Park, Lee, & Han, 2008), and (3) of higher quality (Chevalier & Mayzlin, 2006; Chiou & Cheng, 2003; Duan, Gu, & Whinston, 2008a, 2008b; Park & Kim, 2006; Park & Kim, 2008; Park & Lee, 2008; Park, Lee, & Han, 2008). The following subsections discuss studies on each aspect of online consumer reviews in detail.

Volume. Previous research has shown that the volume of reviews increases awareness (Liu, 2006), perceived popularity (Park & Lee, 2008), purchase intentions regardless of the level of consumer involvement (Park et al., 2008), and product sales (Duan et al., 2008ab; Liu, 2006). The intensity of volume effects depends on product type. For example, Chiou and Chang (2003) reveal that the impact of volume on product evaluations and attitudes is significant for high image brands. Zhu and Zhang (2010) find that the effect of volume on sales is more influential for online games than offline games. Moreover, the volume effect can be moderated by consumer characteristics. Its effect on purchase intention is significant for consumers with less expertise (Park & Kim, 2008) and with low need for cognition (Harris & Gupta, 2008).

Valence. Previous studies on valence or eWOM messages have revealed inconsistent findings. Some studies have found negative effects, that is, negative reviews have a greater impact than positive reviews on cognitive personalization (Xia &

Bechwati, 2008), eWOM effectiveness (Park & Lee, 2009b) and increasing sales (Chevalier & Mayzlin, 2006). Other studies have shown that valence has little explanatory power for sales (Duan et al., 2008a; Liu, 2006). The inconsistent findings may be due to moderating factors, such as product type (Sen & Lerman, 2007) and brand image (Chiou & Cheng, 2003). For example, Sen and Lerman (2007) observe that readers attribute a poorly reviewed product not to product-related errors but to the reviewer's internal (non-product-related) factors. Chiou and Cheng (2003) find that negative reviews negatively influence product evaluations and attitudes only when the reviewed product is a low image brand. When the reviewed product is a high image brand, the negative reviews do not seem to hurt the product evaluation or attitudes. In fact, in their observations of Amazon.com, Mudambi and Schuff's (2010) conclude that reviews with moderate ratings, rather than reviews with extremely positive or negative, are regarded by readers as helpful. For highly involved consumers, little difference was detected between moderate ratings and high ratings in their bidder choices (Chen & Wang, 2010).

Review type. Previous studies on content types of online consumer reviews compare the eWOM effectiveness of different types of reviews: High- versus low-quality reviews (Lee et al., 2008; Park et al., 2007); attribute-centric versus benefit-centric reviews (Park & Kim, 2008); attribute-value versus simple-recommendation reviews (Park & Lee, 2008); and factual versus experiential reviews (Xia & Bechwati, 2008). A summary of previous studies on review type is shown in Table 2.4.

Table 2.4. Previous studies on content types of online consumer reviews

Study	Definition of type of reviews	Theo-ry	Moderat or	Effects of type of reviews
Park et al. (2007)	**High-quality** review "logical and persuasive [reviews] and gives reasons based on specific facts about the product" (p.128) **Low-quality** review "emotional, subjective, and vacuous [reviews and] offer no factual information, and simply make a recommendation" (p.128)	ELM	Involvem-ent	For consumers with a higher involvement, the quality of reviews positively influences consumers' purchase intentions.
Lee et al. (2008)	**High-quality** review "persuasive [reviews] because the information is relevant to evaluate the product and contains understandable, reliable, and sufficient reasoning" (p.343) **Low-quality** review "irrelevant, unreliable, and difficult to understand [reviews] with insufficient reasoning" (p.343)	ELM	Involvem-ent	For consumers with a higher involvement, the quality of reviews positively influences consumers' attitudes toward the reviewed products.
Park & Kim (2008)	**Attribute-centric** reviews "based on technical attributes such as numbers representing attribute levels… supported by objective data and descriptions" (p.402) **Benefit-centric** reviews "subjective interpretations about such technical attributes. Reviewers subjectively interpreted benefits of each attribute in their own way to evaluate a product" (p.402)	ELM	Expertise	For experts, attribute-centric reviews, compared to benefit-centric reviews, increase purchase intentions. For novices, benefit-centric reviews, compared to attribute-centric reviews, increases purchase intentions.
Park & Lee (2008)	**Attribute-value** reviews "rational, objective, and concrete [reviews] based on the specific facts about a product" (p.388) **Simple-recommendation** reviews "emotional, subjective, and abstract [reviews] based on the consumer feeling about a product" (p.388)	ELM	Involvem-ent	Under high involvement, attribute-value reviews have a greater impact on purchase intention when there are more than a moderate number of reviews. Under low involvement, simple-recommendation reviews, have a greater impact when there are large numbers of reviews.
Xia & Bechwati (2008)	**Factual** reviews reviews "focusing on plain facts, such as product attributes" (p.5) **Experiential** reviews reviews focusing on "the reviewer's own specific experience when buying or using the product" (p.5)	Personaliza tion	Affective intensity (AI)	For consumers with a higher level of AI, an experiential review has a greater impact on cognitive personalization than a factual review. This effect was not significant for factual reviews across AI levels.

Previous studies have shown that the effectiveness of review type depend on consumer characteristics and situational factors, supporting the elaboration likelihood model (Petty, 1977; Petty & Cacioppo, 1986; Petty, Cacioppo, & Schumann, 1983), which is discussed in the next section. For example, high-quality reviews lead to higher level of consumer attitudes toward the reviewed product (Lee et al., 2008) and purchase intentions (Park et al., 2007) only when consumers are highly involved. However, such positive effects of review type on purchase intention under a high involvement situation become negative if there is too much information in attribute-value reviews because of information overload (Park & Lee, 2008). In addition, research has shown that consumer expertise moderates the effect of review type on consumers' purchase intentions (Park & Kim, 2008). Park and Kim (2008) observe that consumers who read attribute-centric reviews exhibit a higher purchase intention than those who read benefit-centric reviews if they are experts. For novices, however, benefit-centric reviews produce a higher level of purchase intention than attribute-centric reviews (Park & Kim, 2008). In short, the studies conducted by Do-Hyung Park and his colleagues have shown that reviews with logical, attribute-based, information, compared to reviews with emotional, irrelevant, and subjective information, lead to more favorable consumer attitudes toward the reviewed products and greater purchase intentions for highly involved consumers and experts, unless the reviews are too many to process (Lee et al., 2008; Park & Kim, 2008; Park & Lee, 2008; Park et al., 2007). Their studies are consistent with the literature on message strength in attitude change and persuasion: strong arguments tend to induce a high

elaboration for highly motivated and capable individuals to process the message, which positively influence their attitudes and persuasion.

Xia and Bechwati (2008) compare the impact of factual reviews based on facts to that of experiential reviews focusing on the reviewer's experiences. They find that experiential reviews induce a higher level of personalization, which is defined as "the deliberate decoration or modification of the environment to fit a person's tastes or preferences, such as decorating one's own room or engaging in a process that changes the functionality, interface, information content, or distinctiveness of a product, service, or system such as a Web site interface (p. 4)." The significantly positive effect of experiential reviews on personalization is for individuals with a high level of affective intensity (Xia & Bechwati, 2008). That is, individuals who tend to be emotionally responsive to various events are more likely to feel as if the reviewer's experiences have happened to them while reading experiential reviews as opposed to reading factual reviews (Xia & Bechwati, 2008). However, such effect is not significant for those who are less likely to be emotionally responsive to various events (Xia & Bechwati, 2008).

What we don't know. Due to the nature of eWOM, the credibility problems of weak ties lie between readers of reviews and the reviewers (Bronner & de Hoog, 2010; Brown et al., 2007; Dellarocas, 2003; Granitz & Ward, 1996). Such problems may cause readers to be less influenced by the valence of reviews as suggested by the studies showing insignificant explanatory power of valence (Duan et al., 2008a; Liu, 2006). Previous studies have shown that the volume of reviews has a greater impact than the valence on readers' responses toward the reviews (Duan et al., 2008a; Liu, 2006; Mitchell

& Khazanchi, 2010). However, the volume of reviews has little impact on consumers who are highly involved (Park et al., 2007) and possess extensive product knowledge (Park & Kim, 2008). It has a significant impact on product attitudes and purchase intentions only for consumers with low involvement and less product knowledge. For those with high involvement and expertise in the reviewed product, review type has a significant impact in explaining the effectiveness of reviews (Park et al., 2008; Park & Kim, 2008).

Considering that consumers read online consumer reviews to acquire further product information, it is assumed that they are to some extent already motivated to read the reviews and possibly involved with the reviewed product. Although we know that consumers are influenced not by volume but by review type in high situational involvement (Park et al., 2008; Park & Kim, 2008), we do not know how they process the content of different type of reviews. Park et al. (2008) note that the content of online consumer reviews is important in online environments to compensate for the lack of credibility. However, little research has explored the effectiveness of content according to information type in a context of high situational involvement. Previous studies in this context have compared review types with obvious distinctions: high- versus low-quality; attribute-based versus simple-recommendation reviews; and factual- versus experiential reviews. Furthermore, although eWOM information is, in many cases, a form of narrative, most studies regard it as analytic information. Therefore, this dissertation attempts to study the effectiveness of review type employing a more realistic set of reviews than those used in previous studies.

Theoretical Background

As noted above, this dissertation aims to study the effects of information in online consumer reviews on consumers' responses toward the reviews, the reviewed products, and the retailers. Specifically, this dissertation focuses on how consumers process the information from different types of online consumer reviews, drawing on the literature on consumer information processing models and persuasion. Online consumer reviews, as an important source of product information (Chen & Xie, 2008), have been studied from information processing perspectives (Forman et al., 2008; Lee et al., 2008). To understand how consumers process information in general and to provide an overall framework, the first sub-section below reviews information processing models in general. Then, three specific theories that are most relevant to the context of this study are discussed to demonstrate how different types of information prompt consumers to choose different processing approaches. These three theories are the elaboration likelihood model, the transportation theory, and the means-end theory.

Consumer information processing models. Wilki and Farris (1976) note that consumer information processing has been a central topic in many areas including consumer research, marketing, and economics alongside other major topics such as attitudes, market segmentation, and psychographics. Consumer information processing can be understood as "sequences of mental activities employed in a consumption context (p.1)" with a primary emphasis on cognitive ("thinking") activities (Wilkie & Farris, 1976). Wilkie and Farris (1976) point out that many researchers describe human information processing as analogous to a computer system: (1) input (stimuli) → (2)

central processing →(3) output. In one of the earliest models, Newell and Simon (1972) described the human being as an information processing system and developed symbolic mechanisms to explain how individuals process information to solve problems. The relevance of their approach to consumer research has been criticized by Wilkie and Farris (1976), who note that their focus is limited to highly complex problems (e.g., cryptarithmetic, logic, chess) with highly involved subjects whereas consumer information processing is more complex with individual differences and various forms of information (Jacoby, 1974; Wilkie & Farris, 1976). Nonetheless, by excluding individual factors or "problem zones" (Wilkie & Farris, 1976), this approach has provided insight into what might be considered the three "crude" sequential phases of consumer information processing (Jacoby, 1974, p. 107):

(1) *Input* of information

↓

(2) *Central processing* of the information
(i.e., interpretation and evaluation of the information and reaching a decision as to the appropriate response)

↓

(3) Response *output*

Although, in reality, such discrete phases may not be linear, Wilki and Farris (1976) note that there seems to be a general agreement among researchers that human information processing involves a series of mental activities that are based on these three basic sequential phases. Of course, the sequential phases become complex when taking a variety of information forms, individual factors, and other environmental factors into

consideration (Jacoby, 1974). Still, in order for any information to have any impact on a consumer, the information must be received by the consumer through his or her sensory modalities (e.g., vision, auditory, olfactory input) and must be processed by the consumer (Jacoby, 1974). Thus, the sequential phases in consumer information processing can be described as follows: (1) the exposure of stimuli (e.g., advertising, product information) → (2) the processing of the stimuli by consumers (e.g., their internal process) → (3) the generation of consumer-responses to the stimuli (Wilki & Farris, 1976). It is important to understand the role of characteristics of information (stimuli) in relation to characteristics of consumers since they determine individuals' information processing, which in turn influences their responses toward the information.

Since the 1950s, numerous studies have elaborated on how this basic model works for consumer information processing (see Maclnnis & Jaworski, 1989 for review). Added to the basic sequential components of information processing are information types and individual differences (e.g., involvement, motivations, opportunity, and needs), which explain the variant relationship between input and output contingent on individual differences (Chaiken, 1980; Maclnnis & Jaworski, 1989; Petty & Cacioppo, 1981; R. E. Smith & Swinyard, 1982). The models also elaborate on various complexities of the basic sequential process: the hierarchy of information effects (Lavidge & Steiner, 1961; Palda, 1966); learning under low involvement (Krugman, 1965; Ray, 1973); cognitive responses to information (Greenwald, 1968; Lutz & Swasy, 1977; Olson, Toy, & Dover, 1982; Petty, 1977; P. Wright, 1980); influence of cognitive-based attitude in processing (Fishbein & Ajzen, 1975; Holbrook, 1978); non-cognitive influences on information

processing such as affects/mood/emotions (Gardner, 1985b); perceptual responses toward the information (Aaker & Stayman, 1990; Ducoffe, 1996); dual-processing of information by individual differences such as motivation and ability to process the information (Chaiken, 1980; Petty & Cacioppo, 1981; Smith & Swinyard, 1982); multi-level (e.g., six levels of brand processing) processing of information by individual differences such as ability, motivation, and opportunity (Maclnnis & Jaworski, 1989); and narrative processing of information (Green & Brock, 2000). Table 2.5 highlights the selected models of consumer information processing. In short, the models developed by consumer researchers over the past sixty years show that consumer information processing is a complex process, in which individuals' cognitive and affective responses toward the information, intertwined with individuals' motivations, abilities, and opportunities, play a central role.

Among the various models of information processing, the literature review of the current study focuses on the elaboration likelihood model (ELM) (Petty & Cacioppo, 1981, 1986), narrative transportation theory (Green & Brock, 2000, 2005), and means-end theory (Gutman, 1982; Olson & Reynolds, 1983). In this researcher's view, these three theories are most relevant to consumers' processing of online consumer reviews. It is because ELM helps understand the phenomena of why consumers process online consumer reviews differently according to individual differences in their motivations and ability; narrative transportation theory helps understand how consumers respond to reviews that are in many cases represented as a narrative form; and means-end theory

helps understand how consumers respond to reviews that consist of product information at several levels of abstraction.

Table 2.5. Selected information processing models

Model	Period	Thesis	Example
Hierarchy of effects models	Early 1960s	Three effects of advertising: cognitive, affective, and conative	(Lavidge & Steiner, 1961; Palda, 1966)
Low involvement learning models	late 1960s; early 1970s	Learning (advertising effects) without involvement	(Krugman, 1965; Ray, 1973)
Cognitive-based attitude formation models	mid-1970s	Multiattribute attitude models (beliefs, attitudes, intention, and behavior)	(Fishbein & Ajzen, 1975; Holbrook, 1978; Lutz, 1975; Wilkie & Pessemier, 1973)
Cognitive response models	1970s	Ad exposure → Cognitive responses → Beliefs → Attitude → Intentions → Behavior	(Greenwald, 1968; Lutz & Swasy, 1977; Olson et al., 1982; Petty, 1977; P. Wright, 1980)
Dual-processing models (ELM, HSM); Integrative models with the moderating effect of involvement	late 1970s; early 1980s	Involvement and motivation as moderators in the relationship between the advertisement and attitude	(Chaiken, 1980; Petty & Cacioppo, 1981, 1986; Smith & Swinyard, 1982)
Non-cognitive routes to persuasion	1980s	Mood → Recall; Evaluations; Behavior	(Gardner, 1985b)
Integrative models with emotions and cognitive responses	late 1980s	Contingency model of information processing model by individual needs, ability, motivation, and opportunity	(Maclnnis & Jaworski, 1989)
Perceptions of the advertising in the hierarchy of effects model	1990s	Perceptions of the advertising affects attitude toward	(Aaker & Stayman, 1990; Ducoffe, 1996; Zhou & Bao, 2002)
Narrative processing	1990s; 2000s	Persuasiveness of narratives as a distinct route to persuasion	(Green & Brock, 2000)

The elaboration likelihood model. The elaboration likelihood model (ELM) was developed by social psychologists interested in communication and persuasion (Petty & Cacioppo, 1981, 1986). This model has been widely applied to advertising (Haugtvedt, Petty, & Cacioppo, 1992; Petty et al., 1983; Petty, Cacioppo, Strathman, & Priester, 2005). ELM postulates that, when exposed to persuasive information, the amount of as well as the nature of thinking generated in response to the information influence the processing of information, which, in turn, lead to persuasion. The hallmark of ELM is the dual process mechanism (i.e., central and peripheral routes) underlying the effects of persuasive information on consumers' attitude formation and attitude change. According to ELM, an individual's choice between the two routes of information processing is determined by the degree of that individual's elaborative processing activity (see Figure 2.2). The likelihood of elaboration on persuasive information, then, is influenced by two kinds of individual differences: (1) how much an individual is motivated to process the information and (2) how much the individual is able to process the information. To illustrate, individuals are more likely to elaborate on persuasive information and take the central route to persuasion when they are motivated and able to process the information, while they are less likely to elaborate and take the peripheral route when they are either less motivated or unable to process. Since persuasion through the central route involves high elaboration (i.e., the effortful and analytic processing activity) while persuasion through the peripheral route engages in low elaboration (i.e., less cognitive efforts), the attitudes formed through central-route persuasion, compared to those formed through peripheral-route persuasion, are expected to be more (1) easily

accessible, (2) persistent and stable over time, (3) resistant to counterarguments, and (4) predictive of the attitude-behavior consistency (Petty et al., 2005; Petty, Haugtvedt, & Smith, 1995).

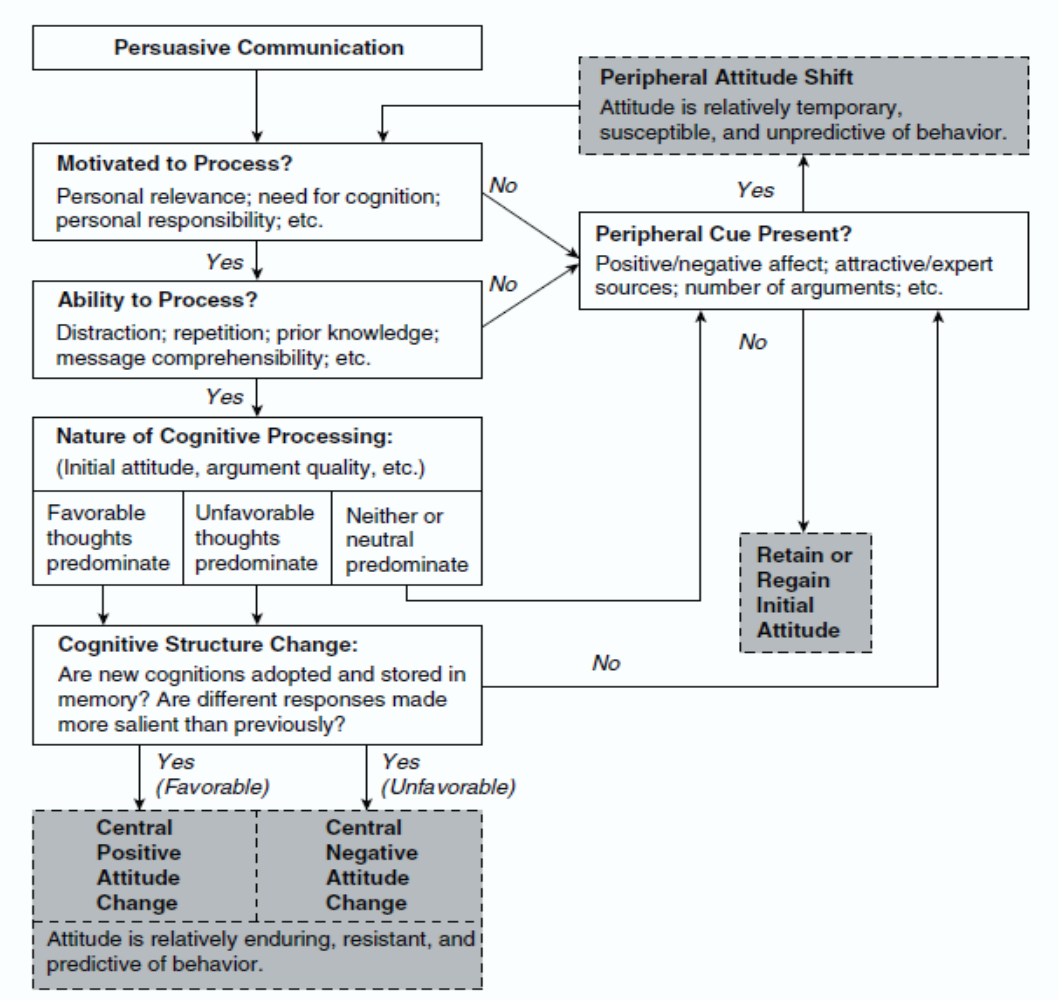


Figure 2.1. The two routes to persuasion (retrieved from Petty et al., 2005, p. 87)

The role of individual differences in ELM. As stated above, ELM proposes that the likelihood of an individual's elaboration depends on the individual's motivation and

ability to process information. The assumption underlying ELM is that human beings are not necessarily motivated and able to process information carefully (Petty et al., 2005). A person who is highly motivated in one situation is not necessarily motivated to process information in other situations. Likewise, some can easily process a kind of information while some find it difficult to process the information. Thus, individual differences in motivation and ability to process information play a role as moderators that determine whether an individual follows a central route or a peripheral route to process the information. Motivation factors that affect information processing include personal relevance (e.g., relevance to a product, to a situation, or to a message), personal responsibility, and personal tendency to enjoy thinking (e.g., the need for cognition) (Petty et al., 2005). Ability factors, such as external distraction, general intelligence, prior experiences, and message comprehensibility, also affect an individual's way of information processing (Petty et al., 2005).

Individual differences in intrinsic motivation: Need for cognition. In ELM, the need for cognition (NFC) is a widely studied individual-dispositional motivation factor with over 1,000 publications (Cacioppo, Petty, Feinstein, & Jarvis, 1996; Haugtvedt et al., 1992; Petty, Brinol, Loersch, & McCaslin, 2009; Petty et al., 2005). NFC refers to "differences among individuals in their tendency to engage in and enjoy thinking" (Cacioppo & Petty, 1982, p. 116). NFC is an individual-dispositional motivation to process information while personal relevance and personal responsibility account for situational motivations (Petty et al., 2005). Cacioppo and Petty (1982) developed NFC based on the work of Cohen et al. (Cohen, Stotland, & Wolfe, 1955), who defined NFC

as “a need to structure relevant situation in meaningful, integrated ways” (p.291). The tendency to structure his or her experiences meaningfully may require individuals to engage in active efforts to understand and organize the experiences when confronting to ambiguous and thereby frustrating situations. Cacioppo and Petty extend Cohen et al.’s NFC to develop the construct referring to individuals’ intrinsic tendency to engage in and enjoy thinking.

NFC, as a personality variable, can be considered as a continuum, where every individual can fall in-between low and high NFC (Cacioppo et al., 1996; Haugtvedt et al., 1992; Petty et al., 2005). For example, some people (cognizers) have intrinsic tendency to enjoy thinking in various situations, while others (cognitive misers) prefer less cognitive effort if possible. Even when situational motivations such as personal relevance and responsibility influence the extent of effortful cognitive processing (elaboration likelihood), individuals’ chronic differences in cognitive motivation (NFC) still play a role (Cacioppo et al., 1996). For instance, although both cognizers and cognitive misers are equally involved with a product in a consumption situation, their individual differences in cognitive motivations (NFC) still account for how much they are motivated to process product information.

Previous studies have shown that the role of dispositional motivation in information processing is similar to that of situational motivations in ELM (Haugtvedt et al., 1992; Petty et al., 2005). That is, individuals with high NFC, as opposed to those with low NFC, are more likely to engage in effortful information-processing activities, which lead to a central route to persuasion (Cacioppo et al., 1996). Specifically,

individuals with high NFC, compared to those with low NFC, are more likely to elaborate on information (Cacioppo et al., 1996; Cacioppo, Petty, Kao, & Rodriguez, 1986); recall more of the information to which they are exposed (Cacioppo, Petty, & Morris, 1983; Heslin & Johnson, 1992); generate more message (or task)-relevant thoughts (Cacioppo et al., 1986); respond more to argument quality (Cacioppo et al., 1983; Priester & Petty, 1995); and perform better on cognitive tasks (Sadowski & Gulgoz, 1996). While individuals with high NFC are influenced by message content, individuals with low NFC tend to be influenced by peripheral cues such as the number of arguments (Cacioppo et al., 1983); spokesperson credibility (Petty & Cacioppo, 1986); endorser attractiveness (Haugtvedt et al., 1992); and humor (Zhang, 1996). Similar to the role of situational motivation in ELM, attitudes of high NFC tend to be more extreme (Smith, Haugtvedt, & Petty, 1994; Tesser, Martin, & Mendolia, 1995); accessible (Smith et al., 1994); based on effortful thoughts (Cacioppo et al., 1986); resistant to change (Haugtvedt & Petty, 1992); and predictive of behavior (Cacioppo et al., 1986).

Application of the NFC in relation to ELM to the current study. Perceiving online consumer reviews as credible and relevant information (Bickart & Schindler, 2001; Chen & Xie, 2008), consumers search for and read the information in online consumer reviews. Although the situational motivation is relatively high for those who voluntarily read and process the information in online consumer reviews, their chronic tendency to enjoy cognitive activities (i.e., NFC) may vary across the consumers who read the reviews considering the fact that NFC is a continuum ranging from low to high NFC (Cacioppo et al., 1996; Haugtvedt et al., 1992; Petty et al., 2005). The variations in

NFC will influence the way consumers process the information in online consumer reviews. Thus, the literature on NFC in relation to ELM will suggest how this individual characteristic (NFC) plays a role in the way consumers process the information in online consumer reviews.

Previous research in the context of online consumer reviews has shown that an individual's situational motivation (e.g., involvement) and ability (e.g., expertise) to process the information do affect his or her processing of the reviews (Harris & Gupta, 2008; Lee et al., 2008; Park & Kim, 2008; Park & Lee, 2008; Park et al., 2007), supporting ELM. Specifically, the literature has shown that the information type of reviews (i.e., a high quality of reviews and attribute-based reviews), rather than the volume of reviews, influences attitudes toward the reviewed product and purchase intentions when consumers are experts (Park & Kim, 2008) and when they are highly motivated to process the information (measured by situational involvement) (Lee et al., 2008; Park & Lee, 2008; Park et al., 2007). However, when they are less motivated (i.e., low in involvement and in need for cognition), the volume of reviews, rather than the type of reviews, are more likely to play a role in developing attitudes and purchase intentions (Harris & Gupta, 2008; Lee et al., 2008; Park & Lee, 2008; Park et al., 2007).

Although previous research has shown that individual-dispositional motivations such as NFC influence the extent of information processing even when individuals have situational motivations (Cacioppo et al., 1996), little research has examined the role of NFC in online consumers' processing of online consumer reviews. Since consumers tend to read online consumer reviews for further information about products, they tend to be

highly involved in the product and in the product information when searching for online consumer reviews of a product. Supposing that consumers are highly motivated to read the reviews (i.e., high in situational involvement, and high relevance to the reviewed products), consumers' internal dispositions in motivation, that is NFC, may help us better understand their processing of the reviews. In a study that examines the role of NFC in the relationship between the volume of the reviews and consumer attitudes and confidence, Harris and Gupta (2008) shows that the volume influences attitudes and confidence only for consumers with low NFC. Unfortunately, their finding is limited since it has been shown that the volume of reviews is effective only to consumers with low motivation (Park et al., 2008). Although little research has explored the role of both high and low NFC in the processing of online consumer reviews, it is reasonable to consider the role of NFC in information processing of online consumer reviews. Thus, the current study attempts to examine the role of need for cognition in relation to ELM in processing of online consumer reviews.

The Transportation theory elaboration likelihood model. While ELM, along with another dual-process model, heuristic-systematic model (HSM) (Chaiken, 1980), has served as the theoretical framework for most persuasion research, two social psychologists, Green and Brock, observed gaps in the dual-process models and developed what is called transportation theory (a.k.a., narrative transportation theory) in 2000, based on the first author's master thesis. Transportation theory, as proposed by Green and Brock (2000), builds on Gerrig's (1993) work on psychological processes and responses of reading. Gerrig (1993) introduces the metaphors of "being transported" and

"performing," to characterize a reader's experience of narratives. While Gerrig (1993) focuses on explaining the psychological processes of reading experiences, Green and Brock (2000) focus on persuasion as the result of narrative transportation. For example, they argue that the greater the extent of transportation in any reading experience, the more the readers will exhibit enhanced story-consistent beliefs, favorable evaluation of protagonists, positive attitudes, and reduced criticism (Green & Brock, 2000, 2005). The persuasive function of Green and Brock's transportation theory has attracted many researchers in psychology, communications, and marketing, who have adopted the concept as a theoretical lens to understand individual responses toward information in narrative forms (Chang, 2009; Dunlop, Wakefield, & Kashima, 2010; Escalas, 2004; Escalas, 2007; Escalas & Luce, 2004; Escalas, Moore, & Britton, 2004; Padgett & Allen, 1997; Petrova & Cialdini, 2008; Phillips & McQuarrie, 2010; Slater & Rouner, 2002; Wang & Calder, 2006; Wentzel, Tomczak, & Herrmann, 2010). Often referred to as a new approaches to persuasion (Petrova & Cialdini, 2008) or narrative persuasion (Green & Brock, 2005), transportation theory extends the theories of message effects and persuasion (Brock & Green, 2005; Green, 2006).

Narratives can be defined as "any spoken or written presentation" (Polkinghorne, 1988, p. 13) or "stories that may be shared with multiple recipients" (Green & Brock, 2005, p. 117). Researchers have identified various components of what constitutes effective narratives: plot (Polkinghorne, 1988); events and characters (Boller & Olson, 1991); character, plot, and setting (Phillips, Olson, & Baumgartner, 1995); chronology and causality (Escalas, 2004); vicissitudes of human intentions (Bruner, 1986); pathos

(i.e., ability to evoke strong emotions such as sadness and pity) (Phillips & McQuarrie, 2010); and a storyline raising unanswered questions and conflicts and characters encountering and resolving a crisis (Green & Brock, 2000, 2005).

Transportation refers to the extent to which individuals are immersed into and get lost in a narrative world (Green & Brock, 2000, 2005). Defining transportation as "absorption into a story (p. 701)," Green and Brock (2000) introduce the concept of transportation as a new route to persuasion, which is distinct from an analytic route to persuasion that can be seen in ELM. Their conceptualization of transportation builds on the work of Richard Gerrig's (1993), who describes the characteristics of a literal experience of being transported in his book, *Experiencing Narrative Worlds: On the Psychological Activities of Reading* (pp. 10-11):

> Someone ("the traveler") is transported, by some means of transportation, as a result of performing certain actions. The traveler goes some distance from his or her world of origin, which makes some aspects of the world of origin inaccessible. The traveler returns to the world of origin, somewhat changed by the journey.

Based on Gerrig's description of transportation, Green and Brock (2000, 2005) discuss the consequences of transportation, which include (1) entering into the narrative world provided by a story and being distanced from real-world facts; (2) emotionally responding to narratives even though they are fiction; and (3) being somewhat changed as a result of the experiences of the narrative world. Transportation theory suggests that since narratives possess such an ability to absorb and transport readers into a narrative world and since readers return to a real world having been influenced by the narrative experiences (Gerrig, 1993; Green & Brock, 2000, 2005), such a transportation process

has a powerful impact on readers' beliefs, attitudes, and evaluations of protagonists and events (Green & Brock, 2000).

Narrative versus analytic. Green and Brock (Green & Brock, 2000, 2005) address the imbalance between narratives (in their term, poetics) and analytic (rhetoric) in the theoretical literature on persuasion. They observe that the persuasiveness of narratives is not included as a reference within 2,800 references in an authoritative textbook, *The Psychology of Attitudes* (Eagly & Chaiken, 1993). They also note that studies on attitude formation/change and persuasion have mostly focused on analytic messages for the past half-century. Although little research has attended to narrative messages as a subject matter in academic research, narratives have been shown to have a powerful impact on persuasion in our everyday lives in novels, films, soap operas, music lyrics, stories in newspapers, and radio (Green & Brock, 2000, 2005). As can be seen in the famous study conducted by Carl Hovland and colleagues, who presented film narratives to soldiers during World War II (Hovland, Lumsdaine, & Sheffield, 1949), the persuasive of narrative can be powerful. In fact, Schank and Abelson (Schank & Abelson, 1995) argue that human knowledge and memory are constructed based on and contained in the form of stories, emphasizing the role of narratives in the human memory. Thus, the role of narratives should not be ignored in persuasion research.

Since mid-1980s, the important role of narratives in communication has been addressed in various fields including advertising (Deighton, Romer, & McQueen, 1989); medical training (Coles, 1987; D. Smith, 2003); legal presentations (Pennington & Hastie, 1988); entertainment-education (Slater & Rouner, 2002); and companies'

response messages for integrity restoration (van Laer & de Ruyter, 2010). In consumer research, specifically, the effectiveness of narratives in advertising has been compared to that of analytic messages in advertising: narrative ads (a.k.a., story, drama ads, and transformational ads) can be more persuasive than argumentative ads (a.k.a., lecture ads, informational ads, and ads in an expository format) (Adaval & Wyer, 1998; Boller & Olson, 1991; Deighton et al., 1989; Mattila, 2000; Padgett & Allen, 1997; Puto & Wells, 1984; Smith, 1995; Wells, 1989). The studies suggest that individuals process ads differently when they are presented in the form of narratives as opposed to when they are in the analytic form.

Narrative processing. Proposed to influence beliefs, attitudes, and evaluation (Green & Brock, 2000, 2005), narrative transportation is understood as a distinct route (Phillips & McQuarrie, 2010) or a new approach to persuasion (Petrova & Cialdini, 2008). Since narrative transportation is characterized as a unique mode of processing, it is important to distinguish narrative processing and analytic processing (Green & Brock, 2005). Analytic processing involves a divergent process while narrative processing involves a convergent process. As can be seen in the dual-process models such as ELM, individuals' information processing of analytics involves logical consideration and evaluation of arguments, which is influenced by their situational and dispositional differences (Petty et al., 2005). Hence, divergent routes to persuasion (i.e., a central route vs. a peripheral route in ELM) occur depending on their prior experiences, motivations, and ability to process the information. ELM and the kindred theories (e.g., Chaiken, 1980; Maclnnis & Jaworski, 1989; Petty & Cacioppo, 1981, 1986; Petty et al., 1983)

have shown that information processing relative to persuasion depends on individual differences such as motivated consumers follow a central route, and uninvolved consumers do not elaborate on the argument and use peripheral cues to form a heuristic judgments.

When individuals process narratives, however, they become immersed, transported into the narrative world, and detached from their own world (Gerrig, 1993; Green & Brock, 2000, 2005). Green and Brock (2000) conceive of transportation as "all mental systems and capacities become focused on events occurring in the narrative" (p. 701). Since they left their own world behind while reading the narrative, individual differences that cause analytic processing to be diverged such as their prior experiences, motivations and ability to process, matter less in narrative processing (Gerrig, 1993; Green & Brock, 2000, 2005). When individuals are involved in narrative processing, analytical processing does not dominate. Instead, narrative processing dominates in processing the information, creating an environment where argument strengths have little impact on the processing (Green & Brock, 2000, 2005). Previous research has supported the theory showing narrative processing suppresses ad argument (Chang, 2009; Escalas, 2004; Escalas, 2007). For example, after exposure to a narrative editorial, argument strength does not affect ad attitude or brand attitude while the argument strength has an impact both on ad attitude and brand attitude after exposure to a fact-based editorial (Chang, 2009). Similarly, Escalas (2004) shows that argument strength is not significant under narrative processing. Moreover, the ad encouraging narrative self-referencing enhances brand evaluation of the advertised product regardless of argument strength

(Escalas, 2007). Thus, narrative processing can be considered another kind of information processing, which contrasts with analytic processing.

In consumer research, transportation has been empirically tested and supported as the underlying mechanism through which narratives lead to persuasion (Chang, 2009; Escalas, 2004; Phillips & McQuarrie, 2010; van den Hende & McFerran, 2009; van den Hende, Snelders, & Dahl, 2008; Wentzel et al., 2010). Like transportation, concepts related narrative processing that has been addressed by previous researchers includes empathy, mental simulation, and "being hooked". Empathy (Argo, Zhu, & Dahl, 2008) and mental simulation (Escalas, 2004) have been shown to be antecedent factors to transportation. Being hooked has been proposed to be a similar concept with transportation but specifically refers to advertising processing (Chang, 2009; Escalas et al., 2004).

Empathy is defined as "a process of participating consciousness whereby consumers try on another's identity and obtain vicarious experiences with the brand in question" (Boller & Olson, 1991, p. 172) and " a person's absorption in the feelings of another" (Escalas & Stern, 2003, p. 567). Previous research has shown that narrative ads, compared to argumentative ads, evoke the process of empathy, through which consumers sympathize and emphasize with characters in the ads, project themselves imaginatively into the experiences, and vicariously experience the narrative world (Boller, 1990; Boller & Olson, 1991; Escalas & Stern, 2003; Puto & Wells, 1984). Such process lead to self-relevant thinking (Boller, 1990), transportation (Argo et al., 2008), attitudes toward the ad (Escalas & Stern, 2003), and attitude toward the brand (Puto & Wells, 1984).

Transportation can occur in the process of mental simulation (Escalas, 2004), defined as the imitative representation of some events—past, future, and hypothetical—in one's mind. Taylor and Schneider (1989), in their study on coping processes, note that simulation is "the imitative representation of the functioning or process of some events or series of events," meaning "the cognitive construction of hypothetical scenarios of the reconstruction of real scenarios" (Taylor & Schneider, 1989, p. 175). Mental simulation enables people to imagine events vividly through cognitive rehearsals of the events, and provide a "window on the future" as they envision the possibilities (Taylor, Pham, Rivkin, & Armor, 1998, p. 429). Through the "window," people visualize their potential behaviors and stories in which they are the main characters (Escalas, 2004).

Similar to transportation, Escalas et al (2004) introduce the concept of "being hooked," specifically to describe what happens in advertising processing. They define being hooked as "the degree to which a viewer is pulled into an ad" (Escalas et al., 2004, p. 106). The authors conceptualize "being hooked" as a more moderate concept than such concepts as being absorbed or immersed experiences like transportation since full experiential involvement such as immersion or transportation is not likely to occur in the advertising context (Escalas et al., 2004). Similar to the persuasiveness of transportation, people who are more hooked by advertising are more likely to exhibit positive feelings such as upbeat and warm feelings, are less disinterested, and have more favorable attitudes toward the ads compared to those who are less hooked, (Escalas et al., 2004).

Consequences of narrative processing. Transportation theory proposes that narrative processing influences readers' beliefs, attitudes, and evaluation of the narrative

world and the protagonists (Green & Brock, 2000, 2005). In consumer research, previous research has shown that narrative ads, compared to argumentative ads, evoke a greater recall of ad contents (Smith, 1995); affective reactions (Deighton et al., 1989; Escalas, 2004; Escalas et al., 2004); self-relevant thinking (Boller, 1990); reduced counterargument (Deighton et al., 1989; Escalas, 2004); message involvement (Polyorat, Alden, & Kim, 2007); favorable attitudes toward the ad (Escalas et al., 2004); favorable attitudes/evaluation toward the advertised product (Adaval & Wyer, 1998; Polyorat et al., 2007); and favorable attitudes/evaluation toward the brand (Escalas, 2004).

Narrative processing is a cognitive process that requires a high level of cognitive involvement, such as attention, comprehension, and imagery (Chang, 2009; Green & Brock, 2000, 2005; Wang & Calder, 2006). This involvement may have negative as well as positive effects in consumer responses. Transportation is a cognitive process while situational/dispositional involvement is a motivational state (Wang & Calder, 2006). While analytic processing is involved by involvement, narrative processing is more with transportation, which is cognitive process. When there are cognitive constraints, individuals may not be able to fully attend to the narratives. For instance, after reading a narrative editorial, people may not be fully transported to or hooked by a following ad in a narrative form leading to reduced effects of narrative processing since individuals' cognitive capacity is otherwise occupied (Chang, 2009). Also, when individuals are experiencing transportation, they may feel negative attitudes toward a product or brand if aspects of the ad conflict with their cognitive involvement: manipulation is salient (Wentzel et al., 2010); when protagonist is not attractive (van den Hende et al., 2008);

and when product is not attractive (van den Hende & McFerran, 2009). Finally, when the transportation process is interrupted, the interruption generates negative effects on the product attitudes (Wang & Calder, 2006). For example, when individuals are in the process of transportation (e.g., when they are transported to a story), the advertising interrupting the middle of the transportation (e.g., advertising showing in the middle of the story) is perceived as intrusive, which leads to decreased product attitudes (Wang & Calder, 2006).

Application of the transportation theory to the current study. Although ELM presupposes that the information that consumers process is in the form of analytic messages, online consumer reviews are, in many cases, presented in a narrative form (Delgadillo & Escalas, 2004). Although most of the previous studies on consumer information processing of online consumer reviews have been studied assuming that information processing of online consumer reviews are analytic drawing on the dual process models (e.g., ELM, HSM), this study uses the transportation theory as a lens to understand the consumer information processing of online consumer reviews since many reviews are narratives.

Means-end theory. The third theory with great relevance to the current study is means-end theory. The means-end theory describes an approach to understanding the cognitive structure of consumers toward products and services (Gutman, 1982; Olson & Reynolds, 1983). The central tenet of means-end models (Table 2.6) is that consumers perceive and organize product information at several levels of abstraction in a hierarchy, ranging from concrete information to abstract information. That is, a product is viewed

by a consumer to have a set of physical attributes (means), which allows the consumer to achieve his or her desired ends. Specifically, a consumer's cognitive structure is presumed to be arranged in a consequence progressing from means to end (product attributes → functional consequences—product benefits—and psychosocial consequences—personal benefits → personal values) (Gutman, 1982; Gutman & Reynolds, 1979; Olson & Reynolds, 1983; Reynolds & Gutman, 1988; Young & Feigin, 1975). Thus, consumers buy a product that is perceived to have the right set of attributes (means), which is perceived to produce desired benefits and to lead to their goals and values (ends). Thus, a consumer links product attributes to perceived benefits/costs derived from the attributes and to personal value obtained from the benefits. As the linkages between the means-end levels (attributes, benefits, and values) become stronger, consumers may perceive the product as more relevant and meaningful (Reynolds, Gengler, & Howard, 1995).

Product preferences (e.g., product choice and brand persuasions) are influenced by a set of salient product attributes (means) that are perceived to provide personally desirable benefits, which help achieve personal values (Olson & Reynolds, 1983; Reynolds et al., 1995). The levels of product characteristics that consumers use in product evaluations vary by consumptions situations. That is, the level of product characteristics in the means-end chain for product comprehension differs in pre-purchase evaluations as opposed to post-purchase evaluations (Gardial, Clemons, Woodruff, Schumann, & Burns, 1994). In pre-purchase evaluations, consumers tend to seek information about product characteristics at a lower level (product attributes) questioning

whether a set of attributes have the ability to produce certain consequences that can enhance their personal values (Gardial & Biehal, 1987; Gardial et al., 1994). In post-purchase evaluations, in contrast, product characteristics that consumers tend to consider move toward a higher level in the means-end chain since they may think most about evaluation outcomes (e.g., whether the product helped achieve my personal goals and the actual performance exceeded my expectations) and emotions associated with the outcomes (Gardial & Biehal, 1987; Gardial et al., 1994).

Table 2.6. Means-end models

Study	Attributes	Consequences	Values
Young & Feigin (1975)	Product attributes	Functional benefits / Practical benefits	Emotional pay-offs
Geistfeld, Sproles, & Badenhop (1977)	Uni-dimensional, measurable product features (Level C)	Multi-dimensional but measurable (Level B)	Abstract, multi-dimensional, and difficulty to measure (Level A)
Gutman & Reynolds (1979)	Attributes	Consequences	Values
Gutman (1982)	Grouping based on product attributes	Consequences	Values
Olson & Reynolds (1983)	Concrete attributes / Abstract attributes	Functional consequences / Psychosocial consequences	Instrumental values / Terminal values
Reynolds & Gutman (1988)	Attributes	Consequences	Values
Zeithaml (1988)	Extrinsic attributes / Intrinsic attributes	Perceived quality	Perceived values
Rossiter & Percy (2001)	Attributes	Benefits	Emotions

Individual characteristics in the use of product characteristic level. Attributes, consequences, and values represent the basic content of product characteristics and knowledge stored in consumers' memory (Geistfeld et al., 1977; Reynolds et al., 1995). As these means-end levels with varying abstraction represent the structure of consumer product knowledge, means-end theory is about the connection between person and products, transferring concrete product attributes to self-relevance through the linkages (Reynolds et al., 1995). When a consumer views attributes of a product as means to achieve their desired ends, one's self-knowledge is activated to make the product personally relevant to the self (Walker & Olson, 1991). In connecting means-end relationships, therefore, various parts of the knowledge in memory should be accessible (Graeff & Olson, 1994). Therefore, the strength of the links between attributes of a product and desired ends (benefits and values personally relevant to them), which influence product evaluations and brand preferences (Reynolds et al., 1995), depend on individual characteristics such as knowledge, accessibility to memory, and motivations to process the information (Geistfeld et al., 1977; Graeff, 1997; Graeff & Olson, 1994).

Geistfeld et al. (1977) suggest that, for consumers to transform lower level product characteristics (attributes) into higher level characteristics (benefits and value), product knowledge is required. Consumers differ in their use of product information in the means-end chain by the level of knowledge they possess: consumers with product knowledge tend to use objective and measurable product information such as product attributes while those with less knowledge tend to use product characteristics that are easily accessible and do not require much effort to make a decision (Geistfeld et al.,

1977; Maheswaran & Sternthal, 1990). Moreover, the way of comprehending product information differs by the extent of consumer knowledge: consumers with higher-knowledge are more likely to evaluate products by inferring personally relevant consequences of product attributes while those with lower-knowledge tend to be more literal (Graeff, 1997; Maheswaran & Sternthal, 1990).

Such differences also occur by the extent of motivation individuals have: when individuals are highly motivated, they are more likely to engage in attribute-based processing comprehending products at an attribute level (Maheswaran & Sternthal, 1990). However, when they have low motivation, they tend to comprehend products by overall evaluations about the products (Maheswaran & Sternthal, 1990). It is partially because product attributes in memory are more easily accessible for individuals with high motivation than those with low motivations (Mantel & Kardes, 1999).

Application of the means-end theory to the current study. In online consumer reviews, some reviews are simple (reviews focusing on simple evaluations about and actual performances of a product) while some are more detailed than simple (reviews describing the structure of means-end chains consisting of product attributes, benefits and values) (Lee et al., 2008; Park & Kim, 2008; ark & Lee, 2008; Park et al., 2007). Since reviewers post their reviews after purchasing and sometimes consuming the product, the reviews tend to focus on product characteristics at a higher level of the means-end chain (e.g., "This jacket is so comfortable!" "My friends complimented on this jacket and I was so happy!") (Gardial & Biehal, 1987; Gardial et al., 1994). The reviews are idiosyncratic since product characteristics at a higher level in the means-end chain (e.g., values,

benefits) tend to be idiosyncratic since they are built upon individuals' personal motives and needs (Gardial et al., 1994) reflecting individual situations and characteristics (Rokeach, 2000).

Consumers who read online consumer reviews may prefer reviews containing detailed product information such as concrete attributes of a product since consumers at pre-purchase situations tend to depend on detailed information at the attribute-level before purchasing a product (Gardial et al., 1994; Zeithaml, 1988). When reading reviews, consumers may find the reviews helpful since the reviews show the actual performances of the product. However, review-reading consumers may need the information about product attributes from which they make inferences toward a higher level in the means-end chains. The information without product attributes may keep the consumers from making their own inferences for their own situations and needs especially for those who are highly motivated and with much knowledge about the product. In this study, consumer responses toward online consumer reviews are expected to differ by the level of product information in the means-end chains.

Theoretical framework synthesizing ELM, transportation theory, and means-end theory. This study aims to understand consumer processing of online consumer reviews by synthesizing the literature on means-end theory, NFC in analytic processing (ELM), and narrative processing (Transportation theory). Guided by the literature, the current study explores the effects of different type of online consumer reviews—(1) type of product information in online consumer reviews, and (2) type of

reviewers' personal information disclosed by reviewers—on consumer information processing of the reviews.

Individuals tend to remember high-level product information at post-purchase situation (e.g., "This jacket is durable!") while they tend to seek low-level product information at pre-purchase situation (e.g., "What is this jacket made of?") (Gardial & Biehal, 1987; Gardial et al., 1994). Online consumer reviews for apparel mostly consist of information about product benefits because experiential aspects of products (e.g., fit, comfort, product care), which consumers are most concerned about (Kim & Damhorst, 2010) and most interested in, can be obtained after consumption. Thus, the product attributes are hardly stated alone, and, if stated, are addressed with higher-level product information (e.g., benefits and values). In order to examine how different type of product information influences consumer information processing, which consequently influences consumer responses toward the reviews, the reviewed products and retailer, the current study compares the effects of attributes-and-benefits reviews (ABR) to those of benefits-only reviews (BR) on consumer responses.

EWOM communications including online consumer reviews are, in many cases, a form of narratives (Delgadillo & Escalas, 2004): in reviewing a product, reviewers share their experiences with the product in their consumption situations. Although such reviews are a form of narratives, most of the previous research has treated the reviews not as narratives but as analytic information. This dissertation examines the effect of reviews in a form of narratives, that is, reviewers' stories (RS) in consumer processing of online consumer reviews. In some reviews, reviewers disclose the information about

themselves. In some communities, this is a community norm (Forman et al., 2008). The reviews with reviewers' personal information are perceived to be helpful and influences product sales (Forman et al., 2008). In comparison to RS, this dissertation also employs the effect of reviewer information in online consumer reviews (RI).

ELM suggests consumers' information processing of online consumer reviews when they engage in analytic processing. According to ELM, consumers' information processing diverges depending on their motivation and ability to process the information. Assuming that most consumers are fairly involved with the reviewed product and the consumption situation when they attempt to read online consumer reviews, this dissertation examines the role of individuals' dispositional-motivation, NFC. When reading online consumer reviews mostly composed of analytic information, analytic processing varies by NFC. In addition, information type and quality interacts with NFC (Cacioppo et al., 1996; Haugtvedt et al., 1992; Petty et al., 2009), which suggests that consumer processing of ABR and BR vary by NFC. As suggested by means-end theory, information processing would be greater as consumers are able to find meaningful attributes of a product and make inferences from the information. The presence of attribute in online consumer reviews will help process the information especially for high-NFC individuals.

While ELM explains consumers' analytic processing of online consumer reviews, narrative transportation theory describes their narrative processing. When exposed to narratives such as RS, as opposed to analytics such as RI, in online consumer reviews, consumers are more likely to engage in narrative processing rather than analytic

processing. According to narrative transportation theory, narrative processing, in contrast to analytic processing in ELM, engages in convergent process, which is not diverged by individuals' motivational variables. In the process of narrative processing, individuals are not involved with analytic evaluations but absorbed into the narrative worlds.

Consequences of information processing of online consumer reviews. Information processing models (e.g., MacInnis & Jaworski, 1989; Wilki & Farris, 1976) suggest that the level of processing of information from online consumer reviews influences the type of responses generated from the reviews, which in turn influences their formation of attitudes and purchase intentions toward the reviewed products and the retailer. Following the progression of information processing models, this study examines consequences of information processing: consumers' cognitive responses and perceptions of the reviews that links attitude formation processes. In this section, specific constructs are discussed including cognitive responses, perceived informativeness, attitudes, and behavioral intentions.

Cognitive responses. As discussed previously, dual process models of persuasion (e.g., Elaboration Likelihood Model, Heuristic-Systematic Model), focusing on the divergent nature of qualitatively different information processing in the attitude formation processes, contend that attitudes and persuasion can be developed based either on the elaboration-based (systematic) process or on the less effortful (heuristic) processes (Chaiken, 1980; Petty & Cacioppo, 1986). The extent of elaboration in the information processing is influenced by individuals' motivations and/or abilities to process the information (e.g., Haugtvedt et al., 1992; Petty & Cacioppo, 1986; Petty et al., 2005;

Priester & Petty, 2003). That is, attitude can be developed following the elaboration-based process if an individual is motivated and able to process the information, while attitude can be developed following the less-effortful or heuristic process if an individual lacks the motivation or ability to process the information.

The measurement of cognitive responses is a method widely used to investigate the extent of elaboration (e.g., Greenwald, 1968; Priester & Petty, 2003; Petty et al., 1981; Wright, 1980). Cognitive responses are thoughts that occur to a message recipient during exposure to the message, which are the results of processing the message (Cacioppo et al., 1981; Petty et al., 1981). In the previous research, cognitive responses are measured to detect consumers' immediate responses toward the exposed information in an unstructured way, which become the basis of their attitude formation processes (Greenwald, 1968; Lutz & Swasy, 1977; Olson et al., 1982; Petty, 1977; Wright, 1980).

Previous researchers have emphasized the significant role of cognitive responses in information processing and attitude development processes: previous research has asserted that cognitive responses serve as important factors that show how the attitude and attitudinal responses are developed after exposure of persuasive information (Maclnnis & Jaworski, 1989; Petty, Ostrom, & Brock, 1981; Priester & Petty, 2003). Although an attitude, which measures an overall evaluation about an object of an issue, can be a "cold" and simple evaluation that leaves out "hot" cognitions (Abelson, 1963), cognitive responses can show any thoughts, which contain "units of information pertaining to an object or an issue that are the results of information-processing activity" (Cacioppo et al., 1981, p. 53). In a similar vein, Dickson and Sauer (1987) note that

measuring cognitive responses can be a "way (perhaps the only way) of attempting to capture a stream of mental consciousness whose structure and valences can be analyzed" (p. 177).

Various measures have been introduced to obtain cognitive responses: mechanical technique, oral and written listing techniques, type of thought required, and measurement time (Cacioppo et al., 1981). Among the various measures, type of thought required is the most widely used measure, which asks "general thoughts on the topic of communication" and "all thoughts that occurred to an individual during the communication" (Cacioppo et al., 1981, p. 40). The thoughts are then categorized. Mostly used three dimensions for categorizing thoughts are: (1) polarity—"the degree to which the statement is in favor of or opposed to the advocacy," (2) origin—"the primary source of the information contained in the person's response," and (3) target—"the focus at which the comment is directed" (Cacioppo et al., 1981, p. 40).

Upon exposure to an ad message, increasein information processing and elaboration leads to greater amount of thoughts (Cacioppo et al., 1981; Petty et al., 1981; Sicilia et al., 2005). When processing information, individuals tend to prompt greater product-related thoughts when they engage in systematic and elaboration-based processing than when they engage in heuristic processing (Cacioppo et al., 1981; Petty et al., 1981). Nonetheless, though a greater number of thoughts denote greater information processing, a large number of thoughts do not necessarily mean that a persuasive message has been successful. If thoughts are mostly composed of negative ones, such processing will generate unfavorable attitudes and lead to a failure to persuade the message

recipients. Thoughts can be also classified as favorable, unfavorable, and neutral (Cacioppo et al., 1981; Petty et al., 1981; Sicilia et al., 2005). Thus, studies examining the effectiveness of information from advertising have tended to categorize thoughts into target (the total number of product-related thoughts) as well as the polarity (the valence of thoughts) (Chang, 2009; Escalas, 2004; Nordhielm, 2002; Sicilia, Ruiz, & Munuera, 2005). Similarly, in order to examine how consumers respond to the information in online consumer reviews, this study incorporates cognitive responses, measured by their thoughts in terms of target (the total number of product-related thoughts) and polarity (the valence of thoughts).

Perceived informativeness of online consumer reviews: Perceptual antecedent of attitudes toward the reviews. As a dominant type of eWOM (Chatterjee, 2001; Schindler & Bickart, 2005), online consumer reviews are an increasingly important source of product information (Chen & Xie, 2008; Hennig-Thurau & Walsh, 2003; Park & Kim, 2008). Accordingly, one of the most important benefits consumers seek from online consumer reviews is useful product information (Liu, 2006; Park & Lee, 2008; Wiertz & De Ruyter, 2007); and consumers' perception of review informativeness becomes a crucial factor that affects reviews' effectiveness and online shopping behavior (Casaló, Flavián, & Guinalíu, 2011; Mudambi & Schuff, 2010; Park & Lee, 2009a; Park & Lee, 2008; Sen & Lerman, 2007; Wiertz & De Ruyter, 2007).

Ducoffe (1996) defines perceived informativeness as consumer perceptions regarding the "ability of advertising to inform consumers of product alternatives" (p.22). Perceived informativeness in this dissertation is defined as the extent to which consumers

perceive an e-tailer's website as informative and useful (Ducoffe, 1996; Park & Lee, 2008). Perceived informativeness has been identified as one of the most important and robust constructs in uses-and-gratifications theory (Edwards, 2007), which was first introduced to explain mass media's persuasion (Katz, 1959; Katz, Blumler, & Gurevitch, 1973; McGuire, 1974). The theory proposes that people seek gratifications from media and the observed gratifications influence their decisions for using and evaluating a particular medium (Edwards, 2007; Katz, 1959; Katz, Blumler, et al., 1973; McGuire, 1974). Following the perspective of uses-and-gratifications, information has been identified as one of the important gratifications that consumers seek from the communicated media (Chen & Wells, 1999; Ducoffe, 1995, 1996; Ducoffe & Curlo, 2000; Edwards, 2007; Eighmey, 1997; Eighmey & McCord, 1998; Hausman & Siekpe, 2009; Kang & Kim, 2006; Katerattanakul, 2002; Ko, Cho, & Roberts, 2005; Pradeep K. Korgaonkar & Wolin, 1999; Luo, 2002; Negash, Ryan, & Igbaria, 2003; Richard, Chebat, Yang, & Putrevu, 2010; Rodgers, Negash, & Suk, 2005; Rubin, 1994; Zhou & Bao, 2002).

Previous research has shown that perceived informativeness influences consumer responses toward the Web (Eighmey & McCord, 1998; Katerattanakul, 2002; Korgaonkar & Wolin, 1999), the Web-based information systems (Negash et al., 2003), the Web advertising (Ducoffe, 1996; Ko et al., 2005; Zhou & Bao, 2002), and the e-commerce website (Chen & Wells, 1999; Eighmey, 1997; Hausman & Siekpe, 2009; Kang & Kim, 2006; Luo, 2002; Richard et al., 2010). Perceived informativeness has received much attention by researchers in advertising (Aaker & Norris, 1982; Aaker &

Stayman, 1990; Ducoffe, 1995, 1996; Kim, Kim, & Park, 2010; Zhou & Bao, 2002). Researchers in advertising argue that advertising value is greatly influenced by information (Nelson, 1970, 1974; Ratchford, 1980) and consumer perceptions of informativeness of the advertising (Aaker & Norris, 1982; Aaker & Stayman, 1990; Ducoffe, 1995, 1996; Kim et al., 2010; Larkin, 1979; Soley & Reid, 1983; Zhou & Bao, 2002). In addition to increasing the value of advertising, perceived informativeness has shown to decrease perceived intrusiveness of ads (Edwards, Li, & Lee, 2002); and increase consumers' trust toward websites (Kim et al., 2010), attitude toward advertising (Tsang, Ho, & Liang, 2004), and purchase intention (Kim et al., 2010).

In e-tail environments where consumers cannot physically examine a product online, perceived informativeness of websites and advertising is a significant construct as it influences consumers' attitudes and facilitates the consumption-decision process (Elliott & Speck, 2005; Kim et al., 2010). Noting that research in attitude formation from ad messages tends to disregard informational determinants, Holbrook (1978) shows that the inclusion of informational perceptions of a persuasive message strongly influences consumers' affective attitudes. This indicates a need to include informational determinants of attitude structure in models of attitudes.

With the presence of online consumer reviews at e-tail websites, reviews' informativeness becomes important to online consumers (Casaló et al., 2011; Mudambi & Schuff, 2010; Park & Lee, 2009a; Park & Lee, 2008; Sen & Lerman, 2007; Wiertz & De Ruyter, 2007). As consumers perceive online consumer reviews as more informative than less informative, they are more likely to develop favorable attitudes toward the

reviews (Casaló et al., 2011) and use them in decision making (Park & Lee, 2009a). Many e-tailers now offer a feature whereby consumers can evaluate reviews in terms of helpfulness by responding "yes" or "no" to a question, "Was this review helpful?," which emphasizes the significance of reviews' helpfulness (informativeness), and indicates a need to investigate factors that affect reviews' perceived informativeness (Mudambi & Schuff, 2010). Based on the literature above, it is reasonable to include perceived informativeness as a crucial factor in the model of the current dissertation, consumer processing of online consumer reviews.

Attitudes. Attitude refers to a global feeling about an object (e.g., a product, a person, an issue). Although some researchers describe an attitude in terms of three classes of responses that attitude is affect, cognition, and conation, pervasive agreement among social psychologists is most closely related to affect: positive or negative feelings (Cacioppo et al., 1981; Petty & Cacioppo, 1981) (see Table 2.6. for other definitions of attitude).

Attitude has been a central concept in social psychology and consumer research (Brown & Stayman, 1992; Petty & Cacioppo, 1981) as Gordon Allport said attitude is "the most distinctive and indispensable concept in contemporary social psychology" (Allport, 1935). It is because attitude is a relatively stable and useful predictor of individual behavior (Mitchell & Olson, 1981; Petty & Cacioppo, 1981). It is also aided by several theoretical models of attitudes (e.g., Fishbein & Ajzen, 1975; Maclnnis & Jaworski, 1989; Petty & Cacioppo, 1981; Petty et al., 1983; Wright, 1980; Zhou & Bao, 2002). Accordingly, most information processing models have been developed to predict

consumers' attitudinal responses to exposure of the information (e.g., Fishbein & Ajzen, 1975; Macinnis & Jaworski, 1989; Petty & Cacioppo, 1981).

In information processing of advertising, previous research studying the effectiveness of advertising has shown that the attitudes toward the ad lead to the attitudes toward the product or brand, emphasizing the mediating role of attitude toward the ad (Brown & Stayman, 1992; Haley & Baldinger, 2000; Mitchell & Olson, 1981; Shimp, 1981). Moreover, with the increasing use of consumers' web, attitude toward the site has been shown to be an important concept in evaluating the effectiveness of the website (Chen & Wells, 1999). The literature on information processing of advertising suggests that liking an information source or a persuasive message such as advertising enhances the favorable formation of the attitudes toward the product (brand) in the message and the website. Similarly, the current study posits that consumers' attitudes toward information in online consumer reviews influence their attitudes toward the reviewed product and the website that provide the reviews.

Table 2.7. Definitions of attitude

Definitions of attitude	References
Attitudes are likes and dislikes.	(Bem, 1970, p. 14)
An attitude is a feeling that an attitude object is good or bad, fair or unfair.	(Collins, 1970, p.71)
Attitudes are dispositions to evaluate objects favorably or unfavorably.	(Insko & Schopler, 1972, p.1)
The major characteristic that distinguishes attitude from other concepts is its evaluative or affective nature.	(Fishbein & Ajzen, 1975, p.11)
Attitudes are the core of our likes and dislikes for certain people, groups, situations, objects, and intangible ideas.	(Zimbardo, Ebbesen, & Maslach, 1977, p. 20)

Consumers' behavioral intentions: Product purchase intention and retail patronage intention. Although the theories on persuasion, such as ELM and transportation theory, focus heavily on attitude formation, empirical studies in consumer research have incorporated the variables related to an advertised product and brand, showing the effects of information processing from the persuasive messages on product- and brand-related variables (Chang, 2009; Escalas, 2004; Polyorat et al., 2007; van den Hende & McFerran, 2009; van den Hende et al., 2008). One of the goals for retailers is to have a positive relationship with the consumer. As crucial constructs to show the formation of the relationship between a consumer and a retailer, numerous studies in retailing have adopted constructs of behavioral intentions in addition to attitudes (Korgaonkar, Lund, & Price, 1985; Pan & Zinkhan, 2006). Crucial behavioral variables including product purchase intentions and retail patronage intention have been widely used (Grewal, Baker, Levy, & Voss, 2003; Laaksonen, 1993; Pan & Zinkhan, 2006). From a retailer's perspective, retail patronage intention is a critical variable because it assesses customers' likelihood to shop at a particular retailer more frequently (Pan & Zinkhan, 2006) and because, in the competitive environment, retailers are interested in patronage intentions in order to keep their own customers (Jeong & Lambert, 2001). Hence, this dissertation, which investigates consumers' information processing from online consumer reviews and its effects on consumers' responses toward the reviews, the reviewed product and the retailer, employs these two behavioral variables: product purchase intentions, and retail patronage intentions.

Attitude certainty. In online environments, where trust and experiential attributes of product information are lacking, consumers are uncertain about product performance and transaction making them reluctant to purchasing apparel online (Forsythe & Shi, 2003; Kim & Damhorst, 2010; Pavlou et al., 2007; Weathers et al., 2007). Accordingly, even if consumers have a favorable attitude toward a product online, they may defer the decision or choose to purchase the product offline (Forsythe & Shi, 2003). In online environments, therefore, attitude certainty may play a crucial role in transferring attitude to behavior.

Along with attitudes, attitude certainty has been suggested as a crucial indicator of marketing effectiveness and consumer behavior (Bennett & Harrell, 1975; Krishnan & Smith, 1998; Wan, Rucker, Tormala, & Clarkson, 2010). Attitude certainty (interchangeably used with attitude confidence) refers to one's subjective sense of conviction about his or her attitude (Abelson, 1988; Bennett & Harrell, 1975; Gross et al., 1995; Krosnick & Petty, 1995). Attitude certainty is psychologically distinct from attitude itself (Berger & Calabrese, 1975; Berger, 1962; Rucker & Petty, 2004; Tormala & Petty, 2002). While attitude refers to one's global feeling or evaluation about an object (e.g., I like this jacket) (Brim, 1955; Cacioppo et al., 1981; Petty & Cacioppo, 1981), attitude certainty is one's feelings of conviction about the attitude (e.g., I am certain that I like this jacket). Attitude certainty in this dissertation is defined as a degree of confidence with which the attitude is held toward the product displayed on the product webpage in an e-tail website.

Conceptual framework for the current study. Based on the literature on ELM, narrative transportation, and means-end, the conceptual framework for the current study is proposed. Figure 2.4 depicts the framework. Part I represents the effects of online consumer reviews on consumer responses toward the reviews. Part II describes the consequences of information processing from online consumer reviews. The following section discusses the development of hypotheses.

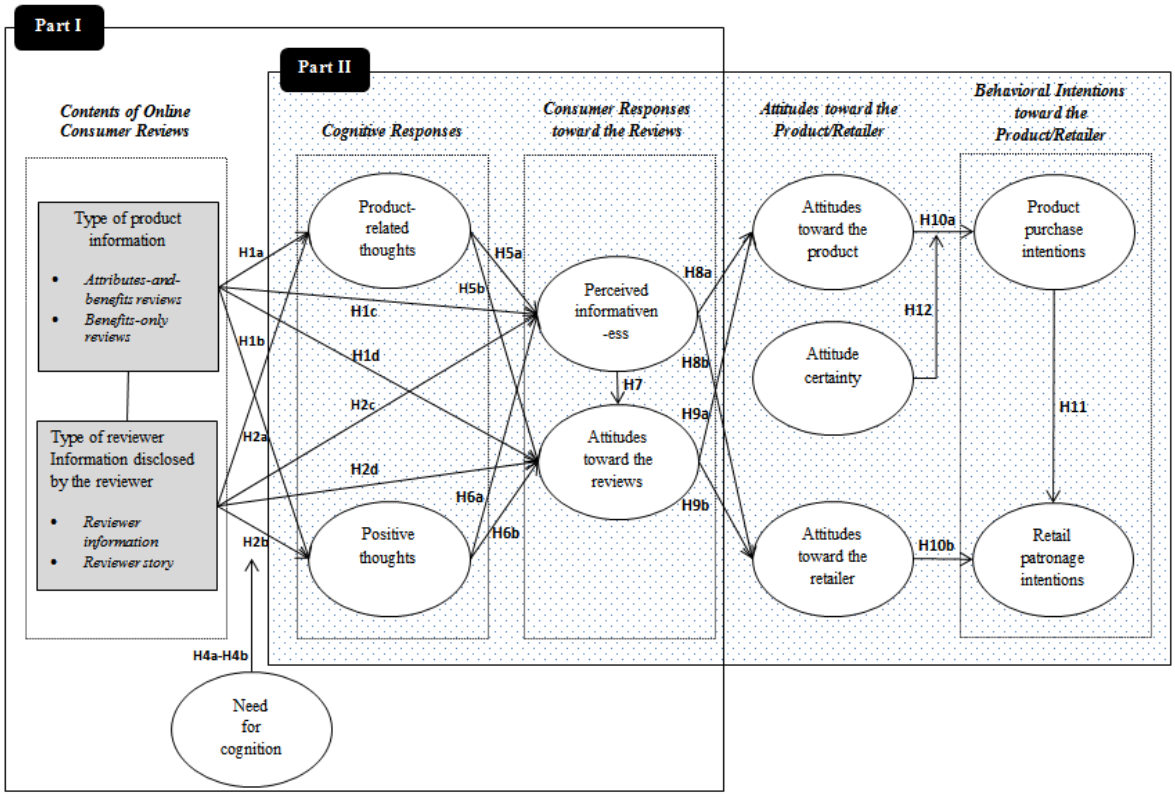


Figure 2.2. Hypothesized model

Hypotheses Development

Effects of type of product information in reviews (ABR vs. BR). Consumers perceive products at several levels of abstraction ranging from the most concrete (product attributes) to the most abstract (personal values) levels (Geistfeld et al., 1977). According to the means-end theory, consumers evaluate a product on the basis of whether or not a set of product attributes have an ability to provide their desired benefits, which in turn allows them to obtain their personal goals and values (Geistfeld et al., 1977; Gutman, 1982; Gutman & Reynolds, 1979; Reynolds & Gutman, 1988; Rossiter & Percy, 2001; Young & Feigin, 1975; Zeithaml, 1988).

Online consumer reviews tend to contain product information at a higher level since consumers' interest after purchase tends to shift from desired attributes of a product to the actual performances and consequences from the product attributes (Gardial et al., 1994). When reviewing products, reviewers post various types of product information from simple evaluations of a product to detailed information about products from purchase to post-consumption experiences (Lee et al., 2008; Park & Kim, 2008; Park & Lee, 2008; Park et al., 2007). If the reviews are classified by the type of product information in the means-end chain, mostly observed reviews include reviews consisting of simple evaluations, reviews containing the benefits/costs of the product, and reviews containing the attributes and the corresponding benefits/costs of the product. The current study examines whether different type of product information in online consumer reviews—reviews containing attributes and benefits/costs of the product (hereafter ABR) versus reviews only containing benefits/costs of the product (hereafter BR)—influences

consumers' information processing. Though both ABR and BR are relatively detailed and frequently observed, differences in information processing are expected.

When consumers read online consumer reviews, they tend to be goal-directed and motivated to evaluate products and to process the information. In such situations, consumers use evaluative criteria comparing product attributes (Gardial et al., 1994; Howard & Sheth, 1969) and attempting to access product attributes (Zeithaml, 1988) since information about product characteristics at a higher level is idiosyncratic reflecting reviewers' own desired ends, and thereby, subjective in nature (Gardial et al., 1994; Li & Hitt, 2008). Thus, when product attributes are provided in the information in ABR, consumers are more likely to depend on the attributes since they are more measurable and accurate (Nelson, 1970; Zeithaml, 1988).

According to the means-end theory, when consumers can make strong linkages between the means-end chains (product attributes → desired consequences of product attributes → personal values), they form more favorable attitudes toward the information and the product advertised in the information (Reynolds et al., 1995). The presence of the attributes in reviews (ABR) may help readers with means to examine whether or not the actual performances in the reviews can be meaningful to them, especially for consumers with great motivation and knowledge. As discussed previously, consumers with great motivation and knowledge tend to engage in attribute-based processing, elaborating on product attributes and making inferences from a set of personally meaningful attributes (Graeff, 1995; Graeff & Olson, 1993; Maheswaran & Sternthal, 1990; Mantel & Kardes, 1999). For them, the presence of product attributes in ABR may

help them make their own elaborations and inferences. On the other hand, consumers with low motivation and knowledge tend to engage in less effortful and heuristic processing (Cacioppo et al., 1983). Rather than making associations between the means-end chains based on their usage situations and knowledge, they may directly use the associations provided by ABR.

Furthermore, online consumer reviews, where reviews containing both positive and negative evaluations about the product are aggregated, conflict and inconsistent views and opinions about a product naturally arise. When exposed to inconsistent evaluations, individuals choose to use product attributes as informational input to the decision process (Lynch, Marmorstein, & Weigold, 1988). Based on the literature, it is expected that ABR, compared to BR, prompt greater information processing. Consumers are expected to perceive ABR that contains more measurable product information than BR as more informative, and form more favorable attitudes toward the reviews. Therefore,

> ***Hypothesis 1a****: Compared to participants who read benefit-only reviews (BR), those who read attributes-and-benefits reviews (ABR) will produce a greater number of product-related thoughts.*
>
> ***Hypothesis 1b****: Compared to participants who read benefit-only reviews (BR), those who read attributes-and-benefits reviews (ABR) will produce a greater number of positive thoughts.*

Hypothesis 1c*: Compared to participants who read benefit-only reviews (BR), those who read attributes-and-benefits reviews (ABR) will perceive the reviews as more informative.*

Hypothesis 1d*: Compared to participants who read benefit-only reviews (BR), those who read attributes-and-benefits reviews (ABR) will exhibit more favorable attitudes toward the reviews.*

Effects of type of personal information disclosed by reviewers (RI vs. RS).

The transportation theory proposes that the experience of narratives can transport readers into narrative worlds (Gerrig, 1993; Green & Brock, 2000, 2005). Through the process of transportation, readers become distanced from real-world facts, emotionally responsive to the narrative world; and somewhat changed by the narrative experience when they return to the real world (Gerrig, 1993; Green & Brock, 2000, 2005).

The transportation theory helps us understand how consumers experience online consumer reviews in the form of narratives. Delgadillo and Escalas (Delgadillo & Escalas, 2004) find that WOM communications are frequently in the form of narratives in which consumers share their experiences about products or brands. Online consumer reviews, as a form of WOM communication, are also sometimes presented in the form of narratives where consumers share their stories about consuming products. However, most previous research on online consumer reviews considers the information in the reviews from the perspectives of analytic processing (e.g., Harris & Gupta, 2008; Park & Kim, 2008; Park & Lee, 2008; Park et al., 2007). To date, there is a study that

incorporates a type of narratives, which they call "experience reviews" (Xia & Bechwati, 2008). In Xia and Bechwati's (2008) study, experience reviews, compared to factual reviews, lead to a higher cognitive personalization—a cognitive process of individuals' experiencing what has described in the reviews—when consumers have a high level of affect intensity. Xia and Bechwati (2008) show that experience reviews, a form of narratives, evoke cognitive personalization, a process similar to transportation, for consumers with a higher level of affective intensity.

Previous studies have shown the relevance of narrative processing and transportation to consumer research mostly in advertising context (Chang, 2009; Escalas, 2004; Phillips & McQuarrie, 2010; van den Hende & McFerran, 2009; van den Hende et al., 2008; Wentzel et al., 2010). Compared to non-narrative ad messages, narrative ad messages have been shown to evoke a greater recall of ad contents (Smith, 1995), affective reactions (Deighton et al., 1989; Escalas, 2004; Escalas et al., 2004), self-relevant thinking (Boller, 1990); reduced counterargument (Deighton et al., 1989; Escalas, 2004), message involvement (Polyorat et al., 2007); favorable attitudes toward the ad (Escalas et al., 2004), favorable attitudes/evaluation toward the advertised product (Adaval & Wyer, 1998; Polyorat et al., 2007), and favorable attitudes/evaluation toward the brand (Escalas, 2004).

Online consumer reviews containing reviewers' stories can be characterized as narratives since such reviews consist of actors (reviewers), settings (consumption situations, social occasions), and events (consumption experiences), mirroring the generic structure of narratives. Thus, it is expected that online consumer reviews containing

reviewers' stories (RS) will generate responses similar to those found in the literature to be evoked by narratives: increased in positive thoughts and decreased in criticism; and favorable attitudes toward the reviews. Moreover, reading other consumers' consumption experiences leads to increased involvement (absorption), and the sense of flow, which increase pleasure. Such experiences will lead to favorable evaluations about the reviews. Furthermore, the literature on mental simulation, which suggests that mental simulation augments the perceived reality of imagined experience and emotions (MacInnis & Price, 1987; Phillips et al., 1995; Taylor et al., 1998; Taylor & Schneider, 1989) suggest that consumers, when reading others' consumption experiences, may mentally imagine the consumption situation and experience. The vividness of the mental imagination positively influences elaboration and their decision making as the consumption vision become more accessible (Keller & McGill, 1994). Thus, consumers, who vividly imagine the consumption experience, are more likely to be involved with the reviews, and thereby perceive the reviews more informative. Furthermore, when consumers perceive humanness in websites, they are more likely to perceive the information source as more informative (Hausman & Siekpe, 2009). Based on the literature, therefore, it is reasonable to expect that reviews containing reviewers' stories (RS), compared to reviews containing reviewers' information (RI), are more likely to lead to positive thoughts, increased perceptions of reviewers' informativeness, and favorable attitudes toward the reviews.

While some reviews are structured as stories, many others take the approach of presenting personal information, describing personal characteristics such as their body

type, size, personal preferences, occupations, and locations. In online environments, evaluation of experience-related products sometimes requires more information about product benefits than is presented by the retailers. For example, especially for apparel shopping, benefits of products such as fit and comfort can be idiosyncratic and hard to evaluate because they are not measurable. In such situations, the sharing of personal information may prompt readers to evaluate the benefits of products presented online and thereby encourage them to think about products. Thus, RI is expected to prompt more number of product-related thoughts than RS.

Hypothesis 2a*: Compared to participants who read reviews containing reviewer stories (RS), those who read reviews containing reviewer information (RI) will produce a greater number of product-related thoughts.*

Hypothesis 2b*: Compared to participants who read reviews containing reviewer information (RI), those who read reviews containing reviewer story (RS) will produce a greater number of positive thoughts.*

Hypothesis 2c*: Compared to participants who read reviews containing reviewer information (RI), those who read reviews containing reviewer story (RS) will perceive the reviews as more informative.*

Hypothesis 2d*: Compared to participants who read reviews containing reviewer information (RI), those who read reviews containing reviewer story (RS) will exhibit more favorable attitudes toward the reviews.*

Interactions between type of product information in reviews (ABR vs. BR) and type of personal information disclosed by reviewers (RI vs. RS). Although hypotheses one in this study has proposed that reviews containing both attitudes and benefits (ABR) evokes more thoughts and positive responses toward the reviews than those containing only benefits (BR), its effect is expected to interact with type of reviewers' personal information disclosed by the reviewers—reviews containing reviewers' information (RI) and reviews containing reviewers' stories (RS). Previous studies on transportation have shown that narrative processing requires cognitive involvement such as attention, comprehension, and imagery (Chang, 2009; Green & Brock, 2000, 2005; Wang & Calder, 2006). Thus, during narrative processing, other cognitive constraints can suppress readers' ability to fully attend to and be transported into narratives due to their limited cognitive capacity (Chang, 2009; Green & Brock, 2000). Besides, when individuals are involved in narrative processing, analytical processing does not dominate and the quality of the argument does not affect individual's processing (Green & Brock, 2000, 2005; Chang, 2009). Accordingly, the complexity and specificity of information does not influence or rather interrupt individuals from narrative processing (Chang, 2009; Green & Brock, 2000; Wang & Calder, 2006). Therefore, when exposed to RS, the type of reviews (ABR and BR) does not matter or reduces consumers' narrative processing.

On the other hand, individuals who read analytic information such as RI tend to process information analytically in a more detail-oriented way than those who read narratives such as RS (Adava. & Wayer, 1998; Boller & Olson, 1991; Green & Brock,

2000; Padgett & Allen, 1997; Puto & Wells, 1984). In analytic processing, the quality and strength of argument influences the processing of information in such a way that more logical, accurate, and detailed information prompt greater information processing and favorable attitudes (Martin et al., 2003-4; Petty et al., 2005). Therefore, in contrast to RS, reviews containing detailed and more measurable information such as product attributes will influence consumers to engage in greater information processing and to lead to favorable responses toward the reviews. The following hypotheses are suggested to capture interaction effects.

Hypothesis 3a*: When exposed to reviews containing reviewer information (RI), compared to reviews containing reviewer story (RS), participants who read attributes-and-benefits reviews (ABR) will produce a greater number of product-related thoughts than those who read benefit-only reviews (BR).*

Hypothesis 3b*: When exposed to reviews containing reviewer information (RI), compared to reviews containing reviewer story (RS), participants who read attributes-and-benefits reviews (ABR) will produce a greater number of positive thoughts than those who read benefit-only reviews (BR).*

Hypothesis 3c*: When exposed to reviews containing reviewer information (RI), compared to reviews containing reviewer story (RS), participants who read attributes-and-benefits reviews (ABR) will perceive the reviews as more informative than those who read benefit-only reviews (BR).*

Hypothesis 3d*: When exposed to reviews containing reviewer information (RI), compared to reviews containing reviewer story (RS), participants who read attributes-and-benefits reviews (ABR) will exhibit more favorable attitudes toward the reviews than those who read benefit-only reviews (BR).*

Moderating effects of NFC. In hypothesis H1a, it has been proposed that information processing will be greater generating a larger amount of product-related thoughts when one has been exposed to reviews containing both product attributes and benefits (ABR) than when one has been exposed to reviews containing only benefits (BR). However, it is also expected that the effects of reviews type on consumers' information processing interact with individual consumers' motivation to process the information in reviews.

Previous literature has shown that individuals' responses toward messages are not homogeneous among message recipients (Cacioppo et al., 1983; Zhang, 1996; Zhang & Buda, 1999). Rather, individual differences among message recipients influence the way they respond to the messages (Cacioppo et al., 1983; Putrevu, Tan, & Lord, 2004; Zhang, 1996; Zhang & Buda, 1999). Need for cognition (NFC) moderates the effects of persuasive messages on consumer responses toward the messages (Cacioppo et al., 1996; Haugtvedt et al., 1992; Martin, Lang, & Wong, 2003; Zhang, 1996). This is because individuals who are high in NFC are intrinsically prone to utilize cognitive effort in seeking, acquiring, and reflecting on information when processing the information while those who are low in NFC habitually rely on heuristics to form their attitudes (Batra &

Stayman, 1990; Petty et al., 1983). Moreover, high-NFC individuals, compared to low-NFC individuals, engage in greater information processing, generating greater number of thoughts (Cacioppo et al., 1996; Sicilia & Ruiz, 2010).

High-NFC individuals tend to engage in attribute-based processing while low-NFC individuals in attitude-based processing (Maheswaran & Sternthal, 1990; Mantel & Kardes, 1999). Since high-NFC individuals, as opposed to low-NFC, possess more knowledge on a variety of issues, recall better, and elaborate more on detailed-information (Cacioppo et al., 1996), detailed and measurable information may prompt greater information processing for high-NFC individuals. However, since low-NFC individuals are less likely to focus on the message itself, the content of message will be less influential to their information processing (Graeff, 1997; Maheswaran & Sternthal, 1990).

Individual differences in the degree of NFC lead to the variations in the focus of information processing (Cacioppo et al., 1996; Drolet, Luce, & Simonson, 2009). High-NFC individuals tend to focus on product-related information while low-NFC individuals tend to focus on non-product-related information (peripheral cues). Because of this tendency, the content of information that individuals respond to varies by their degree of NFC (Cacioppo et al., 1996). High-NFC individuals, compared to low-NFC individuals, are more responsive to the argument quality, cognitively demanding tasks, and thought-providing stimuli than simple tasks (Cacioppo et al., 1996). On the contrary, low-NFC individuals are more responsive to simple conclusions than high-NFC individuals (Martin et al., 2003). Therefore, high-NFC individuals may prefer information that is possible for

them to elaborate on and to make own inferences rather than simple conclusions (e.g., "A is better than B") that allow little room for their own inferences and interpretations (Kardes, Kim, & Lim, 1994; Martin et al., 2003).

Since product information at a higher level in reviews tends to be idiosyncratic and subjective (Geisfeld et al., 1977; Li & Hitt, 2008), ABR, compared to BR, are considered to contain more measurable and specific information. Also, ABR provides stronger associations between product attributes and the consequences of the attributes. Thus, the exposure to product information with attributes (ABR) is likely to evoke greater information processing focusing on product-related thoughts.

Narrative transportation theory asserts that narrative processing is a convergent process, in which individual differences such as NFC have no influence (Green & Brock, 2000, 2005). Thus, NFC is not expected to influence the effect of narrative processing on consumer responses toward the reviews (i.e., the effects of RS on positive thoughts, perceived informativeness, and attitude toward the reviews). However, analytic processing is expected to be influenced by individual differences such as NFC. Thus, when exposed to RI, high-NFC, compared to low-NFC individuals, are likely to exhibit a greater number of product-related thoughts, to perceive reviews as informative, and to have more positive attitude toward the reviews. Therefore:

> ***Hypothesis 4a****: Compared to low-NFC consumers, high-NFC consumers will produce a greater number of product-related thoughts when they were exposed to attributes-and-benefits reviews (ABR) as opposed to benefit-only reviews (BR).*

Hypothesis 4b*: Compared to low-NFC consumers, high-NFC consumers will produce a greater number of product-related thoughts when they were exposed to reviews containing reviewer information (RI) as opposed to reviews containing reviewer stories (RS).*

Effects of cognitive responses. From the perspective of information processing, cognitive responses are the results of different levels of information processing, which then lead to attitude formation (MacInnis & Jaworski, 1989). When consumers examine products in online environments, they actively seek product information (Li et al., 2001). Li et al. (2001) show that consumers' activities in online environments are related to product-related information such as product-related information seeking. According to ELM, those who engage in a central route tend to think more about message-relevant thoughts. For those who are motivated and ability to process information, reviews that prompt them to think more about products will be perceived as more informative, and accordingly to have more favorable attitude toward the reviews.

Ad-induced favorable feelings have been shown to influence consumer attitudes toward the ads and ad-effectiveness (Aaker & Stayman, 1990; Stayman & Aaker, 1988). Similarly, positive affect has shown to influence brand evaluation and ad attitudes (Escalas, 2004; Escalas et al., 2004). These studies suggest that positive affects evoked by processing of ads influence ad-effectiveness and ad-attitudes.

Positive valence of thoughts (positive thoughts), or favorable thoughts, is one of the mostly used thought episodes that mediates the effects of messages on individual

attitudes toward the messages (Cacioppo et al., 1981). Numerous research has shown that positive thoughts, in addition to positive feelings, mediate the relationship between messages and attitudes toward the messages (Brown & Stayman, 1992; Chattopadhyay & Basu, 1990; Machleit & Wilson, 1988; MacKenzie & Lutz, 1989; Stayman & Aaker, 1988). Since an attitude is an affective measure, the positive relationship between positive thoughts evoked by messages and attitudes toward the messages is very likely. When consumers reading online consumer reviews, positive thoughts evoked by the process of reading online consumers are expected to influence their review-attitudes and review-informativeness. Based on the literature, therefore, it is expected that:

Hypothesis 5a: *Product-related thoughts will positively influence perceived informativeness.*

Hypothesis 5b: *Product-related thoughts will positively influence attitudes toward the reviews.*

Hypothesis 6a: *Positive thoughts will positively influence perceived informativeness.*

Hypothesis 6b: *Positive thoughts will positively influence attitudes toward the reviews.*

Effects of perceived informativeness. Information acquisition is a major reason to read online consumer reviews, and useful information is one of the most important benefits that consumers seek from the reviews (Liu, 2006; Park & Lee, 2008; Wiertz &

De Ruyter, 2007). Hence, the extent to which consumers like online consumer reviews are influenced by the reviews' perceived usefulness (Casaló et al., 2011). When online consumer reviews are perceived as informative and useful, consumers read reviews more often and utilize the information in the reviews for their decision making (Park & Lee, 2009). Moreover, previous research in the context of advertising has demonstrated that consumers' perceived informativeness of ads positively influences the value of and the attitude toward advertising and favorable attitudes toward the ad (Aaker & Stayman, 1990; Ducoffe, 1996; Tsang et al., 2004; Zhou & Bao, 2002). This suggests that consumers are more likely to like a piece of information when the information is perceived to be informative. Furthermore, the positive impact of consumers' perceived informativeness of reviews on their attitudes toward the reviews is postulated by the literature on the Technology Acceptance Model (TAM) (Davis, 1989). TAM, which has been supported by numerous studies, proposes that users' attitudes toward ad decisions about the usage of a technology are largely influenced by two factors—perceived usefulness and perceived ease-of-use—when they are presented with the technology (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989; Moon & Kim, 2001). According to the literature on TAM (Davis, 1989; Davis et al., 1989; Moon & Kim, 2001), as consumers find online consumer reviews as more useful than less useful, they are more likely to form favorable attitudes toward using the reviews. Therefore, it seems conceivable that, when consumers perceive online consumer reviews as informative, they are more likely to develop favorable attitudes toward the reviews.

The importance of consumer perceptions of online consumer reviews' informativeness can be especially emphasized in the context of online apparel shopping where the information about experiential attributes (e.g., fit, comfort, and quality) is hardly available, which are crucial factors to apparel shoppers (Zhang, Li, Gong, & Wu, 2002). The lack of such experiential attributes in online apparel stores enhances consumers' concerns with fit and size of garments (Kim & Damhorst, 2010) and perceived uncertainty about the purchase (Pavlou et al., 2007). Consumers' perceived concerns and uncertainty mitigates their intentions to purchase the product (Kim & Damhorst, 2010; Pavlou et al., 2007). In such environments, the richness of the information can reduce perceived risks and uncertainty since it compensates for the lack of experiential information (Bhatnagar et al., 2000; Huang et al., 2009; Weathers et al., 2007). For example, Hue et al. (2008) demonstrate that helpful reviews reduce consumer uncertainty. Previous research has also shown that consumers perceived informativeness of a product leads to reduced uncertainty about the product (Hu et al., 2008; Pavlou et al., 2007) and enhanced intentions to purchase the product (Mazaheri, Richard, & Laroche, 2011). Since online consumer reviews serve as an important source of product information in online environments (Chen & Xie, 2008), when consumers perceive that they are provided with useful information about a product from online consumer reviews, they are less likely to exhibit uncertainty about the product performance (Hu et al., 2008; Kim & Damhorst, 2010; Pavlou et al., 2007), more likely to express their intentions to purchase the product (Mazaheri et al., 2011), and more likely to form favorable attitudes toward the product.

According to the uses-and-gratification theory, since individuals seek gratifications such as information and entertainment from a medium when they choose a particular medium, the gratifications influence their evaluations of the medium (Edwards, 2007; Katz, 1959; Katz, Blumler, et al., 1973; Katz, Haas, & Gurevitch, 1973; McGuire, 1974). The theory postulates that it is important for consumers to feel that their needs and gratifications are fulfilled by their choice of media since consumers choose to use the medium, such as an e-tail website, over other sources of communications and information (Edwards, 2007; Kang & Kim, 2006; Katz, 1959; Katz, Blumler, et al., 1973; Katz, Haas, et al., 1973; Luo, 2002; McGuire, 1974). Information gratification has been noted as most important and robust constructs especially in the computer-mediated environments (Edwards, 2007). As a crucial gratification, perceived informativeness has been shown to influence consumer responses toward the media: the Web (Eighmey & McCord, 1998; Katerattanakul, 2002; Korgaonkar & Wolin, 1999), the Web-based information systems (Negash et al., 2003), and the e-commerce website (Chen & Wells, 1999; Eighmey, 1997; Hausman & Siekpe, 2009; Kang & Kim, 2006; Luo, 2002; Richard et al., 2010). That is, when consumers perceive that a medium possesses an ability to provide useful information, they are more likely to develop favorable attitudes toward the medium. As a type of important product information (Chen & Xie, 2008; Chevalier & Mayzlin, 2006; Forman et al., 2008), consumers are more likely to form favorable attitudes toward an e-tail website that provide informative reviews since consumers are seeking useful information from e-tail websites. Therefore,

it is reasonable to expect that perceived informativeness of reviews leads to favorable attitudes toward the reviews.

Hypothesis 7*: Perceived informativeness will positively influence attitude toward the reviews.*

Hypothesis 8a*: Perceived informativeness will positively influence attitude toward the product.*

Hypothesis 8b*: Perceived informativeness will positively influence attitude toward the retailer.*

Effects of attitudes toward the reviews. Extensive research using advertisement stimuli has demonstrated that attitudes toward ads mediate the effects of ad exposure on attitudes toward brands or products (Gardner, 1985a; Mitchell, 1986; Mitchell & Olson, 1981) under both high and low involvement conditions (Homer, 1990; MacKenzie & Lutz, 1989; Mitchell, 1986; Muchling et al., 1991; Park & Youg, 1986). Although reviews are not directly sponsored by retailers as ads are, they are provided in retailers' websites as a service, and used much the same way ads are—as a source of insight to the product and the brand. Thus, we can extrapolate from the research on this phenomenon in advertising to predict that attitudes toward reviews will positively influence attitudes toward the product and the retailers.

Hypothesis 9a*: Attitude toward the reviews will positively influence attitude toward the product.*

Hypothesis 9b*: Attitude toward the reviews will positively influence attitude toward the retailer.*

Relationships among attitudes, behavioral intentions, and attitude certainty. Numerous studies in retailing contexts have adopted attitude and patronage intentions as variables because they serve as strong and useful constructs to measure consumers' likelihood to shop at a particular retailer (Korgaonkar et al., 1985; Pan & Zinkhan, 2006). Attitudinal research suggests that attitude is a central construct in the formation of individuals' behavior as it strongly and directly influences behavioral intentions, which in turn influence behavior (Bagozzi, 1981; Bentler & Speckart, 1979). This chain of causation of attitudes, behavioral intentions, and behavior has been widely accepted in consumer research as a way to understand and predict consumer behavior in various settings (Sheppard, Hartwick, & Warshaw, 1988). Specifically, in retailing, the creation of positive attitudes toward a retailer is viewed critical and thus practice marketing activities to increase consumers' positive attitudes (Korgaonkar et al., 1985). As suggested by attitudinal research, it is expected that online consumers' attitudes formed towards a product and a retailer will influence their product purchase intentions and patronage intentions towards the retailer.

Hypothesis 10b*: Attitude toward the product will positively influence product purchase intentions.*

Hypothesis 10b*: Attitude toward the retailer will positively influence retailer patronage intentions.*

Hypothesis 11*: Product purchase intentions will positively influence retailer patronage intentions.*

Although attitude has been shown to be a powerful indicator of behavioral intentions and actual behavior in various settings (Bagozzi, 1981; Bentler & George Speckart, 1979; Dabholkar & Bagozzi, 2002; MacKenzie, Lutz, & Belch, 1986; Sheppard, Jon, & Warshaw, 1988), the consistency of the attitudes-behavior causal chain has been questioned by some researchers (e.g., Wicker, 1969; Wicker, 1971). One of the concepts that can explain the attitude-behavioral inconsistency is attitude certainty (Bergkvist, 2009; Gross et al., 1995; Tormala & Petty, 2004). Although some studies report that attitude certainty serves as a direct predictor of behavioral intention (Laroche, Kim, & Zhou, 1996; Laroche & Sadokierski, 1994), other studies have shown that attitude certainty, a dimension of attitude strength (Krosnick & Petty, 1995), strengthens the attitude-behavioral intention correspondence, serving as a moderator (Bergkvist, 2009; Gross et al., 1995; Tormala & Petty, 2004). That is, two consumers holding the same positive attitude toward a product could be different in their behavioral intentions when one is extremely certain of his or her feelings about the product while the other is not. For example, Wan et al. (Wan et al., 2010) show that, when consumers' attitudes

remain unaffected by manipulations producing no difference among consumers, their different attitude certainty produces different impact in such a way that attitudes with a greater degree of attitude certainty have a greater influence on behavioral intentions than those with a less degree of attitude certainty.

Hypothesis 12*: Attitude certainty will moderate the effect that attitudes toward the product have on product purchase intentions.*

Chapter 3

Methods

Chapter Three describes procedures and methods used for stimuli development and data collection. The experimental design was employed to examine (1) the effects of online consumer reviews on consumer responses toward the reviews (perceived informativeness and attitude toward the reviews), (2) the moderating role of need for cognition (NFC) on consumer process of the reviews, and (3) the relationship among the dependent variables regarding the reviews, the reviewed product, and the retailer. In this chapter, the first part describes the procedure to develop manipulation treatments for the experimental design, which includes three pilot tests to select the stimuli for the study, manipulation using the selected stimuli, and one pretest to check manipulations. The second part of this section discusses the main study, which include research design, procedure, sample, and measurement.

Experimental Design

The current study employed an experimental design to test the hypotheses. Experimental design is appropriate for this study since this study involves stimuli (i.e., online consumer reviews) and the effects of the online consumer reviews on consumers. It is especially useful to make inferences about the causal effects of online consumer reviews on consumer responses toward the reviews since a well-designed experiment provides researchers with more confidence to infer causation over nonexperimental designs (Keppel & Wickens, 2004; Kerlinger & Lee, 2000). That is, the experiment

allows the researcher to infer that any difference in the observed variables between conditions is caused by the experimental treatment (Keppel & Wickens, 2004; Kerlinger & Lee, 2000). Therefore, an experimental design was used to examine whether the contents of online consumer reviews (i.e., attribute-and-benefit reviews, benefit-only reviews, reviewer revelation of personal information, reviewers' story) led to consumers' cognitive processing, perception of the informativeness of the reviews, and attitude toward the reviews, which, in turn, influenced their attitudinal and behavioral responses toward the reviewed product and the retailer.

In order for researchers to have confidence that the inferences they study are the inferences they think they are, an experiment must be conducted under carefully controlled conditions (Kerlinger & Lee, 2000). Since subjects in each experimental treatment should be treated identically except for the feature of the interest, a series of pilot tests and a pretest were conducted to develop stimuli for the main study. Figure 3.1 depicts the procedure of the study.

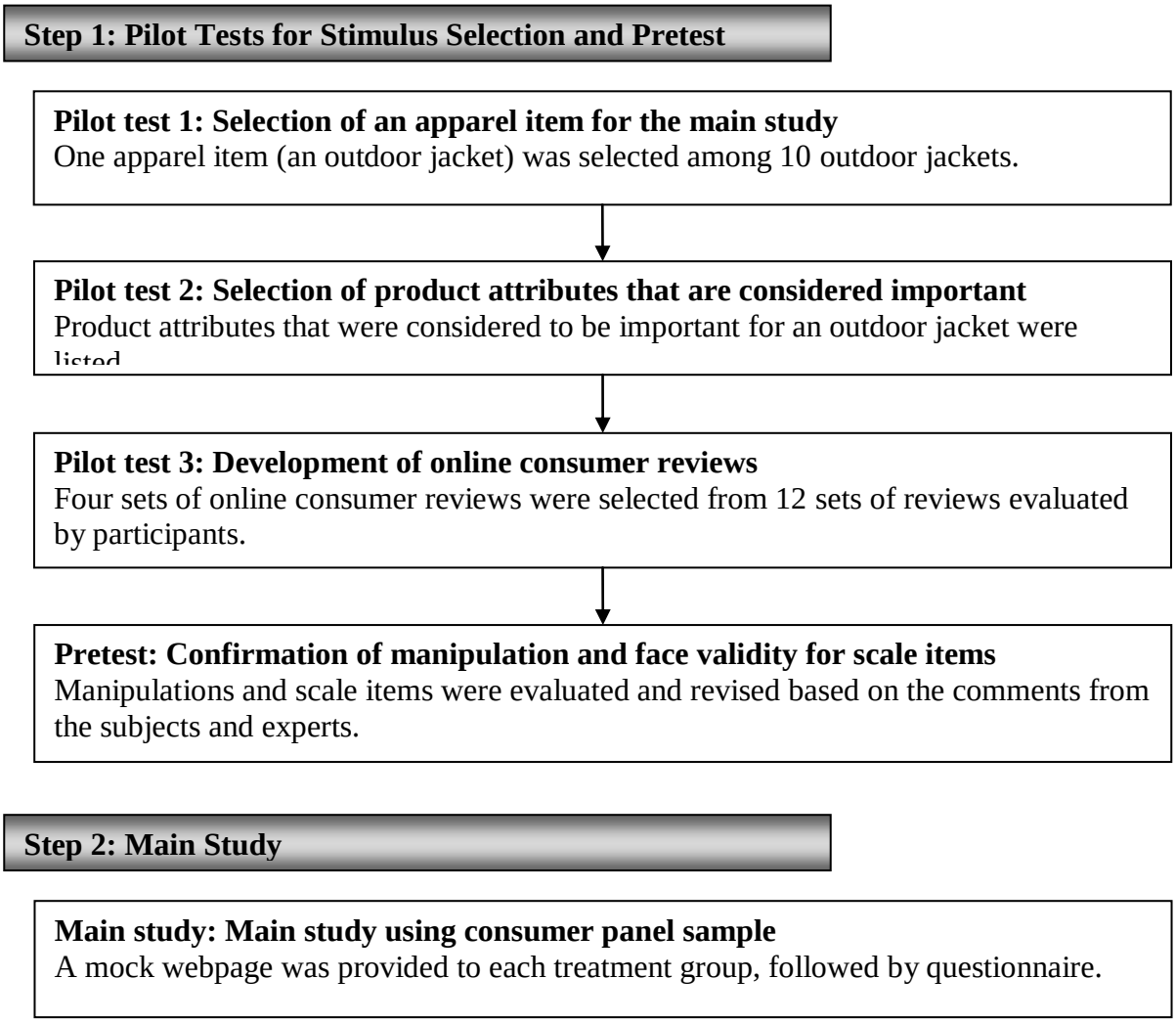


Figure 3.1. The procedure of the study

Pilot Test 1

The purpose of the first pilot test was to select an apparel stimulus that was displayed on the mock webpage. Since the independent variable of interest in the current study is the type of online consumer reviews, pilot test one was conducted to minimize the variance due to other variables such as apparel fashionability, attractiveness, meaningfulness, and similarity.

Apparel product type was selected for this study based on three reasons. Firstly, a product category of apparel and accessories is one of the categories that have experienced and are expected to experience growth in e-Commerce (Evans et al., 2009). Secondly, apparel is considered to be a product category that more consumers continuously shop for than other product categories except grocery. In fact, among the 50 online retailers which consumers like most, nearly a third (34 out of 50) retailers carry apparel items (Reda, 2009). Thirdly, the product categories that most of the previous studies on online consumer reviews have used are books, movies, video games, and consumer electronics such as cell phones, laptops, and PMPs. Although apparel is one of the product categories growing at a fast rate (Evans et al., 2009) and online retailers carrying apparel seem to be favored by a significant number of consumers (Reda, 2009), little research has been conducted on this subject in the context of online apparel shopping. Despite the scarcity of the empirical studies on the effects of online consumer reviews in the apparel category, many top retail sites of various categories including apparel and accessories are taking consumer reviews in their site (Siwicki, 2006). Furthermore, the survey conducted

by Forrester indicates that consumers value reviews in all kinds of merchandise including apparel and accessories (Deatsch, 2009).

One apparel category, outdoor jackets, was chosen since this category is less likely to be influenced by garment style and fashion trends than other categories of apparel and since it appeals to a broad range of consumers in terms of age, gender, and education. Although this pilot test was conducted to minimize the variance caused by idiosyncratic characteristics of the stimulus, the stimulus should be perceived as a real item that is available on the apparel market. Hence, a total of 20 outdoor jackets were downloaded from the websites of retailers carrying outdoor jackets among 50 online retailers that online shoppers like most (Reda, 2009) and the top 100 B2C retailers selected by Internet retailer ("The top 500 guide 2010," 2010), which include Amazon.com, Oldnavy.com, Landsend.com, Llbean.com, Blair.com, Gap.com, SierraTradingpost.com, Eddiebauer.com, REI.com, Piperlime.com, and Shoebuy.com. Among the 20 items, 10 items were selected by an individual considered to have expertise in apparel and retailing. In order to reduce the effects of individuals' preferences due to colors, black jackets were selected. Using Adobe Photoshop, any logo or a brand name was removed and the images were manipulated in order to contain the same background and size.

A convenient sample of 32 female college students was asked to evaluate ten jackets using a paper-and-pencil survey in class. As an incentive, a snack bag was provided to each participant. In order to reduce the order effect, the order of ten jackets was randomly selected. Thus, different participants could have ten jackets in a different

order. Each participant assessed ten jackets and responded to ten questions measuring garment style ratings using five-point unipolar scales. Eleven adjectives measuring garment style were ratings in terms of style, meaningfulness, usefulness, and schema incongruity: not fashionable (1) to fashionable (5), not attractive (1) to attractive (5), not similar to what I wear (1) to similar to what I wear (5), not meaningful (1) to meaningful (5), not important (1) to important (5), not significant (1) to significant (5), not useful (1) to useful (5); not functional (1) to functional; not practical (1) to practical (5); not typical (1) to typical (5), and not different (1) to different (5) (Dena Cox & Anthony D. Cox, 2002; J. Park, Lennon, & Stoel, 2005; J. H. Park, 2002). Appendix A shows an example of an outdoor jacket and the 10 questions presented to the participants.

Eleven items loaded on four factors—style, meaningfulness, usefulness, and schema incongruity—after Exploratory Factor Analysis (EFA) using principal component analysis based on Eigenvalues greater than one with Varimax rotation. The four factors were accountable for 84.66% of the total variance. Internal reliability among items for each factor was assessed using Cronbach's alpha, which revealed over .88 for factors of style, meaningfulness, and usefulness; and .63 for schema congruity. Although the reliability for schema congruity is relatively low, previous studies have shown that the values of .5 or .6 are acceptable (Hair, Black, Babin, Anderson, & Tatham, 2006), and this two-item scale has been successfully used indicating schema congruity in other studies (Cox & Cox, 2002). Scores for multiple items under each factor were averaged to develop a single indicator of each factor. Table 3.1 shows the results of EFA and reliabilities.

Table 3.1. Exploratory factor analysis for 11-item garment style ratings

Items	Factor loadings (λ)				Initial eigenvalues	Cronbach's alpha (α)
	1	2	3	4		
Factor 1: Style						
Fashionable	.91					
Attractive	.91				5.10	.92
Similar to what I wear	.80					
Factor 2: Meaningfulness						
Meaningful		.81				
Important		.90			1.69	.93
Significant		.92				
Factor 3: Usefulness						
Useful			.81			
Functional			.90		1.41	.88
Practical			.90			
Factor 4: Schema congruity						
Typical				.82	1.12	.63
Different (R)				.88		

Note. (R) Reversed item

The average score was compared across ten jackets since the aim of pilot test one was to select an outdoor jacket that contains less idiosyncratic characteristics of the product. Thus, the jacket that has a score in between the extreme scores (e.g., not too fashionable or too not fashionable) in terms of style, meaningfulness, and usefulness should be selected. Also, the product for the main study was expected to be representative of the product category of outdoor clothing, which means a higher score on schema congruity. Thus, product I, which was most likely to meet the criteria, was selected (see Table 3.2).

Table 3.2. Garment style ratings for ten outdoor jackets

Factor	Total	Outdoor jackets									
		A	B	C	D	E	F	G	H	I*	J
Style	**2.83**	3.44	2.22	2.98	3.28	2.94	1.97	2.37	2.59	3.09	3.46
	(1.11)	(.88)	(1.01)	(1.00)	(1.11)	(1.04)	(.94)	(.91)	(1.08)	(1.17)	(.92)
Meaningfulness	**2.92**	3.20	2.86	2.76	3.14	2.88	2.61	2.78	2.94	3.00	3.01
	(.95)	(.86)	(1.00)	(1.00)	(.84)	(.88)	(.98)	(1.02)	(1.06)	(.98)	(.78)
Usefulness	**4.17**	4.50	4.17	4.18	4.31	3.94	3.80	4.10	4.21	4.28	4.25
	(.68)	(.49)	(.70)	(.70)	(.52)	(.70)	(.82)	(.69)	(.74)	(.66)	(.61)
Schema Congruity	**4.71**	4.82	4.35	3.87	5.05	4.80	4.69	4.70	4.88	4.97	4.89
	(.99)	(1.11)	(.97)	(1.01)	(.94)	(.97)	(1.04)	(.87)	(.88)	(.77)	(.93)

Note. * Item selected for the main study
Mean of items for each factor (Min.=1, Max.=5) and standard deviations (in parentheses) are presented.

Pilot Test 2

The purpose of the second pilot test was to select the important attributes of outdoor jackets, the apparel item selected as a stimulus for the current study. The literature on message strength has shown that the strength of message influences individuals' processing of information (e.g., Cacioppo et al., 1983; Petty et al., 2005). Specifically, individuals who are motivated and able to process information (who follow the central processing route) are more influenced by strong messages than weak messages while those who are less motivated or unable to process information (who follow the peripheral processing route) tend to be influenced by peripheral cues. Since the message strength can lead to variants of information processing, a set of online consumer reviews used for the main study was designed to contain strong messages. Previous studies developed a strong message by employing important attributes in the message while a weak message was developed by incorporating less important attributes of products (e.g.,

Petty et al., 1983; Zhang, 1996). Following previous studies, the set of online consumer reviews used for this study contained important attributes of outdoor jackets.

The attributes that consumers consider important were assessed through two questions. In the first question, participants were asked to list attributes they consider when shopping for an outdoor sport jacket(s). The second question asked the participants to rate a list of 14 attributes in terms of how important each attribute was to them (see Appendix B for questionnaire used for the pilot test 2). The attributes in the list were selected based on the product information that current online retailers provide on their websites and previous studies (Kim & Lennon, 2008; Park, 2006).

A convenience sample of 35 college students (female=32; male=3) participated in the study using a paper-and-pencil survey in class. As an incentive, a small snack bag was provided to each participant. Table 3.3 lists the product attributes listed by the participants. The most listed attributes include color, style, fabric, pockets, hoods, water-resistancy, size/fit, weight, zipper, lining, and versatility. On the second question asking to rate importance of each attributes from the list of 14 attributes, all attributes except country of origin, fiber pressure, dart, and weight, were considered as important or very important. On the five point Likert scale ranging from "very unimportant" (1) to "very important" (5), the mean of the product attributes are 4.37 for fiber content, 4.53 for fabric shape, 4.67 for size, 4.30 for color, 4.40 for shape, 4.13 for zipper, 4.07 for neckline, 4.07 for pockets, 4.97 for fabric weight, 3.30 for fiber pressure, 3.87 for dart, and 2.10 for country of origin. On the basis of the findings from the pilot test 2, the

consumer reviews were developed for the current study containing important attributes for outdoor jackets.

Table 3.3. Product attributes considered important for outdoor jackets

Product information	Frequency of attributes mentioned
Fabric/Fiber	
Fabric	12
Texture	2
Water-resistancy	10
Wind-resistancy	3
Breathability/Venting	3
Durability	3
Weight	8
Lining	6
Insulation	3
Construction details (Style)	
Pockets	14
Hoods	11
Length	7
Seam sealed	1
Zipper	6
Style/Design	
Style	19
Color	22
Detail	1
Bulkiness	1
Size/fit	9
Comfort	1
Care	1
Versatility	6
Quality	1
Brand name	4
Price	5

Pilot Test 3

The purpose of the third pilot test was to select a set of online consumer reviews for the main study. To increase reality, online consumer reviews were selected from existing retail websites. The first set of consumer reviews was generated by copying existing consumer reviews on the product selected from Pilot test 1. Among them, the

reviews that reflect the important attributes, identified by Pilot test 2, were selected. Each review was then modified in such a way that each review has four versions reflecting the contents of interest of the study: (1) attributes-and-benefits product reviews (ABR) & reviewers' personal information (RI), (2) benefits-only reviews (BR) & reviewers' personal information (RI), (3) attributes-and-benefits product reviews (ABR) & reviewers' stories (RS), and (4) benefits-only reviews (BR) & reviewers' stories (RS). Finally, a total of 48 online consumer reviews (i.e., 12 sets of four versions of reviews) were developed. The developed reviews were reviewed by individuals with expertise in apparel and retailing.

A convenience sample of 65 participated in the third pilot test using a paper-and-pencil survey in class. As an incentive, a small snack bag was provided to each participant. They were asked to read the total of 12 online consumer reviews and to answer the questions about manipulations: (1) To what extent do you agree that the review focuses on specific product features (the product's physical features NOT product benefit)? (MAN1), (2) To what extent do you agree that the reviewer describes oneself in the review? (MAN2), and (3) To what extent do you agree that the review focuses on specific reviewer's own experience (e.g., trip occasions) rather than on generalization? (MAN3). Each participant was provided the total of 12 randomly selected online consumer reviews (see Appendix C for the sample questionnaire for pilot test 3).

Manipulation Development

To eliminate prior prejudice or favor towards a particular retailer, websites of a fictitious apparel retailer were developed. A total of six mock websites were created reflecting four experimental treatment conditions. Except for the content of online consumer reviews, which is the independent variable for the current study, everything else was the same. Although this study does not test the effect of the valence of the reviews (i.e., positive vs. negative reviews), the website for this study contained four positively framed reviews and one negatively framed reviews reflecting the tendency of online consumer reviews for existing retailers to have posted a larger positively framed reviews with a small portion of negatively framed reviews (Chevalier & Mayzlin, 2006).

In order to minimize any confounding factors such as the quality and the quantity of information, the benefits mentioned in BR should be also mentioned in ABR as well. At the same time, word count should be consistent across the four experimental treatments. However, the quantity of information (i.e., word count) in ABR would be greater than that in BR if every benefit mentioned in BR is included in ABR. To control for the word count and the number of benefits, ABR had two versions (Type A and Type B) and the benefits that were mentioned in BR were mentioned either in Type A or Type B or both in Type A and B. Although each individual was not exposed to the same benefits, individuals in ABR as a whole were exposed to the same product benefit information as those in BR. This allowed researchers to control for the word count and product information discussed between ABR and BR. Table 3.4 shows the experimental conditions used in the study.

Table 3.4. Manipulations of content of online consumer reviews

		Type of product information in reviews		
		Attributes-and-benefits reviews (ABR)		**Benefits-only reviews (BR)**
		Type A	Type B	
Type of reviewer information disclosed by the reviewers	**Reviewer information (RI)**	*Treatment 1* *ABR (Type A) & RI*	*Treatment 2* *ABR (Type B) & RI*	*Treatment 3* *BR & RI*
	Reviewer stories (RS)	*Treatment 4* *ABR (Type A) & RS*	*Treatment 5* *ABR (Type B) & RS*	*Treatment 6* *BR & RS*

Pretest

A pretest was conducted to check if the manipulation was successful. A convenience sample of 143 college students (Female=138; Male=72) participated in this online experiment. After an invitation email was sent to a sample of undergraduate and graduate students enrolled at the University of Tennessee, individuals who agreed to participate entered the online survey by clicking on the URL in the email message. As an incentive, participants earned the opportunity to win gift cards: three $50, two $100, and one $150 at their preferred retailers. The randomly selected five students who won the lottery were contacted via email and received the gift cards of retailers that they chose.

Three items for manipulation check included: (1) "To what extent do you agree that the reviews include specific product features (the product's physical features NOT product benefits)?" (MAN1), (2) "To what extent do you agree that the reviews include personal information about the reviewer (e.g., body size)?"(MAN2), and (3) "To what

extent do you agree that the reviews focus on specific experiences wearing the jacket and personal stories (e.g., a trip occasion)?" (MAN3). Seven-point Likert scales were used ranging from strongly disagree (1) to strongly agree (7).

As can be seen in Table 3.5 below, manipulation for type of product information in reviews (ABR vs. BR) was successful in the expected direction. However, the manipulation for the type of reviewers' personal information (RI vs. RS) was not significant. Thus, a set of online consumer reviews were revised based on the comments provided by the participants in the pretest and individuals who have expertise in this area. In addition, marketer-provided product information on the Webpage and questions (which will be discussed later) was revised based on their comments (see Appendix D for the example of Webpage that was used in the main test).

Table 3.5. Result of independent t-test for manipulation check

Dependent variable	Manipulation	N	Mean	S.D.	t(df)	Significance (p value)
MAN1	ABR	86	5.10	1.28	t(164)=-2.33	<.05
	BR	80	4.65	1.22		
MAN2	RA	77	5.04	1.23	t(164)=1.57	.12
	RS	89	4.72	1.50		
MAN3	RA	77	5.44	1.29	t(164)=-1.13	.26
	RS	89	5.66	1.11		

Note. Each dependent variable was measured on seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7).

Measurement

Existing measures were used for all measurement items. All multi-item variables were measured using a seven-point scale. Initial measurement items were developed by adopting existing measures, and evaluated by individuals who have expertise in market/consumer research. Another group of experts then took the survey with the initial measurement. Based on their comments, the measurement scales were first revised, which were used in the pretest. After the pretest, the measurement items were revised again based on the comments of participants and individuals who have expertise in market/consumer research. The revised measurement items were used in the main study. Each measure is explained below.

Cognitive responses. Cognitive responses were measured, as an unstructured and open-ended question, by asking participants to list all the thoughts they had during a particular process. (Cacioppo & Petty, 1981; Celsi & Olson, 1988; Dickson & Sauer, 1987; Noriega & Blair, 2008; Sauer, Dickson, & Lord, 1992; Sicilia et al., 2005; Sujan, 1985). Following previous researchers (Petty & Cacioppo, 1986; Priester & Petty, 2003), participants were provided a page containing ten boxes and were instructed to write one thought per box. They were then instructed to use only as many boxes as the number of thoughts that they could recall. The instructions given to the participants were:

> *"Please list all thoughts that came to your mind while you were going through the Website. We are now interested in what you were thinking about during the last few minutes as you were browsing the Webpage (e.g., your thoughts, first impression, reaction, or idea about what you saw). Simply write down the first thought that comes to mind in the first box, the second thought in the second box, etc. Please put only one thought or idea in a box (Leave a box(s) blank if you do not have more thoughts). Simply write down the thoughts that come to mind*

without worrying about spelling or grammar. Please list all of the thoughts you had while browsing the Webpage."

Attitude toward the reviews. Four items were selected to measure attitudes toward the reviews: 1) "I have formed a favorable impression toward the reviews that I've just examined," 2) "The reviews that I have just read were good," 3) "I like the reviews that I have just read," and 4) "Assuming that you were thinking of buying this product, how likely would you be to use the above consumer review in your decision-making?" The first three items were adopted from the scale of attitude toward product from Jiang and Benbasat (2007) and Kempf and Smith (1998). From their scale of attitude toward the product, the word "product" was changed to "reviews" to measure attitudes toward the reviews. The three items were recorded on a seven point scale ranging from "strongly disagree" (1) to "strongly agree" (7). The last question, which was adopted from Sen and Lerman (2007), ranged from "very unlikely" (1) to "very likely to use in making purchase-decision." EFA and Cronbach's alpha from the pretest suggested that the fourth item was not loaded on the same factor as the first three items. Thus, the fourth item was deleted from the final measurement for the main study.

Attitude toward the product. Four items were adopted from Jiang and Benbasat (2007) and Kempf & Smith (1998): 1) "The product that I've just examined is good," 2) "I have formed a favorable impression toward the product that I've just examined," 3) "I like the product that I've just examined," and 4) "I find the product that I've just examined pleasant." The responses were recorded on a seven-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7).

Attitude toward the retailer. Initially, three items were adopted from Jiang and Benbasat's (2007) scale measuring attitudes toward shopping at a website: 1) "I like shopping on this website," 2) "Shopping on this website is a good idea," and 3) "Shopping on this website is appealing." However, the second group of experts commented that these items were not appropriate since the stimulus webpage of the study is a capture of a webpage and does not allow participants to "shop" on the website. Based on the comment, these items were deleted.

Another set of items measuring attitude toward the retailer was adopted by Kempf and Smith (1998) and MacKenzie and Lutz (1989). Four seven-point semantic differential scales: 1) "Bad/Good," 2) "Unpleasant/Pleasant," 3) "Like/Dislike," and 4) "Favorable/Unfavorable" on the question, "considering that this website is an active online store, please click on the circle closest to the adjective which would describe your feelings toward the online store."

Attitude certainty. Barden and Petty's (2008) three items of attitude confidence scale were adopted: 1) "How certain are you of your opinion about the product (that you evaluated above)?" on a seven point unipolar scale ranging from "Not at all" (1) to "Very certain" (7); 2) "How confident are you of your opinion about the product (that you evaluated above)?" ranging from "Not at all" (1) to "Very confident" (7); and 3) "How sure are you of your opinion about the product (that you evaluated above)?" ranging from "Not at all" (1) to "Very sure" (7).

Perceived informativeness. To measure perceived informativeness, items from existing literature were retrieved, which include "The consumer reviews supplied

relevant information on products," "The consumer reviews were informative," "The consumer reviews provided timely information on products," "The consumer reviews were able to help me understand the product," "The consumer reviews were able to offer necessary information," "The consumer reviews were useful to understand the product," and "The consumer reviews were a good source of product information" (Edwards et al., 2002; Park & Lee, 2008; Zhou & Bao, 2002).

Based on the comments from a group of experts who questioned the items in terms of applicability of the scales to the context of online consumer reviews and face validity, four items were used to measure perceived informativeness in this study: 1) "The consumer reviews that I've just read were informative," 2) "The consumer reviews that I've just read supplied relevant product information," 3) "The consumer reviews that I've just read were able to help you understand the product," 4) "The consumer reviews that I've just read were able to offer necessary information." The scale was measured on a seven point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7).

Purchase intentions. Four items measuring purchase intentions were adopted from the previous literature (Coyle & Thorson, 2001; Dodds, Monroe, & Grewal, 1991; Putrevu & Lord, 1994): 1) "It is likely that I would buy this jacket," 2) "If I were going to buy an outdoor jacket, I would consider buying this jacket," 3) "I would definitely try this jacket," and 4) "I would be willing to buy the jacket." These four items for purchase intentions were measured using a seven point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7).

Retail p**atronage** i**ntentions.** Scale items to measure retail patronage intentions were adopted from the existing three item scales (Baker, Parasuraman, Grewal, & Voss, 2002; Wang, Baker, Wagner, & Wakefield, 2007): 1) "I would be willing to buy outdoor clothing at this Website in the future," 2) "The likelihood that I would shop for outdoor clothing at this Website is very high," and 3) "I would be willing to recommend this Website to my friends." The responses were measured on a seven point Likert scale ranging from "very unlikely" (1) to "very likely" (7).

Need for c**ognition.** Need for cognition (NFC) was developed as 34-item scale from the original 45 items (Cacoppo & Petty, 1982). Although the 34-item scale has been replicated by a wide range of studies, 18-item scale was developed as the short form of the NFC (Cacioppo, Petty, & Kao, 1984). The 18-item NFC, which explains 37% of the variance attributable to the NFCC factor, shows increased efficiency from the 34-item NFC that explains 27% of the variance (Cacioppo, Petty, & Kao, 1984). Although there are varying number of shortened item NFCs, such as 15-item NFC, 9-item NFC, studies using either the 34-item NFC or the 18-item short form have demonstrated to be more consistent and reliable than the others (Cacioppo et al., 1984).

Thus, this study adopted an 18-item-scale with anchors from "strongly disagree" (1) to "strongly agree" (7). The 18 items are: 1) "I would prefer complex to simple problems," 2) "I like to have the responsibility of handling a situation that requires a lot of thinking," 3) "Thinking is not my idea of fun" (reversed), 4) "I would rather do something that requires little thought than something that is sure to challenge my thinking abilities" (reversed), 5) "I try to anticipate and avoid situations where there is likely a

chance I will have to think in depth about something" (reversed), 6) "I find satisfaction in deliberating hard and for long hours," 7) "I only think as hard as I have to" (reversed), 8) "I prefer to think about small, daily projects to long-term ones" (reversed), 9) "I like tasks that require little thought once I've learned them" (reversed), 10) "The idea of relying on thought to make my way to the top appeals to me," 11) "I really enjoy a task that involves coming up with new solutions to problems," 12) "Learning new ways to think doesn't excite me very much" (reversed), 13) "I prefer my life to be filled with puzzles that I must solve," 14) "The notion of thinking abstractly is appealing to me," 15) "I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought," 16) "I feel relief rather than satisfaction after completing a task that required a lot of mental effort" (reversed), 17) "It's enough for me that something gets the job done; I don't care how or why it works" (reversed), 18) I usually end up deliberating about issues even when they do not affect me personally."

Manipulation checks. To check if the manipulation was successful, three items were included: 1) "To what extent do you agree that the reviews include specific product features (the product's physical features NOT product benefits)?" 2) "To what extent do you agree that the reviews include personal information about the reviewer (e.g., body size)?" and 3) "To what extent do you agree that the reviews focus on specific experiences wearing the jacket and personal stories (e.g., a trip occasion)?"

Covariates. Covariates are used when they are theoretically related to the dependent variable, but are not the interest of the study (Hair et al., 2006). Three

covariates were included in this study: garment fashionability, consumer susceptibility of interpersonal influence, and individual prevention orientation.

Fashionability. Although an apparel item was selected based on the results of a pilot test, individuals' idiosyncratic preference to an apparel item is hard to control. Especially in apparel shopping, fashionability of a garment is one of the most important factors in a choice. Even for outdoor clothing, style factors are considered as important as Pilot test 3 in this study also demonstrated that style and color are the top attributes selected by the participants. Despite the significant role of fashionability in a choice, it is hard to expect individual consumers' tastes in terms of fashionability. Thus, fashionability was included as a covariate, measured by three seven point Likert scale items ranging from "strongly disagree" (1) to "strongly agree" (7): 1) "The product that I've just examined was flattering," 2) "The product that I've just examined was attractive," and 3) "The product that I've just examined was stylish" (Cox & Cox, 2002).

CSII. Consumer susceptibility of informational influence (CSII) refers to a personal tendency to accept information from others. CSII describes how easily individuals are influenced by others. Thus, CSII is important in situations where social information influences consumer behavior. Since online consumer reviews are a type of social influence (Laczniak, DeCarlo, & Ramaswami, 2001), previous studies have shown that consumer susceptibility positively influences perceived usefulness of online reviews (Park & Lee, 2009a) and that consumers with high CSII perceive product review websites more helpful than those with low CSII (Bailey, 2005).

To control for any effect due to CSII, CSII was included as a covariate, measured by 12 items: 1) "I often consult other people to help choose the best alternative available from a product class," 2) "If I want to be like someone, I often try to buy the same brands that they buy," 3) "It is important that others like the products and brands I buy," 4) "To make sure I buy the right product or brand, I often observe what others are buying and using," 5) "I rarely purchase the latest fashion styles until I am sure my friends approve of them," 6) "I often identify with other people by purchasing the same products and brands they purchase," 7) "If I have little experience with a product, I often ask my friends about the product," 8) "When buying products, I generally purchase those brands that I think others will approve of," 9) " I like to know what brands and products make good impressions on others," 10) "I frequently gather information from friends or family about a product before I buy," 11) "If other people can see me using a product, I often purchase the brand they expect me to buy," and 12) "I achieve a sense of belonging by purchasing the same products and brands that others purchase." The responses were measured using a seven point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7).

***Prevention orientation*.** Since individuals strive to achieve their goals, individuals' information processing activities are influenced by their goals. While regulatory focus theory proposes two self-regulatory systems: promotion and prevention (Higgins, Shah, & Friedman, 1997), a recent study conducted by Zhang et al. (Zhang, Craciun, & Shin, 2010) adopted the concept to individuals' shopping goals (promotion consumption goal vs. prevention consumption goals) showing how they are related to

consumer processing of online consumer reviews. Especially, their experimental study revealed that individuals with prevention consumption goals perceive negative reviews as more persuasive while those with promotion consumption goals perceive positive reviews as more persuasive. Similarly, individual differences in self-regulatory systems (promotion and prevention) may govern their processing of online consumer reviews. For example, individuals with prevention orientation may lead the participants to read only negative reviews although there are more positive reviews. Since the participants were expected to place similar weight on each review, this variable of individual difference was included as a covariate. Two items were adopted from Zhang et al. (Zhang et al., 2010): 1) "In evaluating this product, I am more concerned about avoiding failure rather than achieving success," and 2) "When I evaluate this product, I first consider what is bad about the product." The responses were measured using a seven point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7). Table 3.6 shows the measurement items for the main study.

Table 3.6. The measurement items for the main study

Measurement items	Scale	Source
Attitude toward the reviews		
1. I have formed a favorable impression toward the reviews that I've just examined.	From "strongly disagree" (1) to "strongly agree" (7)	(Jiang & Benbasat, 2007; Kempf & Smith, 1998)
2. The reviews that I have just read are good.		
3. I like the reviews that I have just read.		
Attitude toward the product		
1. The product that I've just examined is good.	From "strongly disagree" (1) to "strongly agree" (7)	
2. I have formed a favorable impression toward the product that I've just examined.		
3. I like the product that I've just examined.		
4. I find the product that I've just examined pleasant.		
Attitude toward the retailer		
1. Bad/Good	7-point semantic differential	(Kempf & Smith, 1998) (MacKenzie & Lutz, 1989)
2. Unpleasant/Pleasant		
3. Like/Dislike		
4. Favorable/Unfavorable		
Attitude confidence		
1. How certain are you of your opinion about the product (that you evaluated above)?	From "not at all" (1) to "very certain (confident, sure)" (7)	(Barden & Petty, 2008)
2. How confident are you of your opinion about the product (that you evaluated above)?		
3. How sure are you of your opinion about the product (that you evaluated above)?		
Perceived informativeness		
1. The consumer reviews that I've just read were informative.	From "strongly disagree" (1) to "strongly agree" (7)	(Park & Lee, 2008) (Zhou & Bao, 2002)
2. The consumer reviews that I've just read supplied relevant product information.		
3. The consumer reviews that I've just read were able to help you understand the product.		
4. The consumer reviews that I've just read were able to offer necessary information.		
Purchase intentions		
1. It is likely that I would buy this jacket.	From "strongly disagree" (1) to "strongly agree" (7)	(Putrevu & Lord, 1994) (Coyle & Thorson, 2001; Dodds et al., 1991)
2. If I were going to buy an outdoor jacket, I would consider buying this jacket.		
3. I would definitely try this jacket.		
4. I would be willing to buy the jacket.		
Retail patronage intentions		
1. I would be willing to buy outdoor clothing at this Website in the future.	From "very unlikely" (1) to "very likely" (7)	(Baker et al., 2002) (Wang et al., 2007)
2. The likelihood that I would shop for outdoor clothing at this Website is very high.		
3. I would be willing to recommend this Website to my friends.		

Table 3.6. ***(Continued)***

Need for cognition 1. I would prefer complex to simple problems. 2. I like to have the responsibility of handling a situation that requires a lot of thinking. 3. Thinking is not my idea of fun.* 4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.* 5. I try to anticipate and avoid situations where there is likely a chance I will have to think in depth about something.* 6. I find satisfaction in deliberating hard and for long hours. 7. I only think as hard as I have to.* 8. I prefer to think about small, daily projects to long-term ones.* 9. I like tasks that require little thought once I've learned them.* 10. The idea of relying on thought to make my way to the top appeals to me. 11. I really enjoy a task that involves coming up with new solutions to problems. 12. Learning new ways to think doesn't excite me very much.* 13. I prefer my life to be filled with puzzles that I must solve. 14. The notion of thinking abstractly is appealing to me. 15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought. 16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort.* 17. It's enough for me that something gets the job done; I don't care how or why it works.* 18. I usually end up deliberating about issues even when they do not affect me personally.	From "strongly disagree" (1) to "strongly agree" (7)	(Cacioppo, Petty, & Kao, 1984)
Fashionability 1. The product that I've just examined was flattering. 2. The product that I've just examined was attractive. 3. The product that I've just examined was stylish	From "strongly disagree" (1) to "strongly agree" (7)	(Cox & Cox, 2002)
Prevention orientation 1. In evaluating this product, I am more concerned about avoiding failure rather than achieving success. 2. When I evaluate this product, I first consider what is bad about the product.	From "strongly disagree" (1) to "strongly agree" (7)	(Zhang et al., 2010)
Manipulation check 1. To what extent do you agree that the reviews include specific product features (the product's physical features NOT product benefits)? 2. To what extent do you agree that the reviews include personal information about the reviewer (e.g., body size)? 3. To what extent do you agree that the reviews focus on specific experiences wearing the jacket and personal stories (e.g., a trip occasion)?	From "strongly disagree" (1) to "strongly agree" (7)	Developed for this study

Note. *reversed item

Main Study

Sample. Consumer panel samples were collected from a market-research company in June 2011. The data collection process lasted for approximately 10 days. A total of 600 female consumers, who had shopped for or searched for information about outdoor clothing, participated in the study

Research de**sign.** The main study employed a 2 (type of product type in reviews: ABR vs. BR) x 2 (type of reviewers' personal information disclosed by the reviewers: RI vs. RS) between-subjects factorial design (see Appendix E for the reviews used in each experimental condition). An online survey, which has some strength for researchers (Evans & Mathur, 2005) was used since it was considered to be appropriate for this type of study and to be convenient for participants because after they visited the mock website, they could continue to answer the survey questions. Moreover, the technology of an online survey helps the researcher to randomly assign participants into each treatment in such a way that the first participant was assigned to the first website and the second participant was assigned to the second and so on. The participants browsed the assigned mock website at their own pace. After they finished browsing the website, they were asked to fill out the survey.

The survey consisted of three major parts. In the first part, questions regarding consumer responses related to their exposure to the website were measured in the following order: thought-listings, attitude toward the reviews, attitude toward the retailer, attitude toward the product, product fashionability, attitude certainty, perceived informativeness, purchase intentions, retail patronage intentions, and manipulation

checks. In the second part, 25 random filler questions were presented in order to eliminate the short term memory formed during the process of answering questions in the first part. Since such short term memory can influence their way of thinking and answering of questions regarding personality, 25 filler questions were included in between the questions regarding the exposure to the reviews and the questions regarding personality. Using a four-point scale ("never" (1), "less than once a week" (2), "once a week" (3), "more than once a week" (4), the participants were asked to rate how much they use/consume the following 25 randomly selected products: 1) Coca-cola; 2) Pepsi; 3) Mt. Dew; 4) Sprite; 5) Coffee; 6) Milk; 7) Ice Cream; 8) Pizza; 9) Chicken; 10) Bagel; 11) Bacon; 12) Hamburger; 13) Cupcake; 14) Apples; 15) Bananas; 16) Bicycle; 17) Cameras; 18) computer; 19) DVD; 20) MP3 Player; 21) E-book (kindle); 22) Scissors; 23) Screwdrivers; 24) Sewing machine; 25) Candles. After the participants completed filling the 25 filler questions, they took the rest of the survey including personality questions (i.e., need for cognition, consumer susceptibility to interpersonal influence, and prevention orientation), demographics, and their prior experience with outdoor jackets, Internet, online shopping, and online consumer reviews. Figure 4.2 describes the procedure and the instruction used in the main survey of the current study.

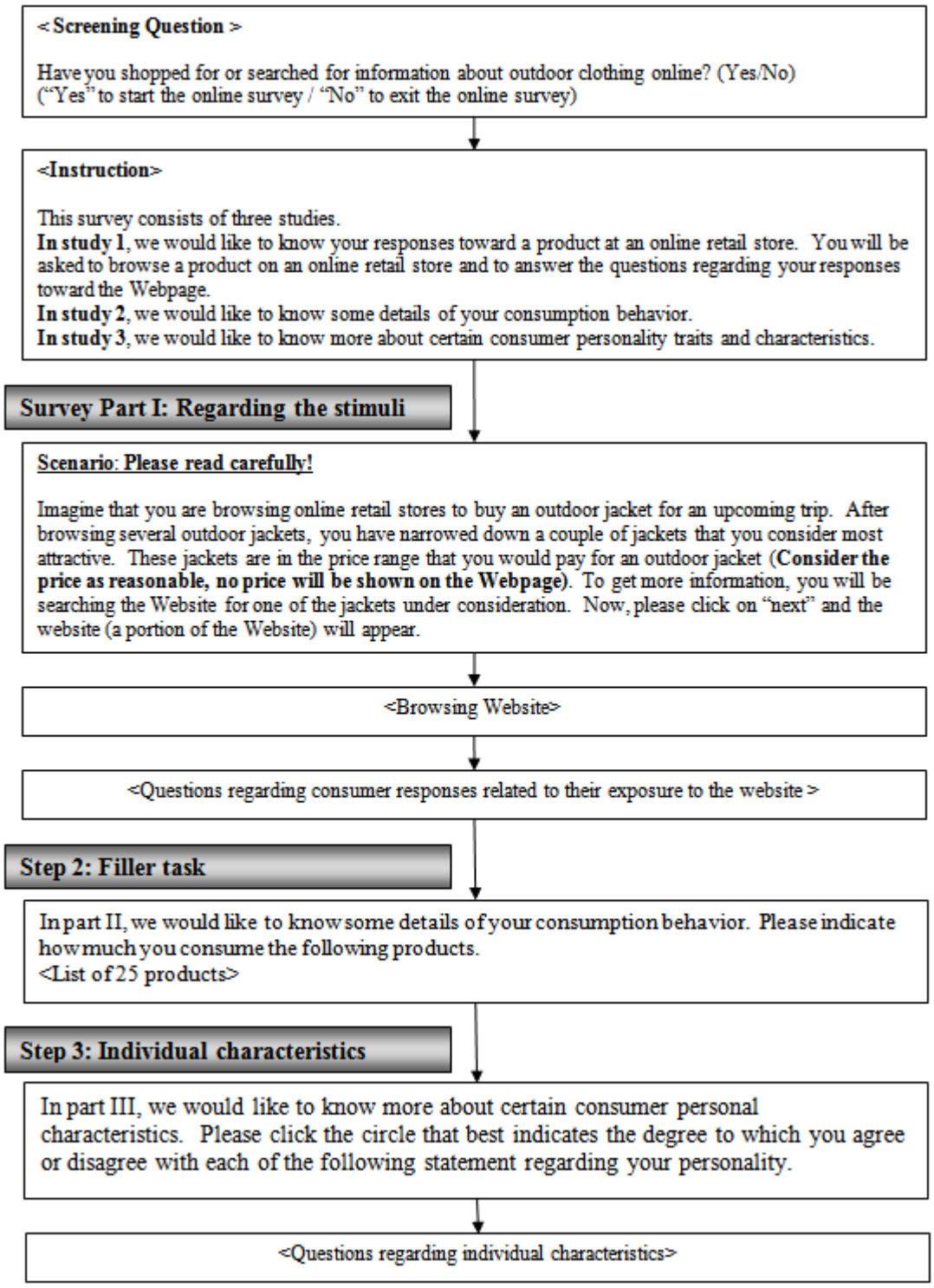


Figure 3.2. The procedure of the survey

Chapter 4

Analyses and Results

This chapter reports on the findings and results of statistical analyses used to test the hypotheses in the proposed model. The proposed model consists of two parts. Part I predicts the effects of the content of online consumer reviews on consumers' response related to reviews. Part II hypothesizes the relationship among 1) consumers' cognitive thoughts, 2) their responses toward reviews, 3) their attitudes toward reviewed products and retailers, and 4) their behavioral intentions toward reviewed products and retailers (see Figure 4.1).

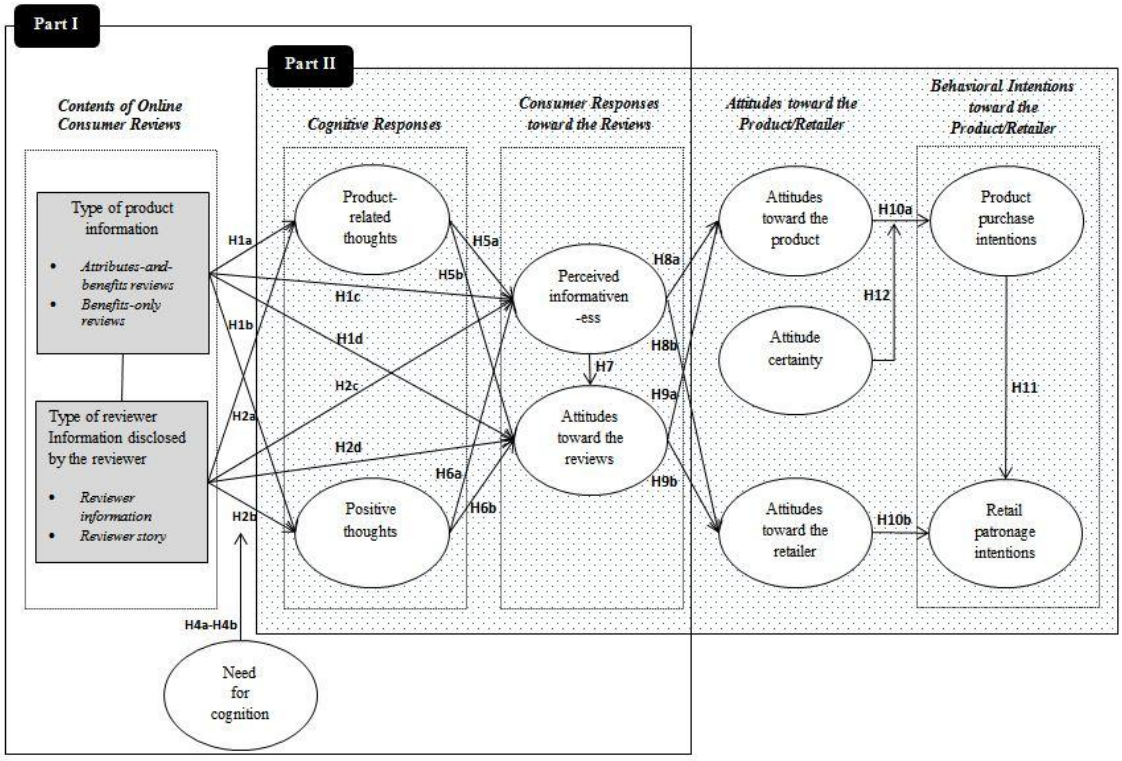


Figure 4.1. Hypothesized model

The research hypotheses for Part I (i.e., the effects of type of online consumer reviews, and the moderating effects of NFC) were tested using Multivariate Analysis of Covariance (MANCOVA), Analysis of Covariance (ANCOVA), and Multiple Regression. The research hypotheses for Part II (i.e., the relationships among consumer cognitive thoughts, their responses toward reviews, their attitudes, and their behavioral intention) were tested by employing Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM). Statistical packages used in this research included (1) SPSS 18.0 for descriptive statistics, Exploratory Factor Analysis (EFA), t-test, MANCOVAs, and ANCOVAs; (2) NCSS for a robust Principal Component Analysis and multiple regressions with bootstrap resampling; (3) JMP 9 for Box-Cox Transportation and multiple regression; and (4) Amos 17.0 for CFA and SEM.

The first section of Chapter 4 describes the characteristics of the participants in this study. The second section presents the analysis and results of hypothesis-testing for Part I using MANCOVA, ANCOVA, and Multiple Regression. The third section presents the analysis and results of hypothesis-testing for Part II using CFA and SEM.

Characteristics of Participants

A total of 480 female consumers completed the online experiment for this study. Of the 480 participants, 117 participants (24.4%) were assigned to the experimental condition 1 (ABR/RI); 121 (25.2%) to the experimental condition 2 (BR/RI); 111 (23.1%) to the experimental condition 3 (ABR/RS); and 131 (27.3%) to the experimental condition 4 (BR/RS). Among the total of 480, 55 multivariate outlier-samples were

deleted by means of a robust principal component analysis, Mahalanobis' distance, and a perusal of the data. Most of the deleted samples showed odd patterns: the responses for questions had the same number (e.g., seven for all questions) or a series of consequent numbers even if some of the questions were reversed. Also, the duration to complete the survey was less than five minutes for most of the deleted samples while other samples required more than ten to fifteen minutes each.

A total of 425 samples were retained. Of the 425 participants, 44 participants (10.4%) were in the Type A of the experimental condition 1 (ABR/RI); 57 participants (13.4%) were in the Type B of the experimental condition 1 (ABR/RI); 106 (24.9%) in the experimental condition 2 (BR/RI); 52 participants (12.2%) were in the Type A of the experimental condition 3 (ABR/RI); 51 participants (12.0%) were in the Type B of the experimental condition 3 (ABR/RI); and 115 (27.1%) in the experimental condition 4 (BR/RS) (see Table 4.1 for the sample size of each experimental condition).

In order to make sure that type A and type B of experimental condition 1 are comparable, t-tests were conducted on questions for manipulation check as well as dependent variables for this study. The results of the series of t-tests showed that type A and type B were not significantly different, suggesting that type A and type B were not differently perceived by the participants. Thus, the participants of type A and type B of experimental condition 1 converged to one cell of experimental condition 1. The same procedure was conducted to see if type A and type B of experimental condition 3 are comparable. Given the results showing they are not different, type A and type B of

experimental condition 3 converged into a single cell representing experimental condition 3 (see Table 4.2).

Table 4.1. Sample size of six experimental conditions

		Type of product information in reviews		
		Attributes-and-benefits reviews (ABR)		**Benefits-only reviews (BR)**
		Type A	Type B	
Type of reviewer information disclosed by the reviewers	**Reviewer information (RI)**	*44 (10.4%)*	*57 (13.4%)*	*106 (24.9%)*
	Reviewer stories (RS)	*52 (12.2%)*	*51 (12.0%)*	*115 (27.1%)*

After type A and type B of experimental conditions 1 and 3 converged, four experimental conditions were examined, hereafter referring to ABR/RI (experimental condition 1), BR/RI (condition 2), ABR/RS (condition 3), and BR/RS (condition 4). Of the 425 participants, 101 participants (23.8%) were in ABR/RI; 106 (24.9%) in BR/RI; 103 (24.2%) in ABR/RS; and 115 (27.1%) in BR/RS (see Table 4.2 for the sample size of each experimental condition).

Table 4.3 shows the demographic characteristics of the participants. Overall, participants' ages ranged from 17 to 81 with approximately half of them (49.5%) aged between 36 and 55. The income level of the participants was well spread out. Approximately half of the participants have college or master's degrees. Approximately one-third were married or living with partner. Over 80% were Caucasian American.

Table 4.2. Sample size of four experimental conditions

		Type of product information in reviews		
		Attributes-and-benefits reviews (ABR)	**Benefits-only reviews (BR)**	**Total**
Type of reviewer information disclosed by the reviewers	**Reviewer information (RI)**	101 (23.8%)	106 (24.9%)	207 (48.7%)
	Reviewer story (RS)	103 (24.2%)	115 (27.1%)	218 (51.3%)
	Total	204 (48%)	221 (52%)	

Information about participants' general experience with the Internet, online consumer reviews, online apparel shopping, and shopping for outdoor clothing was also obtained (see Table 4.4). Nearly 90% of participants reported that they use the Internet very frequently; and more than a half (65.7%) of participants search for online consumer reviews more than frequently. While most participants (70.6%) reported that they shop for outdoor clothing less than frequently, about half of participants (49.2%) indicated that they shop for apparel online more than frequently. More than half of participants (46.3%) reported that they have used 4-12 outdoor clothing items (see Table 4.5).

Table 4.3. Demographic characteristics of participants

	Frequency (*f*)	Percent (%)
Age		
18 – 25	17	4.0
26 – 35	84	19.8
36 – 45	98	23.1
46 – 55	112	26.4
56 – 65	101	23.8
65 +	13	3.1
Income		
Under $20,000	37	8.7
$20,000 – $39,999	70	16.5
$40,000 – $59,999	99	23.3
$60,000 – $79,999	84	19.8
$80,000 – $99,999	58	13.6
Over $100,000	76	17.9
No answer	1	0.2
Education		
High school or less	65	15.3
Vocation/Technician school	22	5.2
Some college	118	27.8
College graduate	154	36.2
Master's degree	56	13.2
Doctoral degree	6	1.4
Other	1	0.2
No answer	3	0.7
Marital status		
Single	75	17.6
Married/Living with partner	272	64.0
Divorced	53	12.5
Separated	4	0.9
Widowed	19	4.5
No answer	2	0.5
Ethnicity		
Caucasian American	353	83.1
African American	33	7.8
Native American	19	4.5
Asian/Pacific Islander	10	2.4
Hispanic	8	1.9
Multi-cultural	2	0.5
Other		

Table 4.4. Participants' previous experience with the Internet, online apparel shopping, shopping for outdoor clothing, and online consumer reviews

	Internet use		Search for online consumer reviews		Shopping for outdoor clothing		Shopping for apparel online		Shopping for outdoor clothing online	
	f	%	*f*	%	*f*	%	*f*	%	*f*	%
Very infrequently	2	0.5	4	0.9	48	11.3	9	2.1	35	8.2
Infrequently	1	0.2	4	0.9	85	20.0	17	4.0	50	11.8
Somewhat infrequently	2	0.5	15	3.5	83	19.5	29	6.8	71	16.7
Neither infrequently nor frequently	10	2.4	42	9.9	87	20.5	67	15.8	95	22.4
Somewhat frequently	9	2.1	81	19.1	84	19.8	94	22.1	89	20.9
Frequently	27	6.4	99	23.3	24	5.6	118	27.8	59	13.9
Very frequently	374	88.0	180	42.4	14	3.3	91	21.4	26	6.1
Mean (SD)	6.76 (.78)		5.84 (1.30)		3.48 (1.57)		5.21 (1.50)		4.02 (1.64)	

Note. Scales: very infrequently (1), infrequently (2), somewhat infrequently (3), neither infrequently nor frequently (4), somewhat frequently (5), frequently (6), very frequently (7)

Table 4.5. Participants' previous experience with outdoor clothing items

	Frequency (*f*)	Percent (%)
How many outdoor clothing items have you used?		
0	1	0.2
1– 3	66	15.5
4 – 6	131	30.8
7 – 9	29	4.7
10 – 12	73	17.2
13 – 15	25	5.9
16 – 18	3	0.7
19 – 21	27	6.4
22 – 24	4	0.9
25 and more	75	17.6

Part I Analysis and Results

The first part of the proposed model investigates the effects of the content of online consumer reviews on consumers' response toward the reviews (see Figure 4.2). The content of online consumer reviews was manipulated to test how different types of online consumer reviews influence readers to think and respond to the reviews. In the analysis of the results of Part I, the first sub-section presents the results of experiment manipulation checks. The preliminary analysis for the measurement properties are then reported, followed by the hypothesis-testing.

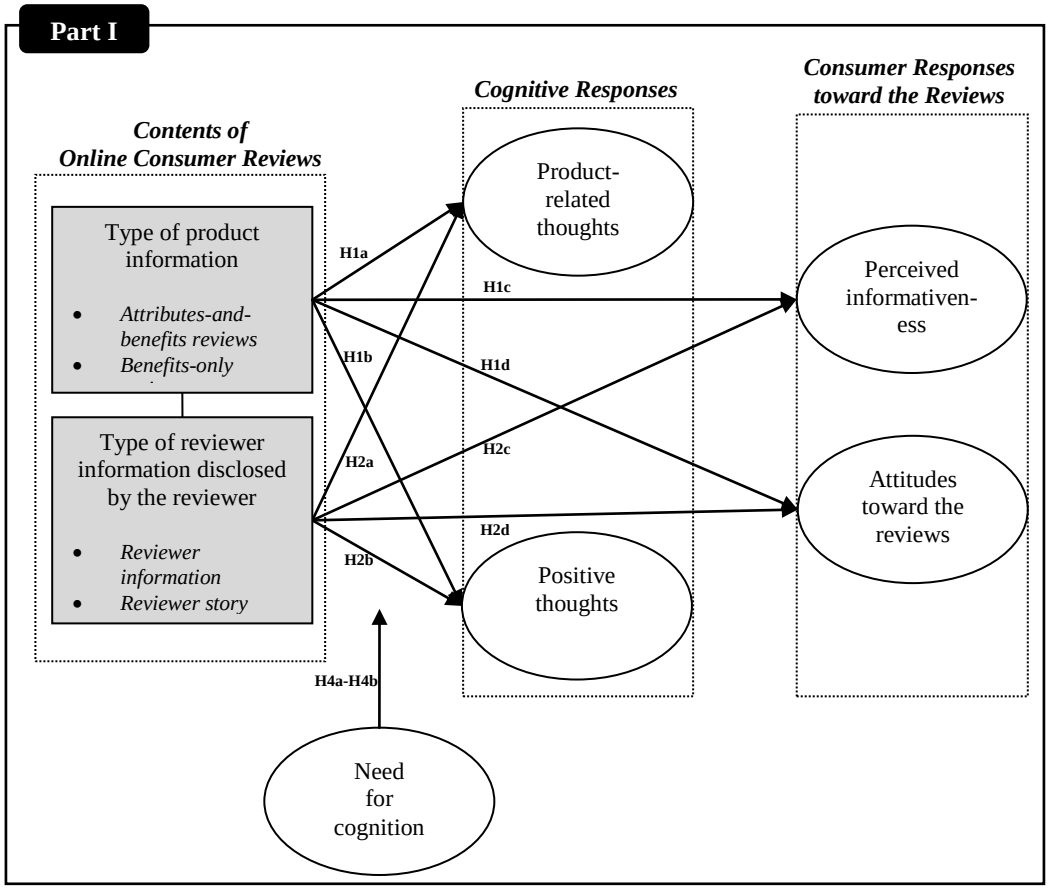


Figure 4.2. Part I of the proposed model (Hypotheses 1 to 4)

Experiment manipulation check. In the current study, four conditions were manipulated using the following variables:

(1) Type of product information in the reviews

- Attitudes-and-benefits reviews (ABR) versus
- Benefits-only reviews (BR)

(2) Type of personal information disclosed by the reviewers

- Reviewer information (RI) versus
- Reviewer story (RS).

Manipulation checks for the experimental conditions were conducted to determine if the participants perceived different type of product information and reviewer disclosure. Participants were assigned to one of the four treatment conditions (i.e., ABR/RI, BR/RI, ABR/RS, and BR/RS), and the questions for manipulation checks were presented at the end of the first part of the questionnaire, which contained questions regarding the presented stimulus (webpage).

Type of product information in the reviews: ABR vs. BR. Participants' responses to the manipulation of type of product information (ABR vs. BR) were examined using a seven-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7) on the question: "To what extent do you agree that the reviews include specific product features (the product's physical features NOT product benefits)?" (MAN1). The independent t-test revealed that there was no difference

between ABR and BR (t(423)=-.79, p=.43). Thus, the manipulation of type of product information in the reviews was not successful (see Table 4.6).

Type of personal information disclosed by the reviewers: RI vs. RS.

Participants' responses to the manipulation of type of personal information disclosed by the reviewers (RI vs. RS) were tested using a seven-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7) on two questions: "To what extent do you agree that the reviews include personal information about the reviewer (e.g., body size)?" (MAN2) and "To what extent do you agree that the reviews focus on specific experiences wearing the jacket and personal stories (e.g., a trip occasion)?" (MAN3). In order for this manipulation to be successful, RI was expected to have a higher value in MAN2 and a lower value in MAN3 than RS. The independent t-test revealed that RI was perceived as significantly different from RS in the expected directions both in MAN2 (t(423)=7.72, p<.001) and in MAN3 (t(423)=3.02, p<.01). Thus, the manipulation of type of personal information disclosed by reviewer was successful. Table 4.6 reports the results in detail.

Table 4.6. Result of independent t-test for manipulation check

Dependent variable	Manipulation	N	Mean	S.D.	t(df)	Sig. (2-tailed)
MAN1	ABR	204	5.25	1.33	t(423)=-.79	.43
	BR	221	5.35	1.24		
MAN2	RI	207	5.82	1.31	t(423)=7.72	<.001
	RS	218	4.89	1.46		
MAN3	RI	207	5.49	1.29	t(423)=3.02	<.01
	RS	218	5.86	1.15		

Note. Seven-point Likert scale was used

Preliminary analysis. In Part I, a total of five variables were used including two cognitive responses (product-related and positive thoughts), perceptions about the informativeness of the reviews, attitudes toward the reviews, and one personality variable (NFC). The two cognitive responses were calculated by coding the thoughts listed by the participants and counting the relevant thoughts. The three other variables, measured using multiple items, were averaged to create a single indicator for each variable.

Coding of cognitive responses. Two independent coders who were unaware of the purpose of the study coded the cognitive responses. After receiving training and practice with a portion of the thoughts listed, they coded the rest of the responses independently. They then met and discussed any disagreement. The intercoder reliability was .75. The coders resolved disagreements through discussion.

Previous research has categorized thoughts under various labels (Brucks, Armstrong, & Goldberg, 1988; Cacioppo et al., 1981; Dickson & Sauer, 1987; Sauer et al., 1992; Wright, 1973). Cacioppo et al. (1981) suggest three dimensions, proposing that these dimensions are orthogonal and systematically capture the previous categorizations of thoughts to persuasion. The three dimensions include (1) polarity—"the degree to which the statement is in favor of or opposed to the advocacy," (2) origin—"the primary source of the information contained in the person's response," and (3) target—"the focus at which the comment is directed" (Cacioppo et al., p.42). Adding relevance to Cacioppo et al.'s (1981) dimensions, Brucks et al. (1988) categorize thoughts into (1) relevance—whether or not thoughts are connected to ad or products, (2) target, (3) origin, and (4) polarity. Sauer et al.'s (1992) propose four-phase coding scheme, which categorize

thoughts into (1) expressions of beliefs, attitudes, usage, and intentions, (2) target, (3) personal relevance—whether or not thoughts are personalized to self or significant others, and (4) polarity.

Since the current study focuses on whether reviews evoke product-related thoughts and positive thoughts, target and polarity of thoughts are considered most relevant. Thus, participants' cognitive responses were classified in two overall themes: (1) target (content) of the responses and (2) polarity (valence) of the responses. The target (content) of cognitive responses was further categorized as follows: product-related thoughts; situation-and-self-related thoughts; service-related thoughts; website-related thoughts; review-related thoughts; simple-words; and others. The polarity (valence) of the participants' cognitive responses was further categorized as positive, neutral, and negative. Table 4.7 presents the cognitive response coding scheme.

Table 4.7. Cognitive response coding scheme and examples

Coding Scheme	Explanation	Examples
Content of cognitive responses		
Product-related thoughts	Thoughts about the product (a) Thoughts about product attributes/features (b) Thoughts about product evaluations (c) Thoughts about fit	• "I hate hoods, they restrict turning my head." • "Does it come in tall sizes and petite?" • "Machine washable" • "What is the price?"
Situation-and-personal-related thoughts	Situation- or self-referencing thoughts (1) Thoughts about situations where they might use the product (2) Thoughts about personal-relevant usages	• "Sounds great when riding a motorcycle or bicycle." • "Nice ski jacket." • "This would make a good coat for Natalie" • "Hiking"

Table 4.7. ***(Continued)***

Service-related thoughts	Thoughts about service—shipping, return policy, etc.	• "Do I have to pay return shipping if I don't like it?" • "There were a lot of choices for payment." • "100% guarantee"
Website-related thoughts	Thoughts about website layout, website features, etc.	• "Easy to browse" • "Easy to navigate" • "Unattractive page, very plain and bland"
Reviews-related thoughts	Thoughts about reviews	• "Like the customer reviews" • "Are the reviews accurate, who really wrote them" • "Most of the reviews were positive"
Simple-words	Simple words	• "Product" • "Jackets"
Others	Others not associated with the thoughts above.	• "Very complete" • "Kind of dull" • Cute"
Valence of cognitive responses		
Positive	Positive comments; Positive emotions.	• "Good and pretty complete information" • "Liked the colors" • "Great reviews"
Neutral	No information about valence	• "What's the price" • "Plenty of consumer reviews" • "Outdoors"
Negative	Negative comments; Suspicious comments.	• "How do I know the people selling the jacket did not write the reviews" • "Customer reviews are poor" • "Not my type of jacket" • Did not like the jacket"

Product-related thoughts. In order to create a single variable of product-related thoughts and positive thoughts, a subtraction method was used (Chang, 2009; Sicilia et al., 2005). Although some studies create the variable by calculating the

proportion of each thought (Celsi & Olson, 1988; Escalas, 2004), a subtraction method was preferred to the proportion since some participants had left no thought, which made it hard to use the proportion.

The variable of product-related thoughts was created by subtracting the number of other thoughts (i.e., situation-and-self-related; service-related; website-related; review-related; simple-; and others) from the number of product-related thoughts. Product-related thoughts ranged from -8 to 10 with a mean of .49.

Positive thoughts. The variable of positive thoughts was created by subtracting the number of negatively-evoked cognitive responses from the number of positively-evoked cognitive responses. Positive thoughts ranged from -5 to 9 with a mean of 1.81. Table 4.9 describes means and standard deviations of thoughts listed for each experimental condition.

Table 4.8. Mean number of thoughts associated with the treatment effects

Thoughts	**ABR/RI**		**BR/RI**		**ABR/RS**		**BR/RS**	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Product-related	.74	2.78	.56	2.14	.35	2.59	.31	2.54
Positive	1.67	1.75	1.63	2.03	1.95	1.91	1.98	2.09

Other variables. Other variables in Part I included perceived informativeness, attitude toward the reviews and need for cognition (NFC). In addition to the three variables in the model, three covariates of fashionability, consumer susceptibility of

interpersonal influence (CSII), and prevention orientation were used to reduce any other extraneous influences from the dependent variables than independent variables. Multiple items were used to measure these variables.

The results of EFA using Principal Components Extraction with Varimax Rotation showed that the four items measuring perceived informativeness, the three items measuring attitudes toward the reviews, and the three items measuring fashionability were loaded on each representing construct, suggesting the unidimensionality of each construct. Also, the reliabilities above .90 and average variance extracted above 84% suggested internal consistency of the variables (see Table 4.9 for the results in detail). Thus, the items were summed and averaged to create single indicators of perceived informativeness, attitudes toward the reviews, and fashionability.

Two items measuring individuals' prevention orientation showed the reliability of 0.62. Although it was lower than the well-recognized threshold of 0.7 (Nunally, 1978), it was still acceptable based on a lower limit of 0.6 (Hair et al., 2006). Also, the first item ("In evaluating this product, I am more concerned about avoiding failure rather than achieving success.") and the second item ("When I evaluate this product, I first consider what is bad about the product") implied a similar concept, individuals' tendency to prevent failure. Moreover, the two items accounted for 72% of variance of the variable (see Table 4.9 for the results in detail). Thus, the two items were summed and averaged to create single indicator of prevention orientation.

As can be seen in Table 4.9, EFA generated three factors under NFC and two factors under CSII. Although the current data produced multiple factors, it is a common

practice in the literature on NFC and on CSII to use the 18 items to represent a single variable of NFC and to use 12 items to represent a single variable of CSII. The items for NFC and CSII were summed and averaged to create single indicator of NFC and of CSII since the 18-item NFC and 12-item CSII have theoretical support, and since they produced high reliabilities of 0.90 and 0.91, respectively. Descriptive statistics for the six variables are presented in Table 4.10.

Table. 4.9. Results of reliability and exploratory factor analysis

	Factor loading			Percent variance explained	Cronbach's alpha
Perceived informativeness					
Info_3		.94			
Info_4		.92		85%	.94
Info_1		.92			
Info_2		.91			
Attitudes toward the reviews					
AttR_3		.92			
AttR_2		.91		83%	.90
AttR_1		.91			
Fashionability					
F_1		.96			
F_2		.94		89%	.94
F_3		.94			
Prevention orientation					
P_1		.85		72%	.62
P_2		.85			
Need for Cognition					
NFC_4	.80				
NFC_7	.78				
NFC_5	.75				
NFC_8	.67				
NFC_9	.66				
NFC_3	.66				
NFC_12	.64				
NFC_16	.59				
NFC_17	.59			58%	.90
NFC_1		.81			
NFC_2		.77			
NFC_13		.69			
NFC_6		.69			
NFC_15		.65			
NFC_11			.64		
NFC_18			.61		
NFC_10			.59		
NFC_14			.53		
CSII					
CSII_12	.86				
CSII_11	.85				
CSII_8	.85				
CSII_6	.82				
CSII_3	.80				
CSII_2	.78			65%	.91
CSII_9	.74				
CSII_5	63				
CSII_4	.63				
CSII_7			.87		
CSII_10			.80		
CSII_1			.61		

Table 4.10. Descriptive statistics of dependent variables

	Min.	Max.	Mean	S.D.
Product-related thoughts	-8.00	10.00	0.49	2.52
Positive thoughts	-5.0	9.00	1.81	0.97
Perceived informativeness	1.00	7.00	6.01	1.03
Attitudes toward the reviews	1.67	7.00	5.65	1.17
NFC	1.44	6.83	4.76	0.97
Fashionability	1.00	7.00	4.97	1.45
CSII	1.00	6.42	2.87	1.14
Prevention orientation	1.00	7.00	3.15	1.39

Checking assumptions. Multivariate Analysis of Covariance (MANCOVA) and Analysis of Covariance (ANCOVA) are the extension of multivariate analysis of variance (MANOVA) and univariate analysis of variance (ANOVA). Three key assumptions of conducting MANOVA and ANOVA are: (1) independence of observation, (2) equality of variance-covariance matrices, and (3) a multivariate normality for MANOVA and univariate normality for ANOVA.

A violation of the first assumption, independence of observation, can have a great impact on the results by creating dependence between the groups and increasing the within-group variance. To reduce such effect, this study adopted the between-subject design, in which a participant is exposed to one experimental condition. The participants were also randomly assigned to each condition. Furthermore, this study employed covariates, which may account for the dependence.

The second assumption is the equality of variance-covariance matrices across the conditions. The relatively equal sample sizes among the four conditions would contribute to the equality of variance-covariance matrices. In addition, the insignificant

Box's M indicated that the observed covariance matrices are not different across the groups (p=.46).

The third assumption is the normality. Since the assessment of a multivariate normality is difficult, univariate normality was examined using the normal probability plot, skewness, and kurtosis (see Table 4.11). Although multivariate normality was not examined, the univariate non-normality in the four dependent variables suggested the non-normality of the multivariate. It is because univariate tends to be normal if multivariate is normal while univariate normality does not guarantee multivariate normality. Skewness, which suggests the degree of departure of a distribution from symmetry, and Kurtosis, which shows the degree of sharpness/flatness of the distribution, provides the values that can be used to assess normality. A rule of thumb is that if the test statistics of skewness and kurtosis (i.e., the sample skewness divided by the standard error of skewness, and the sample kurtosis divided by the standard error of kurtosis) exceed the absolute value of 2, the distribution is not normal. Table 4.11 shows the skewness and kurtosis of each variable. Aside from positive thoughts, seven variables including three dependent variables (product-related thoughts, perceived informativeness, and attitudes toward the reviews), one moderating variable (NFC), and three covariates (fashionability, CSII, and prevention orientation) had the test statistics of skewness and kurtosis above the absolute number of 2. Thus, the normality assumption was found to be violated for the use of statistics based on the F distribution.

Table 4.11. Skewness and kurtosis of each variable

	Skewness (SE)	Skewness/SE	Kurtosis (SE)	Kurtosis/SE
Product-related thoughts	0.26 (0.12)	2.17	0.66 (0.24)	2.75
Positive thoughts	0.17 (0.12)	1.42	0.46 (0.24)	1.92
NFC	-0.26 (0.12)	-2.17	-0.14 (0.24)	-0.58
Perceived informativeness	-1.16 (0.12)	-9.84	1.52 (0.24)	6.44
Attitudes toward the reviews	-0.89 (0.12)	-7.42	0.49 (0.24)	2.04
Fashionability	-0.53 (0.12)	-4.42	-0.23 (0.24)	-0.96
CSII	0.65 (0.12)	5.42	-0.23 (0.24)	-0.96
Prevention orientation	0.48 (0.12)	4.00	-0.23 (0.24)	-0.96

Dealing with non-normality. To see if normality could be achieved through transformation, data transformation was attempted. However, it was not successful (see *Performing data transformation* below). Thus, it was decided to use the non-transformed data for hypotheses testing following the suggestions of previous researchers (Hair et al., 2006; Keppel & Wickens, 2004) (see *Retaining non-transformed data* below).

Performing data transformation. For the skewed distribution, common transformation is the square root, logarithms, squared, or cubed, and box-cox transformation. However, normal distribution for most variables was not achieved through data transformation as can be seen in Table 4.12 (the best values are reported in Table 4.12).

Table 4.12. Skewness and kurtosis of each variable after transformation

	λ	Skewness (SE)	Skewness/SE	Kurtosis (SE)	Kurtosis/SE
Product-related thoughts	0.8	0.06 (0.12)	0.53	0.68 (0.24)	2.88
NFC	1.4	-0.03 (0.12)	-0.27	-0.44 (0.24)	-1.85
Perceived informativeness	2	-0.65 (0.12)	-5.49	-0.41 (0.24)	-1.72
	3	-0.35 (0.12)	-3.00	-1.03 (0.24)	-4.35
Attitudes toward the reviews	2	-0.37 (0.12)	-3.08	-0.69 (0.24)	-2.88
Fashionability	1.6	-0.11 (0.12)	-0.92	-0.81 (0.24)	-3.38
CSII	0.2	0.06 (0.12)	0.50	-0.75 (0.24)	-3.13
Prevention orientation	0.4	-0.12 (0.12)	-1.00	-0.56 (0.24)	-2.33

Retaining non-transformed data. The current study decided to retain non-transformed data based on the following reasons. Previous researchers have noted that F test is robust with regard to the violations of normality especially with a large sample and with equal sample sizes in the experimental groups (Hair et al., 2006; Keppel & Wickens, 2004). While non-normality can have substantial impact on the results if the sample size is small (50 or fewer), its impact can be negligible in a large sample of 200 or more (Hair et al., 2006). Keppel and Wickens (2004) also note that non-normality does not need to be a major concern if samples are large and relatively equal in size (largest group size/smallest group size <1.5). Since sample sizes for the four experimental groups were relatively large and equal in size (see Table 4.2 for the sample size), MANCOA and ANCOVA were conducted to test the proposed model with the original non-transformed data.

Hypotheses Testing

Since the manipulation of type of product information (ABR vs. BR) was not successful, this variable (type of product information) could not be incorporated in the analysis, and thereby, omitted from the model (See Figure 4.3 for a revised single-factor model). Accordingly, H1a to H1d (the effects of type of product information) and hypotheses H3a to H3d (the interaction effects) were deleted. To test the hypotheses H2a to H2d, MANCOVA and ANCOVA were conducted with one independent variable (type of reviewer information disposed by the reviewer), four dependent variables (product-

related thoughts, positive thoughts, perceived informativeness, and attitudes toward the reviews) and covariates. To test hypotheses H4b, a multiple regression was performed.

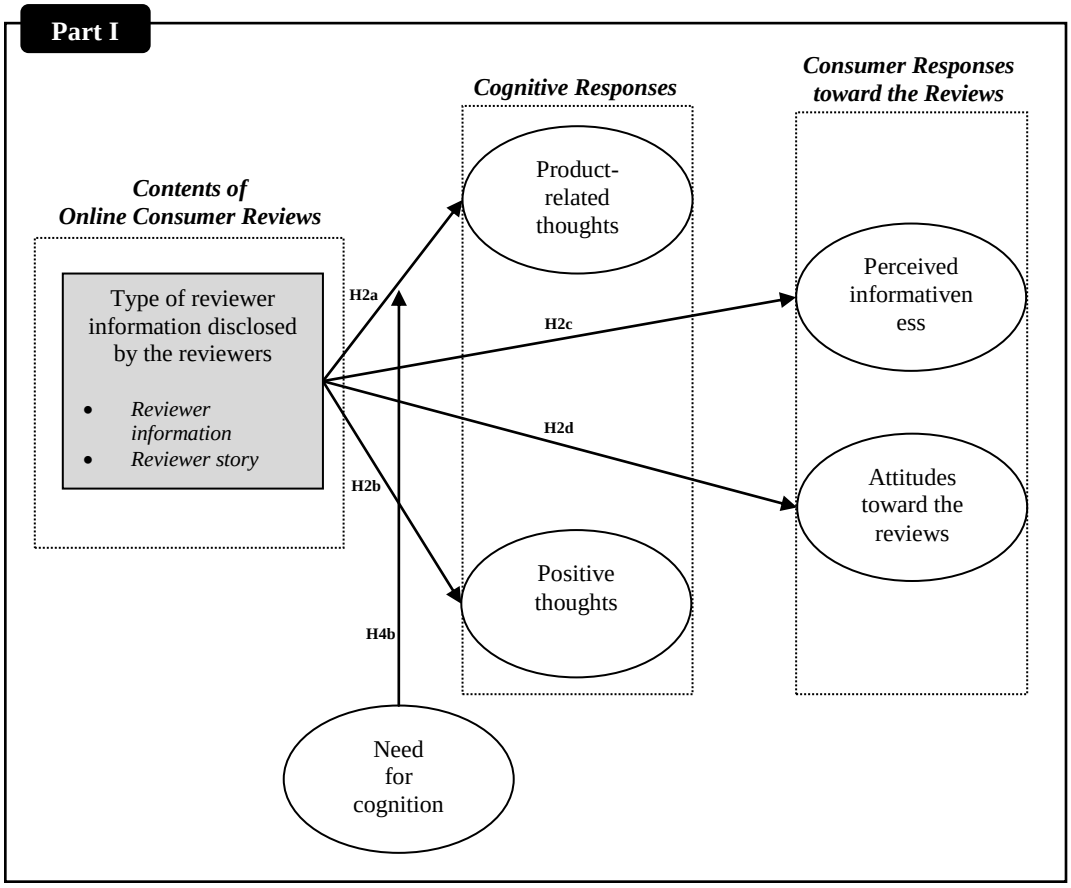


Figure 4.3. Revised model

The effects of type of reviewer information (H2a to H2d). Hypotheses 2a, 2b, 2c, and 2d were tested using MANCOVA and ANCOVAs. The covariates included in this model were the fashionability of the product, CSII, and individual prevention orientation. The independent variable was the type of personal information disclosed by the reviewers (RI vs. RS). The dependent variables were two cognitive responses

(product-related thoughts and positive thoughts), perceived informativeness of the reviews, and attitudes toward the reviews.

Box's M test showed that the covariance matrices are equal (Box's M=9.11, p=.53). In this analysis, a covariate, fashionability, was significantly related to the dependent variables (Wilks' Lamda =.658, $F(4,417)=54.22$, $p<.001$, partial $\eta^2=.342$). Having controlled for the effect of fashionability, MANCOVA revealed a significant multivariate effect of type of reviewer information on dependent variables (Wilks' Lamda = .971, $F(4,417)=3.09$, $p<.025$, partial $\eta^2=.029$). ANCOVA results showed which dependent variables contributed to the significant multivariate effect.

Although marginal means showed that participants, who were exposed to online consumer reviews containing reviewers' personal information (RI), listed more number of thoughts regarding products (Mean = .64, SE=.17) than those who were exposed to the reviews containing reviewers' consumption story (RS) (Mean=.35, SE=.17), ANCOVA revealed that product-related thoughts were not influenced by type of reviewer information disposed by reviewers ($F(1,420)=1.37$, $p=.24$, partial $\eta^2=.003$). Thus, H2a was not supported.

The effect of type of reviewer information disclosed by reviewers on positive thoughts was found to be significant ($F(1,420)=6.376$, $p<.05$, partial $\eta^2=.015$). Participants, who read reviewers' stories (RS), exhibited a greater number of positive thoughts (Mean=2.03, SE=.12) than those who read reviewer information (RI) (Mean=1.60, SE=.12), supporting H2b.

Similarly, participants who read RS (Mean=6.10, SE=.06), compared to those who read RI (Mean=5.91, SE=.06), exhibited a significantly higher score on perceived informativeness ($F(1,420)=4.35$, $p<.05$, partial $\eta^2=.010$), suggesting that participants' perceived the reviews with RI as more informative. Thus, H2c was supported.

Lastly, the effect of type of reviewer information on participants' attitude toward the reviews was found to be significant ($F(1,420)=5.07$, $p<.05$, partial $\eta^2=.012$) with RS generating greater favorable attitudes (Mean=5.76, SE=.07) than RI (Mean=5.53, SE=.07). Thus, H2d was supported.

The moderating effects of need for cognition (H4b). Moderation tests with dichotomizing continuous variables (e.g., median splits) have been criticized since it could potentially mislead the conclusions. Instead, multiple regressions were conducted to test the moderated multiple regression model (J. Cohen, Cohen, West, & Aiken, 2003). Since variables were not normal, multiple regressions with bootstrap calculation was used. The nominal variable, type of reviewer information disclosed by reviewers in reviews, was dummy-coded using 0 and 1. To test hypothesis 4b, a multiple regression were conducted with dependent variables of product-related thoughts and positive thoughts.

Product=a + b(Type) + c(NFC) + d(Type x NFC)

Product=Product-related thoughts
Type=Type of reviewer information disclosed by reviewers in reviews
NFC=Need for cognition

Multiple regression with 5000 bootstrap resampling revealed that coefficients for the regression models were not significant (see Table 4.13 for detail). In order to control

for the effects of covariates, another set of regression analyses were conducted. However, except for fashionability, none of the variables were supported. Therefore, H4b was rejected.

Table 4.13. Multiple regression analysis on product-related thoughts

Independent variable	Regression coefficient	Standardized coefficient	T	P
Type	-0.13	-0.02	-0.11	0.91
NFC	-0.16	-0.06	-0.39	0.70
Type x NFC	0.10	0.11	0.38	0.70

Note. Type=Type of reviewer information disclosed by the reviewers in reviews; NFC=Need for cognition

Part II Analysis and Results

The second part of the proposed model tests the relationship among the participants' cognitive responses about product-related thoughts and positive thoughts, their perception about reviews' informativeness, their attitudes toward the reviews, their attitudes toward the reviewed product and the retailer, and their behavioral intentions toward the product and the retailer. In Part I, it was shown that reviewer stories, compared to the reviews containing reviewers' personal information, evoked more thoughts with a positive valence, greater perceived informativeness, and more favorable attitudes toward the reviews. The reviews with reviewer stories led the participants to have more positive thoughts, to perceive the reviews as more informative, and to form more positive attitudes toward the reviews. Part II examines whether these responses elicited by the reviews influence their attitudinal and behavioral responses toward the

reviewed product and the retailer (see Figure 4.4. for the hypothesized relationships for Part II).

In the analysis of the results from Part II of this study, the first sub-section presents the findings from the preliminary analyses including descriptive statistics, reliability analyses using Cronbach's alpha coefficients, and assessment of normality. The findings from measurement model evaluation are then presented, followed by structural model evaluation.

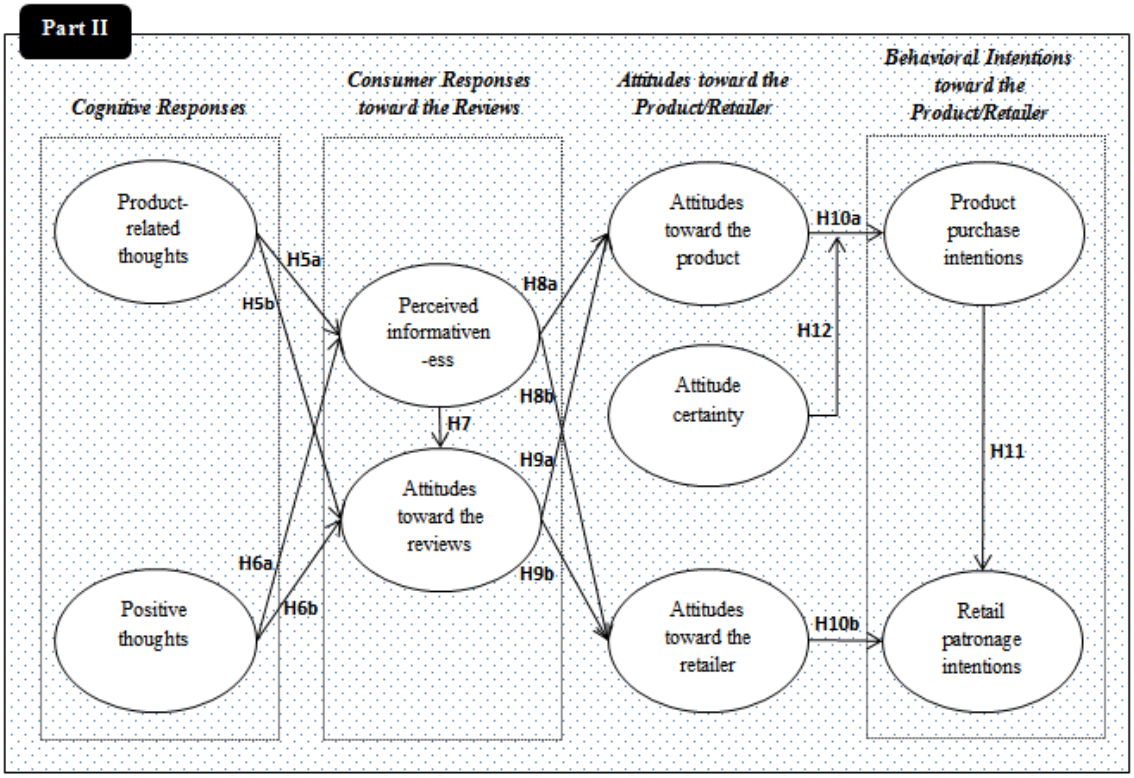


Figure 4.4. Part II of the proposed model (Hypotheses 5 to 12)

Preliminary analyses. The descriptive statistics of measurement items used to test hypotheses in Part II are shown in Table 4.14. The mean value ranged from 4.73 to 6.16. To assess the normality of items, skewness and kurtosis were examined. The absolute values in relation to standard errors suggest that most items are not normally distributed.

Table 4.14. Descriptive statistics of measurement items in Part II

Measurement items	Min.	Max.	Mean	S.D.	Skewness	Kurtosis
Product-related thoughts						
Product1	0	10	2.36	1.83	1.16	1.97
Positive thoughts						
Positive1	0	9	2.24	1.64	.72	.49
Perceived informativeness						
Info_1	1	7	6.10	1.07	-1.57	3.31
Info_2	1	7	6.16	1.02	-1.62	3.72
Info_3	1	7	6.00	1.10	-1.21	1.48
Info_4	1	7	6.03	1.10	-1.37	2.22
Attitudes toward the reviews						
AttR_1	1	7	5.67	1.29	-1.09	1.03
AttR_2	1	7	5.66	1.24	-1.08	1.22
AttR_3	1	7	5.76	1.26	-1.18	1.33
Attitudes toward the product						
AttP_1	1	7	5.79	1.06	-1.07	1.80
AttP_2	1	7	5.68	1.28	-1.20	1.56
AttP_3	1	7	5.67	1.27	-1.09	1.11
AttP_4	2	7	5.60	1.24	-.71	-.15
Attitudes toward the retailer						
AttB_1	1	7	6.01	1.03	-1.09	1.34
AttB_2	2	7	6.06	1.01	-1.16	1.39
AttB_3	1	7	5.87	1.30	-1.58	2.62
AttB_4	1	7	5.87	1.24	-1.51	2.60
Product purchase intentions						
PI_1	1	7	4.73	1.75	-.59	-.61
PI_2	1	7	5.39	1.66	-1.11	.38
PI_3	1	7	4.91	1.69	-.73	-.30
PI_4	1	7	4.93	1.70	-.72	-.29
Retail patronage intentions						
RI_1	1	7	5.61	1.29	-1.06	1.29
RI_2	1	7	5.47	1.40	-1.01	.84
RI_3	1	7	5.44	1.46	-.91	.42

Dealing with non-normal data. Since the multivariate normality is a critical assumptions associated with structural equation modeling that uses maximum likelihood (ML) and generalized least squares (GLS) estimation, the non-normality of most items in this sample suggested the violation of the assumption. To handle the presence of multivariate non-normality data, the bootstrap procedure was employed for conducting CFA and SEM. The bootstrap technique is recommended to handle non-normal data since it allows the researcher to create multiple subsamples from the data base and compare parametric values over repeated samples (Byrne, 2001). With non-normal data, the bootstrap estimates are less biased than the standard ML estimates (Byrne, 2001). Thus, the bootstrap was performed drawing 5000 subsamples in conducting CFA and SEM to test Part II of the proposed model (hypotheses 5 to 12).

Model specification. The measurement model is first evaluated by conducting a CFA with all 22 items and corresponding 6 constructs. The measurement model was modified after finding potentially problematic indicators. Excessively high modification indices (MI) in covariances indicate signs of the problematic indicator. First, errors of ATTb_3 (Like/Dislike) and ATTb_4 (Favorable/Unfavorable) were highly correlated. Since the meaning of two words can be similar (e.g., I "like" the store vs. the store is "favorable"), it could be possible that participants perceive the two variable as similar. Thus, the error terms of ATTb_3 and ATTb_4 were correlated.

Second, AttP_1 ("The product that I've just examined is good.") shared common variance with multiple indicators from other constructs such as purchase intentions. At the same time, it has very high modification indices. Thus, AttP_1 was deleted from

further analysis. In sum, two changes were made: 1 error correlation between ATTb_3 and ATTb_4, and 1 item (AttP_1) eliminated from the model.

Measurement model evaluation. The respecified measurement model was assessed using confirmatory factor analysis (CFA) following a two-step approach suggested by Anderson and Gerbing (1988). In the two-step approach, CFA allows researchers to assess construct validity—convergent validity and discriminate validity.

Convergent validity. Convergent validity was assessed in several ways. First, it can be assessed by the significant t-values of each item's estimated path coefficient on its posited latent construct (Anderson & Gerbing, 1988). CFA revealed that each item was loaded on its construct: t-values of all estimated path coefficients were significant at .001 level. Second, composite reliability and average variance extracted were all above .70, which suggests convergent validity (Bagozzi & Yi, 1988).

Discriminant validity. Discriminant validity was assessed by examining whether the AVE was larger than the shared variance between all possible pairs of constructs (Fornall & Larcker, 1981). As can be seen in the comparison table between AVE and the variance shared between constructs (Table 4.15), AVE for each construct is larger than the shared variance between all possible pairs of constructs. This indicates that the constructs are distinct from one another.

Table 4.15. AVEs and the squared correlation

	1	2	3	4	5	6
1. Perceived informativeness	**0.81**					
2. Attitudes toward the reviews	0.48	**0.75**				
3. Attitudes toward the product	0.32	0.44	**0.78**			
4. Attitudes toward the retailer	0.36	0.52	0.23	**0.70**		
5. Product purchase intentions	0.14	0.26	0.67	0.36	**0.86**	
6. Retail patronage intentions	0.29	0.41	0.55	0.56	0.59	**0.82**

Note. Diagonal entries show the average variance extracted by the construct. Off-diagonal entries represent the variance shared (squared correlation) between constructs.

Hypotheses Testing

Structural model evaluation (H5 to H11). The second part of the model was tested using structural equation modeling. Since Part II of the study focuses not on the comparisons between experimental groups but on relationships among the dependent variables, a single group (425 participants) was used by pooling across experimental groups.

SEM revealed the hypotheses testing and fit statistics for the structural model. Table 4.16 presents the summary of SEM. Among the 12 hypotheses, three hypotheses were not supported. Specifically, the hypotheses about the effects of product-related thoughts on consumer perceptions of review informativeness (H5a) and on consumer attitudes toward the reviews (H5b) were not supported. Especially, the product-related thoughts were negatively related to attitudes toward the reviews, which was opposite to the hypothesized direction. The relationship between perceived informativeness and attitudes toward the product was not significant (H8a).

Table 4.16. Summary of hypotheses testing and model fit

Structural path		Standardized regression weight	Standard error	t-value	Result
H5a:	Product-related thoughts → perceived informativeness	-.03	.020	-.659	Not supported
H5b:	Product-related thoughts → Attitudes toward the reviews	-.11	.026	-3.042**	Not supported
H6a:	Positive thoughts → perceived informativeness	.23	.022	4.607**	Supported
H6b:	Positive thoughts → Attitudes toward the reviews	.32	.016	8.399***	Supported
H7:	Perceived informativeness → Attitudes toward the reviews	.62	.046	14.36***	Supported
H8a:	Perceived informativeness → Attitudes toward the product	.11	.066	1.927	Not Supported
H8b:	Perceived informativeness → Attitudes toward the retailer	.15	.048	2.726**	Supported
H9a:	Attitudes toward the reviews → Attitudes toward the product	.64	.066	10.303***	Supported
H9b:	Attitudes toward the reviews → Attitudes toward the retailer	.55	.05	10.964***	Supported
H10a:	Attitudes toward the product → Product purchase intentions	.82	.05	21.801***	Supported
H10b:	Attitudes toward the retailer → Retail patronage intentions	.47	.055	12.079***	Supported
H11:	Product purchase intentions → Retail patronage intentions	.52	.03	13.028***	Supported

Model Fit

χ^2/df	704.082/218 = 3.230
RMSEA	.073
CFI	.95
GFI	.87
TLI	.94

Note. *<.05, **p<.01, ***p<.001.

The moderating effects of attitude certainty (H12). To test hypothesis 12, the effect of attitude certainty on the relationship between attitude toward the product and product purchase intentions. Similar to the testing of Hypotheses 4, a multiple regression was conducted:

$$\mathbf{PI=a + b_1(ATTp) + b_2(AC) + b_3(ATTp \times AC)}$$

PI=Purchase Intentions
ATTp=Attitude toward the product
AC=Attitude certainty

Since the data were not normal, a multiple regression using 5000 resampling boostrap calculation was conducted. The analysis revealed the significant interaction effects (b_3=.09, p<.01) as well as significant main effects (see Table 4.17). The estimated model was:

$$\mathbf{PI=1.77+ .50(ATTp) -0.46(AC) + 0.09 (ATTp \times AC).}$$

PI=Purchase Intentions
ATTp=Attitude toward the product
AC=Attitude certainty

To see the interaction effect, the estimated model was re-calculated for the group of high attitude certainty and for the group of low attitude certainty. The mean of attitude certainty was 5.67 with 1.03 standard deviation (SD). The equation for high attitude certainty by using the value of mean +1 SD, and that for low attitude certainty by using the value of mean-1SD was represented as follows:

High certainty: PI=-1.31 + 0.10(ATTp)
Low Certainty: PI=-0.36 - 1.71(ATTp)

PI=Purchase Intentions
ATTp=Attitude toward the product

The equations showed that, for individuals with high attitude certainty, attitude toward the product was a positive predictor of purchase intentions while for those with low attitude certainty, attitude toward the product became a negative predictor of purchase intention. Thus, it can be concluded that attitude certainty serves as a moderator between attitude toward the product and product purchase intentions.

Table 4.17. Multiple regression analysis

	b	B	t-value	p-value
Attitude toward the product	.50	0.35	2.18	.03
Attitude certainty	-.46	-0.32	-2.31	.02
Interaction between attitude toward the product and attitude certainty	.09	0.62	2.48	.01

Chapter 5

Discussion

The purpose of the current study was to explore the role of online consumer reviews in consumers' decision-making processes. Specifically, the current study focuses on whether and how different types of content in online consumer reviews influence consumers in the formation of attitudes and behavior intentions toward reviewed products and retailers. In relation to this phenomenon, three research questions were established concerning (1) the effects of various types of review-content, (2) the moderating effects of the individual characteristics of consumers' reading the reviews, and (3) the consequences of readers' responses to reviews for their attitudes and behavioral intentions as consumers. This online experimental study examined 1) whether different types of content in online consumer reviews influenced participants' thinking (cognitive responses), attitudes, and perceptions, specifically, their evaluation of informativeness regarding the reviews; and, 2) whether the responses evoked by the reviews impacted readers' attitudinal and behavioral responses to the reviewed product and the retailer. This study addressed two aspects of review-content: (1) type of product information in online consumer reviews and (2) type of personal information. First, this chapter discusses the conclusions that can be drawn from the research findings. Next, theoretical and managerial implications are addressed, followed by a discussion of the limitations of the study and future directions for research.

Generally, findings from the data analysis revealed that the type of reviewers' consumption stories disclosed by reviewers had a significant influence on participants' positive thoughts, perceptions of review informativeness, and attitudes toward the reviews. However, the hypothesized moderating role of individual differences in intrinsic motivation to process information (NFC) was not significant. In general, participants' responses evoked by the reviews (cognitive responses, review attitudes, and perception of review informativeness) showed positive relationships with their attitudes and behavioral intentions toward the reviewed product and the retailer.

The Effects of Type of Content in Online Consumer Reviews

The proposed model of consumer processing of online consumer reviews postulates that the type of content in online consumer reviews influences consumers' processing of the reviews. This study, specifically, examined the effects of two type of content: type of product information in reviews (ABR vs. BR) and type of personal information disclosed by reviewers (RI vs. RS).

Reviewers' personal information disclosed by reviewers (RI vs. RS). The findings of this study suggest that the type of personal information disclosed by reviewers has a significant impact on consumers' positive thoughts, perceived informativeness, and attitudes toward reviews, specifically, reviews containing reviewer stories (RS) seem to generate more positive consumer responses than those without stories. This persuasiveness of reviewer stories may support narrative transportation theory (Green & Brock, 2000, 2005)

The variable of positive thoughts. In this study, participants who were exposed to reviews containing reviewer stories exhibited a greater number of positive thoughts than those who were exposed to the reviews with only reviewer information. This finding may support the literature on narrative processing, which proposes that narrative processing provokes favorable thoughts, emotions such as warm feelings and happiness, and decreases in critical attitudes/responses (Escalas, 2004; Escalas et al., 2004; Green & Brock, 2000, 2005). When consumers process online consumer reviews, their processing tends to generate more positive thoughts and emotions if the reviews consist of reviewers' consumption stories or are presented in the form of narratives.

This finding can also be explained by the literature on mental simulation. Mental imagination about product use, especially, brings about affective reactions (Philips et al., 1995). Thus, in this story, the stories of others' consumption experiences may have triggered the participants to imagine themselves having positive experiences consuming the product in the future.

Another possible explanation for this finding might involve consumers' consumption experience schema, drawn from memory or imagination. All but one of the stories in the reviews used in this study were positive. Perhaps, the valence of stories may evoke positive consumption experience schema in consumers' memory.

The variable of attitudes toward the reviews. Similarly, this study demonstrated that participants who were exposed to reviewer stories exhibited more favorable attitudes toward the reviews than those who were exposed to reviewers' personal information, consistent with literature on the narrative transportation theory, which states that

individuals engaging in narrative processing tend to be less critical and suspicious about messages (Chang, 2009; Escalas, 2004; Escalas et al., 2004; Green & Brock, 2000). The narrative transportation theory and the previous literature have shown that, while individuals engaging in analytic processing tend to process information in detail and exhibit disbelief or criticism about the message if the messages seem to contain fiction or manipulative intent, those engaging in narrative processing tend to identify with the protagonists in the messages, generating more message-consistent beliefs and less critical attitudes toward the message and the protagonists(Green & Brock, 2000; Wentzel et al., 2010). As proposed by narrative transportation theory, consumers reading reviews in the form of narratives may have more positive attitudes toward both reviewers and the reviews. Thus, it is likely that consumer reviews containing reviewers' stories or reviews presented in the form of narratives may influence consumers to express less criticism about the reviews and more favorable attitudes toward reviews than reviews listing information about products, benefits, and reviewers' personal information.

The variable of perceived informativeness. In addition to generating more positive thoughts and favorable attitudes toward the reviews, reviews containing reviewer stories were also observed to increase the participants' perceptions of informativeness in such a way that the participants that were exposed to reviews containing reviewers' stories perceived the reviews as more informative than those who were exposed to reviews containing reviewers' personal information. Since one of the primary reasons for reading consumer reviews is to acquire more information, the perception of informativeness is a crucial measure of review-effectiveness.

There are number of possible explanations for the tendency of participants to perceive reviews containing reviewer stories as more informative. One explanation can be drawn from the narrative transportation theory, which suggests that transportation brings forth not only imagery and affect, but also attentional focus and trust narrative messages (i.e., once transported by narrative, readers pay attention to and believe messages contained in the stories) (Gerrig, 1993; Green & Brock, 2000, 2005). If attentional focus and beliefs were evoked by the reviews containing reviewers' stories, the attention and beliefs might have contributed to the perceived informativeness since the credibility of consumer reviews generally becomes a crucial factor in evaluating reviews.

Another possible explanation can be found in the literature on mental imagination, which suggests that mental imagination enhances the expectancy that the imagined experiences will occur to the reader (Taylor & Schneider, 1989). The vividness of the mental imagination increases elaboration (Keller & Block, 1997), and easily imagined product information can influence consumers' decision making (Keller & McGill, 1994). Thus, the participants might have perceived the reviews containing reviewers' stories as more informative since the reviews with stories may have increased their expectancy that they would consume the product themselves, which may have made the consumption vision more vivid and easily accessible for their decision-making.

In addition, the finding might be explained in part by the importance of information about usage situations in the decision-making process for certain products. Apparel consumers, especially, often think about consumption situations in terms of the

occasions when they will wear the garments. Thus, it may be possible that reviews containing information as where other consumers wore the products and how the products performed on these occasions are perceived as more informative.

The variable of product-related thoughts. Although this study hypothesized that reviews containing reviewers' personal information would generate more product-related thoughts than reviews containing reviewer stories, the difference between the two groups was not significant. It was expected that reviewers' personal information as well as product information in the analytic form would generate more product-related thoughts. One might expect that reviews containing reviewers' personal information such as body size might prompt readers to think analytically about product information such as fit. It seems likely that this line of thinking directs them toward other details of the product, thereby generating a greater number of product thoughts. However, the number of product-related thoughts was not different between the participants in the two groups. This finding is not consistent with the results of a recent qualitative study conducted by the author, which indicated that consumers use reviewers' body size and other fit information written in online consumer reviews to assess the fit of products when shopping for apparel online, which leads consumers to engage in analytical processing.

A possible explanation for the non-supported hypothesis may be related to the apparel category for this study, outdoor jackets. Consumers may find less difficulty in determining fit of the outdoor jacket since this type of jacket has a relatively simple

product measurement (e.g., small, medium, large, x-large). Also, return policy for the product may have implied that the participants did not to worry about fit.

Type of product information in reviews. The second independent variable related to the content of reviews involved is the type of product information provided. Specifically, a comparison was made between how reviews containing both attributes and benefits of products and reviews containing only benefits influence consumers' cognitive responses, perceptions about reviews, and attitudes toward reviews. In this study, the effect of type of product information in the reviews was not significant. There are several possible explanations for the non-supported findings.

First, the distinction between attributes and benefits may not be as salient in the context of online consumer reviews as it is in advertising, which has been the context for previous research. In an online shopping context, product information about attributes is easily accessible on the webpage provided by the retailer. Thus, consumers may not look to reviews as a source of product attribute information and may not draw a distinction between those reviews who provide it and those that do not.

Second, with apparel products, consumers may fail to distinguish between attributes and benefits. The scholarly literature defines attributes as physical features such as fiber content and price, while benefits are defined as consequences of the attributes. However, apparel consumers may actually categorize attributes as the literature would call benefits, such as breathability, fit, water-resistancy, and durability.

Third, for apparel products, there are simply not many attributes to consider: weight, color, fabric, and size. Compared to other products that have many attributes,

apparel attributes are easy to process, and thus consumers may not draw a distinction between these reviews.

The Moderating Effects of the Individual Characteristics of Review Readers

The model devised for this study proposes a complex interaction of individual characteristics and review contents. One possible explanation for the lack of significance may be traced to the failure of the manipulation of the variable of type of product information in reviews. NFC was hypothesized to interact more with ABR than BR and more with RI than RS. However, since attempted distinction in manipulation between ABR and BR was not successful, NFC could not be analyzed to test the interaction effect.

Consequences of Readers' Responses to Reviews for Their Attitudes and Behavioral Intentions as Consumers

The findings from Part II suggest that consumer responses toward reviews positively influence their attitudes and behavioral intentions toward reviewed products and the retailers. The findings suggest that maintaining a forum where consumers can post reviews, especially informative and good reviews, can be a crucial factor to the success of retailer since consumer attitudes and behavioral intentions are the major determinants of purchase behavior and valuable factors in their positive relationship with retailers.

One of the most important variables in the model is attitude confidence. In this study, attitude confidence was shown to be a significant moderator between attitude toward the product and product purchase intentions. Many previous studies have

questioned the use of attitudes as a predictor of behavior since favorable attitudes may not guarantee actual behavior. This attitude-behavior inconsistency is often explained in terms of attitude confidence, which provides extra-explanatory power to the relationship. This study demonstrates that attitude confidence augments the relationship between attitudes and behavioral intentions.

The non-significant relationship between perceived informativeness and attitudes toward the product show that informative reviews may not necessarily lead to favorable attitudes toward reviewed products. This suggests that whether informative reviews may influence consumers to like the reviews, they do not necessarily lead them to like the product. Rather, informative reviews may help consumers decide whether to accept the product or reject the product.

Implications

Theoretical implications. The most interesting theoretical implication is in the application of transportation theory to the context of online consumer reviews. This study shows the possible relevance of transportation theory in the context of online consumer reviews. The theory has been widely applied to advertising messages, but less often to the context of online consumer reviews. Although the theoretical framework of ELM is predominant in studies on persuasiveness of message- and review-content, this study demonstrates that narrative transportation theory is a promising new area of investigation. Indeed, considering the findings from the current study and the fact that

most online consumer reviews are in the form of narratives, this theory seems to explain much of this phenomenon.

Second, this study contributes to the literature on the eWOM showing how various types of eWOM can affect consumers. This study especially focuses on describing underlying mechanisms of consumer processing of online consumer reviews. The incorporation of thought-listing allowed the researcher to have a better understanding of how consumers were processing other consumers' comments and to various type of content of messages.

Third, this study classifies the content of online consumer reviews. Although the classification scheme is not exhaustive, it provides one useful way to classify content of reviews with theoretical support and empirical support.

Practical implications. Practical implication regarding findings from Part II is that making a forum where consumers can share online reviews may help business, which is consistent with previous findings from academicians and practitioners. This study goes one step further by demonstrating what kinds of reviews might be most effective.

The variables that connect consumer responses toward the reviews to consumer responses toward products and retailers are proposed to be consumers' perceived informativeness of reviews and their attitudes toward the reviews. As shown in the study, it is recommended that retailers should strive to make their reviews more informative and likeable, since they affect consumers' attitudes toward the reviews and the retailers, which in turn encourages consumers to move from the "like" or "okay" stage to actual sales transactions. In fact, since more consumers are "information-based shoppers" than

ever (Ante, 2009), a selection of informative reviews aggregated in retail websites can attract many consumers. Retailers may want to utilize a way to encourage reviewers to provide more informative and likable reviews such as using promotions, incentives, or reputation systems.

Based on the current study, it is recommended that retailers provide ways to encourage consumers to share their stories, such as consumption occasions when they post product reviews since such reviews containing reviewers' stories are shown to be influential in increasing positive thoughts, perceived informativeness, and attitudes toward the review, all of which affect attitudinal and behavioral intentions toward products and retailers. Retailers may want to provide formats for prompting consumers to tell their own stories when they write their reviews. For example, design features such as avatars asking questions about their stories might help reviewers write their reviews in the narrative form. In fact, a study shows that individuals, when asked to imagine to share their reviews with their friends or acquaintances, are more likely to tell their stories in the narrative form.

Limitations

There are several limitations that should be noted when interpreting conclusions drawn from this dissertation. First, since this study adopted a laboratory experiment using a portion of a mock website, and since this study uses a portion of website as a stimulus, there was some level of lack of reality. Thus, generalization of the findings should be made with caution.

Second, the main population for this study was female living in U.S, who have shopped for or searched for information about outdoor clothing. Thus, the findings of this study may not be applicable to those beyond this group of population.

Third, this study used only one product category, women's outdoor jacket. Consumers' responses to online consumer reviews about other product category may need to be cautious.

Fourth, the use of student sample for the pre-test can be another limitation of this study. A student sample was not used for the main study therefore there was not a match between the sample for the pre-test and the main study.

Future Research

Although this study initially proposed a multiple path of consumer processing of online consumer reviews drawing on the literature of ELM and the narrative transportation theory, the manipulation of the first review type was not significant, and therefore testing ELM was not supported. Given that previous studies have supported ELM in the context of online consumer reviews, it seems premature to conclude that multiple pathways for processing of consumer reviews do not exist in the real world. This study has, however, demonstrated an alternative pathway, i.e., narrative processing, and thus, suggests a need for follow-up research to refine the model and retest the multiple pathways model.

Second, a future study using other type of products would be a valuable extension of this work. Apparel is a product category, for which story-telling may help consumers process the information: apparel choices are closely bound up consumption situation and

social occasions. However, for other product categories consumed in other ways, such as laptops, cars, or other personal products, may be possible that narratives may not as effective.

Third, additional research is needed to use diverse population groups. Especially since this study recruited only female consumers who live in U.S., it seems necessary to broaden the scope of the study to achieve greater generalizability. For example, the process of male consumers' information processing about cars may be different from that of female consumers. Or, cultural differences in value systems and norms may also affect consumers' processing of online consumer reviews.

Fourth, one of the possible explanations for the non-supported hypotheses (ABR vs. BR) is that product attributes are available on webpages, close to online consumer reviews. In the future research, it would be interesting to test a combined model: consumer processing of online consumer reviews and marketer-provided information.

Fifth, although this study failed to support the role of NFC in consumer processing of online consumer reviews, there may be other individual characteristics that affect consumer processing of reviews. For instance, affect-intensity seems to be related to narrative processing: individuals who are high on affect-intensity tend to be more personalizing, empathic, generalizing, and elaborative on cognitive operations than those who are low on the affective intensity. With this individual characteristic played a role, it may be hard to discern whether enhanced empathy is a result of messages or individual characteristics. Since the knowledge about individual characteristics enhances our

understanding of a concept of our interest, it seems valuable to explore relevant individual characteristics in this context.

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Appendix

APPENDIX A. Sample questionnaire for the pilot test 1

THE UNIVERSITY of TENNESSEE
KNOXVILLE

Dear Participants:

Thank you for participating in our survey. The purpose of this study is to understand consumers' opinions on outdoor sport jackets. The information you will provide us is precious to researchers in this area. We greatly appreciate your help.

Your participation in this study is completely voluntary. You may expect to take 10 to 15 minutes to complete the following questions. You can refuse to participate in the study or discontinue your participation at any time. This study is concerned with group data and not with your individual responses. Your identification will not be associated with the data we collect. Furthermore, all of your responses will remain anonymous.

If you decide to continue, please read questions carefully and answer the question. The return of the completed survey constitutes consent to participate. If you have any problems and questions, please feel free to ask Jeesun (jpark32@utk.edu).
Thanks again!!!

Sincerely,

Jeesun Park
Graduate Student
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In general, we would like to know how you evaluate the following 10 apparel items. Please select the number that best reflects your responses to each jacket.

Image 1



The clothing shown in the picture is…

Not Fashionable	1	2	3	4	5	Fashionable
Not attractive	1	2	3	4	5	Attractive
Not similar to what I wear	1	2	3	4	5	Similar to what I wear
Not meaningful	1	2	3	4	5	Meaningful
Not important	1	2	3	4	5	Important
Not significant	1	2	3	4	5	Significant
Not useful	1	2	3	4	5	Useful
Not functional	1	2	3	4	5	Functional
Not practical	1	2	3	4	5	Practical

When compared with a garment most representative of this product category (outdoor jackets), the clothing shown in the picture is…

Not Typical	1	2	3	4	5	Typical
Not Different	1	2	3	4	5	Different

APPENDIX B. Questionnaire for the pilot test 2

THE UNIVERSITY of TENNESSEE KNOXVILLE

Dear Participants:

Thank you for participating in our survey. The purpose of this study is to understand consumers' opinions on important product features of outdoor jackets. The information you will provide us is precious to researchers in this area. We greatly appreciate your help.

Your participation in this study is completely voluntary. You may expect to take 10 to 15 minutes to complete the following questions. You can refuse to participate in the study or discontinue your participation at any time. This study is concerned with group data and not with your individual responses. Your identification will not be associated with the data we collect. Furthermore, all of your responses will remain anonymous.

If you decide to continue, please read questions carefully and answer the question. The return of the completed survey constitutes consent to participate. If you have any problems and questions, please feel free to ask Jeesun (jpark32@utk.edu). Thanks again!!!

Sincerely,

Jeesun Park
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1. Please list product features that you consider when you shop for an outdoor sport jacket (s) (in the A column), and reasons why you would consider the features (in the B column).

A **Product features** that I consider when I shop for an outdoor sport jacket(s)	**B** **Reasons** why I would consider the product feature that I list on the left.

2. If you are going to purchase an outdoor sport jacket online, how important would the following product features be to you?

	Very Unimportant	Unimportant	Neutral	Important	Very Important
Fiber/Fabric content	1	2	3	4	5
Fabric Shape/Structure	1	2	3	4	5
Weight	1	2	3	4	5
Fabric Pressure	1	2	3	4	5
Fabric Care	1	2	3	4	5
Size	1	2	3	4	5
Color	1	2	3	4	5
Price	1	2	3	4	5
Country of origin	1	2	3	4	5
Shape/Silhouette	1	2	3	4	5
Design details: Dart (dart equivalents)	1	2	3	4	5
Design details: Zip/Snap	1	2	3	4	5
Design details: Necklines	1	2	3	4	5
Design details: Pockets	1	2	3	4	5

3. What is your gender?
Male _____ Female _____

APPENDIX C. Questionnaire for the pilot test 3

THE UNIVERSITY of TENNESSEE KNOXVILLE

Dear Participants:

Thank you for participating in our survey. The purpose of this study is to understand consumers' opinions on online consumer reviews on outdoor jackets. The information you will provide us is precious to researchers in this area. We greatly appreciate your help.

Your participation in this study is completely voluntary. You may expect to take 10 to 15 minutes to complete the following questions. You can refuse to participate in the study or discontinue your participation at any time. This study is concerned with group data and not with your individual responses. Your identification will not be associated with the data we collect. Furthermore, all of your responses will remain anonymous.

If you decide to continue, please read consumer reviews and questions carefully and answer the question. The return of the completed survey constitutes consent to participate. If you have any problems and questions, please feel free to ask Jeesun (jpark32@utk.edu). Thanks again!!!

Sincerely,

Jeesun Park
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Imagine that you are browsing apparel websites to buy an outdoor jacket for upcoming family trip. After browsing several jackets, you have narrowed down to a couple of jackets (that you think most attractive to you). The jackets are in the price range that you would pay for an outdoor jacket. To get more information, then, you are searching for consumer reviews on each jacket. Now, you are about to examine one of the jackets at an apparel website.



Outside.com© Outdoor J20 Jacket

Our lightest 3-layer hard-shell jacket, built for the most discerning user; a study in minimalism and quality.This garment has a Slim Fit.

Designed for those who thrive on thin and technical climbs in full alpine conditions,**J20 Jacket** is the prototype in minimalism. Soft, pliable this shell is Outside.com's lightest 3-layer hard shell constructed of waterproof/breathable nylon ripstop fabric that provides superb durability for its weight and the ultimate in summit protection. Performance features include watertight zippers, a microfleece-lined neck and chin, an exterior zippered left-chest pocket, zippered handwarmer pockets that serve double-duty by extending into pit zips, and cuffs that adjust with hook-and-loop closures. A single pull adjusts the 3-way helmet-compatible hood (with laminated visor) - it's the little things that make life a joy when dealing with wooden fingers, a gloved hand and torrential spindrift. Slim fit for technical use over light-to-medium layers.

There are 12 customer reviews to this product. Please read each review carefully, and select the number that best indicates the degree to which you agree or disagree with each of the following statements.

Customer Review #1

The C20 jacket is super thin and weighs only 11 ounces. Being 3-layer H2NO®, it is waterproof/windproof and breathable. With the Deluge® DWR finish, it really is water repellent. So far, this has satisfied my outdoor mountain life. I am 5'9'' and 135 lbs with normal chest, so a medium usually fits fine. But, the medium was huge on me although the manufacturer says this jacket has "slim fit", the medium was huge on me.

	Strongly Disagree	Disagree				Agree	Strongly Agree
To what extent do you agree that the review focuses on specific product features (the product's physical features NOT product benefit)?	1	2	3	4	5	6	7
To what extent do you agree that the reviewer describes oneself in the review?	1	2	3	4	5	6	7
To what extent do you agree that the review focuses on specific reviewer's own experience (e.g., trip occasions) rather than on generalization?	1	2	3	4	5	6	7

Customer Review #2

I am 5'8'', 160 lbs with very broad shoulders and large chest. Most jackets are too tight in the shoulders and chest unless I order XXL, and then look like I'm wearing a tent… this rain jacket fits perfectly (I ordered a large). It is a little bit roomy at the waist and hip, but the adjustable hem really helps with the fit. I even have enough room for a fleece! Love the length (covers half or my real end). The pit zip/handwarmer pocket combo is nice. But, my only complaint is the hood is not detachable although it is a single-pull, 3-way adjustable hood. This 11 ounce jacket made of 100% ripstop nylon is very light but warm as the 3-layer H2NO® blocks moisture and winds. The J20 is a top quality outdoor jacket, extremely well made, attention to details.

	Strongly Disagree	Disagree				Agree	Strongly Agree
To what extent do you agree that the review focuses on specific product features (the product's physical features NOT product benefit)?	1	2	3	4	5	6	7
To what extent do you agree that the reviewer describes oneself in the review?	1	2	3	4	5	6	7
To what extent do you agree that the review focuses on specific reviewer's own experience (e.g., trip occasions) rather than on generalization?	1	2	3	4	5	6	7

APPENDIX D. Webpage for each condition

MountainResearch

OUTERWEAR | MEN | WOMEN | KIDS | SHOES | BAGS & GEAR | SALE

Women > Women's Jackets > Women's Outdoor Jacket





MountainResearch® J20 Jacket

Product Rating

Based on 20 reviews (The last 5 reviews received appear below)

- A waterproof/breathable barrier and a durable water repellent (DWR) finish
- 3-layer, 2.2-oz 15-denier 100% nylon ripstop
- Single-pull, 3-way-adjustable helmet-compatible hood with laminated visor
- Microfleece-lined neck and chin
- Two zip hand pockets and one zip chest pocket
- Drawcord hem and hook-and-loop cuffs
- Machine wash warm and tumble dry low
- 311 g (11 oz)
- Slim fit

Size: XS S M L XL XXL

View This Model's Measurements

MountainResearch® J20 Jacket - Women's Customer Reviews

Summary of Customer Ratings & Reviews

(Based on 20 reviews) 80% of respondents would recommend this to a friend

Comments about the J20 jacket

Dry as a bone!

Several months after buying the J20 jacket I finally got to use it during a very rainy trip to Mt Shasta last weekend. On a very rainy and windy weekend on Mt Shasta, the J20, composed of a waterproof/breathable barrier and durable water repellent finish, kept me dry both from rain and perspiration. I was also amazed by how light this 11 ounce jacket was! It was very thin and compressed to the size of soda can.
Size-wise, although it is listed as "slim fit," I really think it is more of a regular fit. Another fit difference was the sleeves ran considerably longer than other jackets.

Bottom Line Yes, I would recommend this to a friend

An Amazing Jacket!

I recently wore the J20 hiking in the Clearwater Mountains when it was cold, damp, and windy, but I was comfortable the whole time. While hiking uphill, I got a little warm, but the jacket breathed well, and I did not overheat. I was thrilled. The J20 was different from other jackets. The 3-layer fabric with a DWR finish was truly waterproof and breathable. The 100% nylon ripstop fabric was durable and soft. The pit zip/pocket combo was unusual, but cool enough for ventilation and kept my hands warm.

Bottom Line Yes, I would recommend this to a friend

Fantastic lightweight jacket

I've used the J20 jacket for my morning bike commute and it's been great for blocking wind and keeping me totally dry in afternoon showers. The pit zips/pocket combo is brilliant and allowed for major exhaust. The only place I was sweating was where my backpack touched my back. The 3-way fully adjustable hood is practical – simple but easily adjustable. It fits great over my bike helmet or without it.

Bottom Line Yes, I would recommend this to a friend

Garbage

The J20 jacket is not durable at all. I wore it last weekend for alpine climbing. The J20 was shredded by a minor brush with granite. The armpit ripped while I was reaching over a block. Besides, the J20 does not reflect the range of body types that women have.

Bottom Line No, I would not recommend this to a friend

Soon-to-Be-Classic

Overall, I was extremely impressed with this J20 jacket. I wore the J20 for the first time in March downhill skiing in CO. The J20, made of a 3-layer hard-shell, was extremely warm. Despite white out conditions and some pretty fierce winds, at the end of the day I was warm and dry. At 11 ounces, the J20 was really light, thin, and soft. The 15-denier fabric was extremely breathable. And the 2.2-oz 100% nylon ripstop fabric was durable.

Bottom Line Yes, I would recommend this to a friend

ABOUT US
Every item is an outdoor brand that offers signature outerwear, men's and women's clothing, gear and accessories.

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APPENDIX E. Reviews used in each experimental condition

The 1st set of reviews

ABR/RI (A)	ABR/RI (B)	BR/RI
Dry as a bone! I am a hiker from Salt Lake City, UT. I am amazed by how light this 11 ounce jacket is! It is very thin too. It compresses to the size of a soda can. The J20 jacket, composed of waterproof/breathable barrier and durable water repellent finish, keeps me dry both from rain and perspiration. Size-wise, although it is listed as "slim fit," I really think it is more of a regular fit. I'm 5'3'', 115lbs with curvy hips and normal length arms. I ordered small. Another fit difference is the sleeves run considerably longer than other jackets I have tried/owned.	**Dry as a bone** I am a hiker from Salt Lake City, UT. I am amazed by how light this 11 ounce jacket is! The J20 jacket, composed of waterproof/breathable barrier and durable water repellent finish, keeps me dry both from rain and perspiration. It is an excellent wind barrier too. Size-wise, although it is listed as "slim fit," I really think it is more of a regular fit. I'm 5'3'', 115lbs with curvy hip and normal length of arms. I ordered small. I had a merino wool base layer and a Nano Puff pullover on top of it and the J20 fits easily over all those layers.	**Dry as a bone!** I am a hiker from Salt Lake City, UT. I am amazed by how light the jacket is! It is very thin and packable. It keeps me dry, both from rain and perspiration. And, it protects me from wind. Although it is listed as slim fit, I really think this is not that slim. I'm 5'3'', 115lbs with curvy hip and normal length of arms. I ordered small. I have a base layer and a pullover on top of it and this jacket fits comfortably over all those layers. The sleeves run considerably longer than other jackets.
ABR/RS (A)	**ABR/RS (B)**	**BR/ RS**
Dry as a bone! Several months after buying the J20 jacket I finally got to use it during a very rainy trip to Mt Shasta last weekend. On a very rainy and windy weekend on Mt Shasta, the J20, composed of a waterproof/breathable barrier and durable water repellent finish, kept me dry both from rain and perspiration. I was also amazed by how light this 11 ounce jacket was! It was very thin and compressed to the size of soda can. Size-wise, although it is listed as "slim fit," I really think it is more of a regular fit. Another fit difference was the sleeves ran considerably longer than other jackets.	**Dry as a bone!** Several months after buying the J20 jacket I finally got to use it during a very rainy trip to Mt Shasta last weekend. On a very rainy and windy weekend on Mount Shasta, the J20, composed of a waterproof/breathable barrier and durable water repellent finish, kept me dry both from rain and perspiration. I was also amazed by how light this 11 ounce jacket was! It was an excellent wind barrier. Size-wise, although it is listed as "slim fit," I really think it is a regular fit. I had a merino wool base layer and a Nano Puff pullover on top of it and the J20 fit easily over all those layers.	**Dry as a bone!** Several months after buying this jacket I finally got to use it during a very rainy trip to Mt Shasta last weekend. On a very rainy and windy weekend on Mount Shasta, this jacket kept me dry, both from rain and perspiration. I was also amazed by how light it was! It was very thin and packable. It protected me from the wind. Although it is listed as slim fit, I really think this is not that slim. I had a base layer and a pullover on top of it and this jacket fits comfortably over all those layers. Also, the sleeves ran considerably longer than other jackets.

The 2nd set of reviews

ABR/RI (A)	ABR/RI (B)	BR/RI
An Amazing Jacket! I am very hard to fit, but the J20 works for me with no alterations. I am a size small (2 or 4), but wear a 34D bra. So when something zips over my chest but isn't too big everywhere else, I am thrilled. The J20 is different from other jackets. The 3-layer fabric with a DWR finish is truly waterproof and breathable. The 100% nylon ripstop fabric feels durable and soft. The pit zip/pocket combo is unusual, but cool enough for ventilation and keeps my hands warm.	**An Amazing Jacket!** I am very hard to fit, but the J20 works for me with no alterations. I am a size small (2 or 4), but wear a 34D bra. So when something zips over my chest but isn't too big everywhere else, I am thrilled. The J20 is different from other jackets. The 3-layer fabric with a DWR finish is truly waterproof and breathable. The internal drawstring makes the J20 more fitted. The pit zip/pocket combo is unusual, but cool enough for ventilation and keeps my hands warm.	**An Amazing Jacket!** I am very hard to fit, but this one works for me with no alterations. I am a size small (2 or 4), but wear a 34D bra. So when something zips over my chest but isn't too big everywhere else, I am thrilled. This jacket is different from others. It keeps me dry and free from perspiration. And, it is durable, soft, and adjustable to make it more fitted. The pocket is unusual, but cool enough for ventilation and keeps my hands warm.
ABR/RS (A)	**ABR/RS (B)**	**BR/ RS**
An Amazing Jacket! I recently wore the J20 hiking in the Clearwater Mountains when it was cold, damp, and windy, but I was comfortable the whole time. While hiking uphill, I got a little warm, but the jacket breathed well, and I did not overheat. I was thrilled. The J20 was different from other jackets. The 3-layer fabric with a DWR finish was truly waterproof and breathable. The 100% nylon ripstop fabric was durable and soft. The pit zip/pocket combo was unusual, but cool enough for ventilation and kept my hands warm.	**An Amazing Jacket!** I recently wore the J20 hiking in the Clearwater Mountains when it was cold, damp, and windy, but I was comfortable the whole time. While hiking uphill, I got a little warm, but the jacket breathed well, and I did not overheat. I was thrilled. The J20 was different from other jackets. The 3-layer fabric with a DWR finish was truly waterproof and breathable. The internal drawstring made the J20 more fitted. The pit zip/pocket combo was unusual, but cool enough for ventilation and kept my hands warm.	**An Amazing Jacket!** I recently wore it hiking in the Clearwater Mountains when it was cold, damp, and windy, but I was comfortable the whole time. While hiking uphill, I got a little warm, but the jacket breathed well, and I did not overheat. I was thrilled. This jacket was different from others. It was truly waterproof and breathable. And, it was durable, soft, and adjustable to make it more fitted. The pocket was unusual, but cool enough for ventilation and kept my hands warm.

The 3rd set of reviews

ABR/RI (A)	ABR/RI (B)	BR/RI
Fantastic lightweight jacket I am a mountain biker and I've owned quite a few hard-shell jackets over the years. The pit zips/pocket combo is brilliant and allows for major exhaust. The 3-way fully adjustable hood is practical and fits great. I am 5'2'' and 115 lbs. I usually buy petites in tops and coats because I'm short-waisted. The size small fits with a little extra room for a heavy sweater or a jacket.	**Fantastic lightweight jacket** I am a mountain biker and I've owned quite a few hard-shell jackets over the years. The J20 jacket's breathability of 15-denier fabric is great. The 3-way fully adjustable hood is simple but easily adjustable. I am 5'2'' and 115 lbs. I usually buy petites in tops and coats because I'm short-waisted. The size small fits with a little extra room for a heavy sweater or a jacket.	**Fantastic lightweight jacket** I am a mountain biker and I've owned quite a few hard-shell jackets over the years. This jacket is breathable and allows for major exhaust. The hood is practical - simple but easily adjustable, and fits great. I am 5'2'' and 115 lbs. I usually buy petites in tops and coats because I'm short-waisted. The size small fits with a little extra room for a heavy sweater or a jacket.
ABR/RS (A)	**ABR/RS (B)**	**BR/ RS**
Fantastic lightweight jacket I've used the J20 jacket for my morning bike commute and it's been great for blocking wind and keeping me totally dry in afternoon showers. The pit zips/pocket combo is brilliant and allowed for major exhaust. The only place I was sweating was where my backpack touched my back. The 3-way fully adjustable hood is practical – simple but easily adjustable. It fits great over my bike helmet or without it.	**Fantastic lightweight jacket** I've used the J20 jacket for my morning bike commute and it's been great for blocking wind and keeping me totally dry in afternoon showers. The breathability of 15-denier fabric allowed for major exhaust. The only place I was sweating was where my backpack touched my back. The 3-way fully adjustable hood is practical - fits great over my bike helmet, but cinches down tight when I'm not wearing a helmet.	**Fantastic lightweight jacket** I've used it for my morning bike commute and it's been great for blocking wind and keeping me totally dry in afternoon showers. This jacket was breathable and allowed for major exhaust. The only place I was sweating was where my backpack touched my back. The hood is practical - simple but easily adjustable and fits great over my bike helmet, but cinches down tight when I'm not wearing a helmet.

The 4th set of reviews

ABR/RI (A)	ABR/RI (B)	BR/RI
Garbage I am a hiker. The J20 jacket is not durable at all. Besides, the J20 does not reflect the range of body types that women have. I'm 5'9'' and 135 lbs with 36D bust, so a medium is usually fine. But the medium is huge on me around the waist area.	**Garbage** I am a hiker. The J20 is not durable at all. Besides, the J20 does not reflect the range of body types that women have. I'm 5'9'' and 135 lbs with 36D bust, so a medium is usually fine. But the medium is huge on me around the waist area.	**Garbage** I am a hiker. This jacket is not durable at all. Besides, this jacket does not reflect the range of body types that women have. I'm 5'9'' and 135 lbs with 36D bust, so a medium is usually fine. But the medium is huge on me around the waist area.
ABR/RS (A)	**ABR/RS (B)**	**BR/RS**
Garbage The J20 jacket is not durable at all. I wore it last weekend for alpine climbing. The J20 was shredded by a minor brush with granite. The armpit ripped while I was reaching over a block. Besides, the J20 does not reflect the range of body types that women have.	**Garbage** The J20 jacket is not durable at all. I wore it last weekend for alpine climbing. The J20 was shredded by a minor brush with granite. The armpit ripped while I was reaching over a block. Besides, the J20 does not reflect the range of body types that women have.	**Garbage** This jacket is not durable at all. I wore it last weekend for alpine climbing. It was shredded by a minor brush with granite. The armpit ripped while I was reaching over a block. Besides, this jacket does not reflect the range of body types that women have.

The 5th set of reviews

ABR/RI (A)	ABR/RI (B)	BR/RI
Soon-to-Be Classic! I am a skier from CO. Overall, I am extremely impressed with this J20 jacket. The J20, made of 3-layer hard-shell, is extremely warm. At 11 ounces, the J20 is really light and thin. The 15-denier nylon fabric is extremely breathable. The 2.2-oz 100% nylon ripstop fabric seems to make this jacket durable. I'm 5'7'', 125 lbs with long arms. I initially ordered a medium and the sleeves were long enough but the body was just too roomy, especially across the shoulders. I returned it for a small.	**Soon-to-Be Classic!** I am a skier from CO. Overall, I am extremely impressed with this J20 jacket. The J20, made of 3-layer hard-shell, protects you from wind and moisture. At 11 ounces, the J20 is really light and packable. The 15-denier nylon fabric is extremely breathable. The 2.2-oz 100% nylon ripstop fabric seems to make this jacket strong and soft. I'm 5'7'', 125 lbs with long arms. I initially ordered a medium and the sleeves were long enough but the body was just too roomy, especially across the shoulders. I returned it for a small.	**Soon-to-Be Classic!** I am a skier from CO. Overall, I am extremely impressed with this jacket. This jacket is extremely warm and protects you from wind and moisture. And, it is really light, thin and packable. This jacket is extremely breathable. It also seems durable, strong and soft. I'm 5'7'', 125 lbs with long arms. I initially ordered a medium and the sleeves were long enough but the body was just too roomy, especially across the shoulders. I returned it for a small.
ABR/RS (A)	**ABR/RS (B)**	**BR/RS**
Soon-to-Be Classic! Overall, I was extremely impressed with this J20 jacket. I wore the J20 for the first time last March downhill skiing in CO. The J20, made of a 3-layer hard-shell, was extremely warm. Despite white out conditions and some pretty fierce winds, at the end of the day I was warm and dry. At 11 ounces, the J20 was really light, thin, and soft. The 15-denier fabric was extremely breathable. And the 2.2-oz 100% nylon ripstop fabric was durable.	**Soon-to-Be Classic!** Overall, I was extremely impressed with this J20 jacket. I wore the J20 for the first time last March downhill skiing in CO. The J20, made of a 3-layer hard-shell, protected you from wind and moisture. Despite white out conditions and some pretty fierce winds, at the end of the day I was warm and dry. At 11 ounces, the J20 was really light and packable. The 2.2-oz nylon fabric was extremely breathable. And the 2.2-oz 100% nylon ripstop fabric was strong and soft.	**Soon-to-Be Classic!** Overall, I was extremely impressed with this jacket. I wore it for the first time last March downhill skiing in CO. This jacket was extremely warm and protected me from wind and moisture. Despite white out conditions and some pretty fierce winds, at the end of the day I was warm and dry. And, this jacket was really light, thin, soft and packable The jacket was extremely breathable. And it was durable and soft.

Vita

Jee Sun Park was born in Busan, Korea, being the third and youngest child of Jun-Gun Park and Eui-Ok Kang. She holds a Bachelor of Science in Clothing and Textiles from Hanyang University in Seoul, Korea and a Master of Science in Textiles and Clothing from The Ohio State University in Columbus, Ohio. Her research interests lie in socio-psychological aspects of consumer behavior in apparel retail environments. Her work has been presented and published in proceedings in both domestic and international conferences including International Textiles and Apparel Association, American Collegiate Retailing Association, AMS/ACRA Retailing Conference, and Global Marketing Conference. She has published research in the *Journal of the Korean Society of Clothing and Textiles, and The Research Journal of Costume Culture.* She was the recipient of the College of Retail, Hospitality, and Tourism Management ESPN Scholarship Award (2009-2010).

In August 2012, Jee Sun completed the requirements for the Ph.D degree in Retail, Hospitality, and Tourism Management with a minor in Marketing at the University of Tennessee in Knoxville, TN. She presently works as a lecturer at Hanyang University in Seoul, Korea.