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Online Exploration: Browsing Behavior and Website Feature Preferences

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ONLINE EXPLORATION: BROWSING BEHAVIOR AND WEBSITE FEATURE PREFERENCES

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ONLINE EXPLORATION: CROSS-CATEGORY BROWSING BEHAVIOR AND WEBSITE FEATURE PREFERENCES

MACKENZIE SIREN

ABSTRACT

This exploratory study examines the novel variable of *cross-category online browse range* (the variety of product categories browsed online by a consumer) and its relationship to general website feature preferences. Utilizing data collected through an online survey, the results are based on a final sample of 313 respondents from the United States, 287 of whom were University students, and 26 of whom were contacts of the research team. The general nature of *cross-category online browse range* was examined using simple correlation, MANOVA, and ANOVA. Results indicate that the variable is normally distributed throughout the sample population and positively associated with time spent online purchasing, time spent online browsing, online shopping intention (purchasing, browsing, and searching), and Domain Specific Innovativeness. Though *cross-category online browse range* is weakly related to the amount of hours spent online in general, it was not found to be significantly related to any of the demographic variables tested, or to Internet experience. A discriminant analysis revealed that consumers in the discrete *cross-category online browse range* groups (low, medium, high) differed in their preference for a variety of hedonically-oriented website features, the majority of which composed a function representing "online exploration." Results from this study provide support for the idea that the individual difference of *cross-category online browse range* may reflect manifestations of several interrelated concepts, including exploratory shopping behavior, hedonic shopping motivation, and consumer innovativeness. In

addition, this study illustrates the importance of accounting for individual differences in consumers' online navigation habits and highlights the potential that exists in collecting meaningful cross-category clickstream data. For practitioners in particular, the results provide insights into how one can structure a shopping website to appeal to those consumers most likely to seek out new retail websites and who place importance on features other than price. Finally, incorporating both hedonic and utilitarian features in a website's design is discussed. Ultimately it is recommended that researchers monitor consumers higher in *cross-category online browse range* to gain insights into website features that may be important in tomorrow's online shopping environment.

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CHAPTER I

LITERATURE REVIEW

Online shopping activities - browsing, purchasing, and searching for information with the goal of purchasing - have become increasingly more common in the past 15 years, culminating in a world where the majority of those living a "wired" lifestyle perform these activities on almost a daily basis (Zickuhr & Smith, 2012). Last year alone, U.S. e-commerce revenue rose approximately 13% from 2011, totaling 289 billion dollars, U.S., with the largest share being generated by retail shopping sites (Lipsman & Fulgoni, 2013). In addition to this, online retail revenue in the U.S. is projected to reach over 430 billion dollars, U.S., by 2017. This growth will be aided in part by the number of mobile shoppers in the U.S., those individuals who shop, browse or research products via their mobile device, which is expected to grow to 175 million by 2016 (Grau, 2013).

Coupled with the increased access and control that mobile shopping brings, the dynamic, interactive nature of the online environment is blurring the lines that separate entertainment, exploration, and shopping. Given this, it is no surprise that a shift in online shopping motivations and orientations has been observed in recent research (see Brown, Pope, & Voges, 2003; Ganesh, Reynolds, Luckett, and Pomirleanu (2010); Kim & Eastin, 2011; Moe, 2003; Rohm & Swamnathan, 2004). With online shopping no longer proving

to be solely utilitarian in nature, hedonic and exploratory tendencies are being exhibited on a more frequent basis by online shoppers, and despite an increase in research exploring the marketing implications of this relatively new medium, online shopping research is still lacking when compared to consumer research in an offline context (Kim & Eastin, 2011), especially when it comes to online searching and browsing activities (Moe, 2003). If practitioners wish to connect, target, and attract online shoppers in a meaningful way, they need to seek beyond comparing users to non-users. Instead, attention should be focused on understanding the variance that exists in the navigation habits of online shoppers, as these differences represent important, measurable individual differences in consumption behavior.

To illustrate this shift in online consumer motivation, *Section 1* of this chapter contains a review of pertinent shopping motivation and orientation research from both offline and online contexts. Understanding the possible underlying reasons for why and how consumers shop online will enable practitioners to target specific audiences and tailor online marketing content, including the design of websites (Joines, Scherer, & Scheufele, 2003). This section will not only highlight the similarities and differences between the consumers who use each shopping environment, but will illustrate an ongoing shift towards the more hedonic and exploratory consumer motivations in the online shopping environment. *Section 2* demonstrates the interconnectedness of constructs like hedonic shopping motivation, variety/novelty seeking, stimulation, innovativeness, information seeking/browsing behavior, and exploratory shopping behavior, and proposes that due to their shared origins it may be possible to identify a single measurable individual difference in shopping behavior that represents

manifestations of all of them. *Section 3* reviews research highlighting the features that make an online environment uniquely suitable for browsing, information search, and consumer exploration. In addition to this, recent research regarding how personal online behavior is being measured and tracked is considered, and the importance of studying the range and not just frequency of individual differences in online browsing patterns in reinforced. It is proposed in this section that the measurable indicator of *cross-category online browse range* should be considered as an important and impactful individual difference in online consumer behavior, and its connection to a variety of hedonic, exploratory, and innovative tendencies is discussed. *Section 4* identifies connections made in the literature between hedonic and exploratory consumer tendencies and important business outcomes like purchase behavior and website commitment, and provides insights into strategies for website design. *Section 5* provides a summary of the literature reviewed and main arguments presented, and *Section 6* outlines five relationships posited to exist between *cross-category online browse range* and recreational shopping orientation/hedonic shopping motivation, innovativeness, price insensitivity, need for variety, novelty and/or stimulation, and heavy Internet use. Finally, *Section 7* outlines the current need for this type of research, and proposes three research questions revolving around *cross-category online browse range* and intention to shop online, innovativeness, and general website feature preference.

1.1 Shopping Motivations and Orientations

Developing an understanding of shopping motivations and orientations is important when discussing how to best tailor a marketing mix to appeal to a specific

"type" of shopper. As shopping orientations have been shown to be relatively stable consumer dispositions across different shopping situations (Buttner, Florack, & Goritz, 2013; Westbrook & Black, 1985), they have traditionally been seen as a starting point to help guide communication decisions in both offline and online retail settings. Additionally, motivational factors have been found to play a key role in determining the amount of time spent on information gathering and shopping online (Zhou, Dai, & Zhang, 2007). As research pertaining to offline shopping contexts provides the foundation on which much of the modern research on online shopping is based, pertinent literature from both streams of research will be reviewed herein in a relatively chronological order. Covering both offline and online research streams in this fashion accomplishes two important things. First, it helps to highlight the similarities and differences between the consumer "types" who shop within each context. And second, it serves to illustrate, in both contexts, the shifts in consumer motivations throughout the years, and provides support for the emergence of a hedonically-oriented, exploratory online shopping motivation that deserves new attention and more focused research.

Providing a theoretical basis for examining the underlying reasons for why people shop, traditional motivation/gratification theory (McGuire, 1976) suggests that a spectrum of human motivations drive consumption-related behavior and therefore represent a major element affecting consumers' shopping decisions (Kim & Eastin, 2011; Rohm & Swamnathan, 2004). In an attempt to help scholars and practitioners understand and target specific market segments, numerous taxonomies, including typologies and lists of shopper orientations, have been developed based on a variety of these motivations for shopping. The term *shopping orientation* refers to individual differences in the general

predisposition of consumers toward the act of shopping. Representing combinations of key individuating and "enduring characteristics of individuals" (Westbrook & Black, 1985, p. 87), the orientations are operationalized by a range of attitude, interest, and opinion statements related to the topic of shopping and are subsequently used to cluster/segment consumers into relatively heterogeneous groups. Methodologically speaking many of the studies reviewed in this section represent interpretations from a two-step process, where researchers first seek to uncover the underlying motivations for shopping, and then use these motivations as the building blocks for developing shopper orientation taxonomies. Given this, the results you see reported may refer specifically to shopper motivations, orientations, or a combination of the two.

Shopping orientations have long been present in academic and marketing research, and have been shown to affect consumption-related behaviors including differential preferences for retail outlets (Gutman & Mills, 1982; Moschis, 1976), store attributes (Lumpkin, 1985), information search, evaluation, and product selection (Gehrt & Carter, 1992). Though these orientations are considered to be relatively stable across shopping situations (Buttner et al., 2013; Westbrook & Black, 1985), it is important to note that the motivations associated with these orientations do have the potential to be influenced by situational factors and other personal differences and can therefore never account for 100% of the variance in reported or observed shopping behavior (Monsuwe, Dellaert, & Ruyter, 2004; Zhou et al., 2007).

Though there traditionally has been a push to frame motivations along dichotomous, "either/or" lines, there is evidence suggesting that the complex and dynamic nature of consumers' shopping behavior is not adequately captured when

individuals are forced into one category or the other (Babin, Darden, & Griffin, 1994; Bäckström, 2011; Bunn, 1993; Cox, Cox, & Anderson, 2005; Jarboe & McDaniel, 1987; Stafford & Stafford, 2001). It has instead been suggested to think of consumers as existing on more of a continuum, where a shopper's motivations can range from rational and goal-oriented, to intrinsic and hedonic, and any combination in between. For example, Cox et al. (2005) found that nearly three quarters of the consumers in their sample found enjoyment in hunting for bargains online (''I get a *thrill* out of finding a real bargain'') (p. 257). Here a shopping activity traditionally defined as being economically driven and utilitarian in nature was found to be a pervasive source of hedonistic shopping enjoyment. Similarly, Bäckström (2011) concluded that consumers who engage in offline shopping as a form of leisure-time enjoyment find pleasure in "hunting" and "scouting" activities (p. 207). Therefore, instead of referring to strict, mutually exclusive categories of motivation or orientation, reference will be made instead to general, primary, or dominant tendencies in recognition of the multidimensionality of shopping motivation(s).

1.1.1 Offline Shopping. As the original shopper orientations were developed pre-WWW, they are specific to customers shopping in traditional offline retail contexts like brick-and-mortar stores, markets, and catalogs. Though it is perhaps less applicable to a discussion of online shopping, understanding the original findings of offline shopping motivation and typology research are important because much of the modern online shopping research is rooted in it and compared to it. Stone (1954) outlined one of the original shopper typologies, classifying consumers as one of four types: economic, personalizing, ethical, and apathetic. Almost 20 years later, using drastically different

methods and sample, Darden and Reynolds (1971) replicated Stone's original finding using shoppers' orientations to product usage as a measure. Stephenson and Willett (1969) used actual patronage and shopping behavior, and Bellenger and Korgaonkar (1980) used measures of shopping enjoyment and produced similar typologies, with Stephenson and Willett (1969) categorizing shoppers into loyal, recreational, convenience, and price-oriented, and Bellenger and Korgaonkar (1980) dividing them into recreational or convenience/economic types. In these typologies a shopper who falls primarily into the "convenience/economic" type is described as desiring convenience (in essence lowering the "cost" of shopping) as well as lower prices, both rational concerns associated with product acquisition.

Highlighting the importance of the aforementioned "recreational" shopper type, Tauber (1972) noted that shoppers are motivated by a variety of psychosocial needs other than those strictly related to acquiring a product. He hypothesized that instead of primarily utilitarian motives (convenience/economic), recreational shoppers would have personal motives (self-gratification, learning about new trends, and sensory stimulation) and social motives (communications with others having similar interests, and status and authority) for shopping. Working off Tauber's qualitatively derived hypotheses and McGuire's (1976) previous work on human motivations, Westbrook and Black (1985) used quantitative measures to confirm many of Tauber's original findings, postulating that seven stable shopper motivations exist, including: anticipated utility, role enactment, negotiation, choice optimization, affiliation, power and authority, and stimulation. Developing this work further, Dawson, Bloch, and Ridgway (1990) simplified Westbrook and Black's (1985) seven shopper motivations into three categories, noting that each of

the seven could be labeled primarily as product-oriented or experiential, or as representing a combination of the two.

Encouraged by the creation of the fifteen item Personal Shopping Value scale approximately two decades ago (Babin et al., 1994), a popular and related stream of consumer research has characterizing shoppers as gaining primarily utilitarian or hedonic value through their shopping experiences. Additionally, this research was bolstered by the development of Hausman's (2000) Hedonic Consumption Scale, which focuses specifically on identifying the hedonic value derived from a consumer's shopping activities. Though much of the research on shopping orientations is based on a utilitarian/hedonic continuum of motivation, there remain inconsistencies in language and subtle differences in constructs across, and even within, disciplines. For example, the utilitarian/hedonic continuum can be associated with other motivation-based comparisons like convenience/recreational (Bellenger, Robertson, & Greenberg, 1977), economic/recreational (Bellenger & Korgaonkar, 1980), product-oriented/experiential (Dawson et al., 1990), functional/hedonic (Venkatraman & Price, 1990), instrumental/ritualized (Hoffman & Novak, 1996), content-based/process-based (Parker & Plank, 2000), functional/non-functional (Parsons, 2000), instrumental/hedonic (Childers, Carr, Peck, & Carson, 2001), goal-directed/exploratory (Moe, 2003), extrinsic/intrinsic (Shang, Chen, & Shen, 2005), and cognitive/affective (Kim & Eastin, 2011).

Primarily utilitarian shoppers have been characterized as rational, goal-oriented shoppers, whose primary concern while shopping is successful product acquisition (Wolfinbarger & Gilly, 2001). As these shoppers are described as putting a premium on

efficiency, they often fall into categories like "convenience/economic" as discussed above (Bellenger & Korgaonkar, 1980; Monsuwe et al., 2004; Tauber, 1972). Describing the type of language used by utilitarian shoppers, Babin et al. (1994) note that shopping trips are "described by consumers as 'an errand' or 'work' where they are happy simply to 'get through it all'" (p. 646). Though impactful and predictive, utilitarian motivations fall short of capturing the full spectrum of what drives consumer behavior (Arnold & Reynolds, 2003; Babin et al., 1994; Kim & Eastin, 2011; Tauber, 1972), necessitating consideration of what Tauber (1972) referred to as the personal and social motivators of consumption, also known as hedonic.

The primarily hedonic shopper is said to be motivated by the experience of fun, interaction, stimulation, novelty, and variety (Babin et al. 1994; Hausman, 2000; Hirschman 1980; Holbrook & Hirschman, 1982). Experiential in nature, shopping activities can be dynamic, emotionally arousing, and multisensory, making it possible for consumers to satisfy their urge for curiosity and enjoy the act of shopping itself, for its own sake, without respect to purchasing or acquiring a product (Baumgartner & Steenkamp, 1996; Bloch, Sherrell & Ridgway, 1986; Hausman, 2000; Hirschman & Holbrook, 1982; Hoffman & Novak, 1996). Based on exploratory qualitative and quantitative studies, Arnold and Reynolds (2003) sought to create an inventory of consumers' hedonic shopping motivations for traditional retail outlets like stores and malls. The qualitative study resulted in the development of a six-factor, 48-item hedonic shopping motivation scale consisting of six "shopping motivation" subcategories, these being: adventure (shopping for stimulation and adventure), gratification (shopping for stress release or as a "treat"), role (shopping for others), value (bargain hunting), social

(enjoyment of socializing while shopping), and idea (shopping to see new products and keep up with trends). Using the quantitative results gleaned from the questionnaire they developed from this scale, a cluster analysis of consumers revealed five hedonic shopper segments: minimalists, gatherers, providers, enthusiasts, and traditionalists. Showing that minimalists (the majority of whom were middle-aged men) scored lower on most dimensions relative to the other segments, and enthusiasts (the majority of whom were young women) scored higher, their results highlight the multifaceted nature of hedonic motivation and demonstrated its significant positive relationships to constructs like innovativeness and browsing behavior, both of which will be discussed later.

1.1.2 Online Shopping. Though an online shopping environment is different in many ways from traditional offline retail outlets (stores, catalogs), many of the same research-related goals exist - mainly to understand consumers' media consumption and shopping behavior. As one can assume there are underlying motivations driving individuals' repeated use of a specific medium (Joines et al., 2003), seeking to understand online consumers' motivations has provided a good starting point for newer research (Stafford & Stafford, 2001). With the introduction of e-commerce and easily accessible online shopping channels came research contending that the dominant motivation to shop online was that of utility, downplaying the more stimulus-driven, hedonic online shopping motivations found in many offline shopping taxonomies. This was due in part to that fact that although the development of better navigation software and search engines was making the Internet shopping experience a more enjoyable and user friendly experience, it's social, entertainment, and interactive aspects paled in comparison to the dynamic offline shopping environment. Internet shopping was therefore often compared

to more static and convenient in-home forms of shopping like mail order or purchasing from catalogs (Donthu & Garcia, 1999). This resolution that those who were motivated to shop online did so because it was efficient, convenient, and/or economical (Burke, 1998; Donthu & Garcia, 1999; Jarvenpaa & Todd, 1997; Monsuwe et al., 2004; Szymanski & Hise, 2000) extended the perceptual gap between online and offline shoppers, painting a picture where the shoppers were as different as the mediums they used.

However, the ever-evolving technological landscape and growth of e-commerce has caused researchers to reassess previous assumptions, and not without reason. Looking at existing research on general web use and e-commerce, one will find the presence of hedonic, less utilitarian indicators in the literature. An example of this includes Eighmey and McCord (1998), two of the first researchers to apply motivation theory to Internet users in general, who found that hedonically driven experiential motivations including entertainment, information, personal involvement, and continuing relationships were drivers for continued Internet use. Korgaonkar and Wolin (1999) found that general web use (shopping, email, etc.) could be motivated by social escapism, socialization, and interactive control as well as transactional/economic elements. Similarly, Parker and Plank (2000) found that relaxation and escape were the most significant motivators for their student sample, and Stafford and Stafford (2001) found the major distinctive motivators for general web use to be search, cognitive/learning, finding new and unique things, socializing, and entertainment. Furthermore, Stafford and Stafford (2001) suggest that their primarily hedonic *socializing* type was specific to an online shopping context.

Turning towards e-commerce specifically, Joines et al. (2003) used Korgaonkar and Wolin's (1999) results for the basis of their study and concluded that their sample as a whole shopped online to save money, while downplaying the impact of the informational, interactive, and social motivators that were also found to be significantly and positively related to shopping online. Donthu and Garcia (1999) used a phone survey and a sample consisting of Internet purchasers and Internet non-purchasers, and concluded that those who used the Internet for purchasing were utility driven and primarily convenience-oriented. However, they also found that online shoppers shared common non-utilitarian characteristics such as innovativeness, impulsiveness, and variety seeking. Even Wolfinbarger and Gilly (2001), who resoundingly concluded that goal-directed (utilitarian) shoppers made up the majority of online consumers, noted that a younger minority of online shoppers are looking for "fun" in their online experience. By stating that "as younger surfers who have grown up on the net become full-fledged consumers, experiential benefits are likely to become more desirable" (p. 51), they highlight for the present-day reader this probable shift in online shopping motivation - for those who were fledgling online consumers in 2001 are now all grown up and looking for something more than utility in their online shopping experiences.

Reevaluating the previously accepted theory that online consumers are primarily utility-driven convenience-oriented shoppers, Brown et al. (2003) used a final sample of 437 online panel survey respondents to quantitatively determine online shopper segments. By using factor scores they derived from factor analyzing the shopper orientation survey items (created from scales previous established in the literature), they used cluster analysis and found support for seven shopper types: personalizing shoppers,

recreational shoppers, economic shoppers, involved shoppers, convenience-oriented/recreational shoppers, community-oriented shoppers, and apathetic/convenience-oriented shoppers. What is of importance here is that although a convenience-related motivational dimension was observed, it did not form the largest cluster of respondents, and was found only to exist in combination with the other dimensions of "recreational" and "apathetic". As the two largest groups of shoppers identified in this study were recreational shopping-oriented and price-oriented, taking up 17% of the sample each, the authors concluded that online retailers whose primary strategy is based on appealing to consumers' convenience-related motivations may be misguided. Furthermore, their finding of a large "recreational" shopper type highlights the significant role that hedonic shopping motivations may play in an online shopping context.

More recent research has offered further support for the reevaluation of these assumptions, by exposing an even wider spectrum of online shopping motivation, uncovering similarities between online and offline shopper taxonomies, and identifying new divergences. Focused on creating an online shopper typology, Rohm and Swamnathan (2004) ran parallel studies with samples of online (n = 412) and offline (n = 102) grocery shoppers and generated two different typologies using scale scores derived from factor analyzing the survey items for each sample separately, and interpreting and cross validating the subsequent cluster analyses. They found support for a four-group online typology: convenience shoppers, variety seekers, store-oriented shoppers, and balanced buyers (who represent an average of the three previously listed shopper types); and a three-group offline typology: the time-conscious shopper, the functional shopper, and the recreational shopper. Though the authors were surprised not to find support for

online types like “time savings” and “recreation and enjoyment” (commonly found in offline typologies like Bellenger and Korgaonkar, 1980), they were also not expecting to find that convenience shoppers, one of the more common types for both offline (Stephenson & Willett, 1969) and online (Donthu & Garcia, 1999) shoppers, made up the smallest percentage of their online sample at 11%. In addition to this, their results showed that variety seekers made up the largest percentage of their online sample with 41%. Variety seekers were described as being substantially motivated by seeking variety across retail alternatives, product types, and brands, and exhibited a high propensity to purchase from a variety of product categories. Though online variety seekers were shown to be somewhat motivated by convenience, they also seemed to share characteristics with previously found offline shopper motivations like “stimulation” and “recreation”. Rohm and Swamnathan’s (2004) study is important as it marks one of the first times “variety seeking” was used to describe an online shopper type. Furthermore, the size of the group (41% of the sample) suggests that variety-seeking behavior may an important construct to consider when differentiating between consumers in an online environment that offers consumers ever-expanding options and increased access.

Finally, based on a combination of a priori reasoning and an analysis of primary qualitative data from 105 in-depth interviews, Ganesh et al. (2010) developed a quantitative instrument that included 33 items relating to online shopping motivations (e.g., “looking for good deals”, “finding interesting websites”) (for list of all items, see Ganesh et al., 2010, p. 114). Using an online consumer panel they received 3,059 usable responses, on which an exploratory factor analysis and subsequent confirmatory factor analysis was run. A seven-factor shopping motivation solution was found with the

following factors: web shopping convenience, online bidding/haggling, role enactment (i.e., looking for deals, hunting for bargains, and comparison-shopping), avant-gardism (i.e., keeping up with trends), affiliation, stimulation, personalized services. The authors then ran a cluster analysis based on the respondents' ratings on the newly derived motivational factors. The results revealed that their derived online shopping "subgroups" shared five similar shopper categories with already established online and offline shopper typologies, these being: destination (i.e., motivated to keep up with trends), apathetic (i.e., lack of any strong motivations), basic (i.e., task-oriented shoppers motivated by convenience), bargain seekers, and shopping enthusiast. In other words, these five groups were nothing new to the literature, and represented a complete overlap between consumer orientations in both online and offline shopping contexts.

These authors did however, come across seemingly novel results indicating that two additional subgroups existed that were not only unique to the online shopping format, but hedonic in nature. The first subgroup represented primarily "interactive" shoppers, who were characterized by their strong satisfaction with personalized services and online bargaining activities. The second unique subgroup represented "e-window shoppers", a group predominantly motivated by stimulation and characterized by their tendency to visit "interesting" websites or to spend time browsing and surfing online. Unlike interactive shoppers, e-window shoppers were least interested in online bargaining activities, thus "supporting the profile of a curious shopper more interested in seeing what is out there than negotiating to obtain the lowest possible price" (Ganesh et al., 2010, p. 110). Together these two unique groups made up approximately 31% of the sample, and

their percentages were relatively equal to the size of the subgroups the authors found common to both online and offline shopping contexts.

Though Ganesh et al. (2010) note that the online shopper subgroups of *interactive* and "e-window shoppers" were unique when compared to the previously established offline shopping typologies, their uniqueness may be overstated, especially when considering the previously defined "personalizing" shopping orientation and the motivation of stimulation. Early on, studies by both Stone (1954) and Darden and Reynolds (1971) identified a "personalizing" shopping orientation the represented individuals who preferred the personal touches that shopping local merchants brought ("They're more personal. They get to know your name") (Stone, 1954, p. 38). Also, Tauber (1972) and Westbrook and Black (1985) identified the motivation of stimulation in offline shopping contexts. Similarly, the Arnolds and Reynolds (2003) study found an offline shopper motivation centering around a need for stimulation that they termed "adventure shopping".

Given this, one may conclude that although an interactive or e-window shopper's online browsing behavior may make these groups specific to an online context, their shared preference of personalized services or motivation for stimulation with offline shopping typologies points to important underlying similarities between offline and online shopping motivations.

The reviewed research reveals a definite need to reassess existing assumptions regarding the division between what motivates online and offline online shopping behavior. As one can see, recent research not only demonstrates that hedonic shopping motivations exist in an online shopping context, but shows that they play an equal, if not

greater role in motivating online shopping behaviors when compared to utilitarian motivations.

1.2 Exploratory Shopping Behavior

As evidenced in the previous section, studying the impact of motivating influences on buying behavior has been a somewhat popular pursuit. Though the practicality and modern-day usefulness of the shopper taxonomies developed throughout the years could be questioned, it is important to note that many of these taxonomies share the common practice of placing shoppers on some form of utilitarian/hedonic motivational spectrum. As recent research has illustrated the importance, and perhaps growing impact of hedonic motivation on behavior in an online shopping context (Brown et al., 2003; Ganesh et al., 2010; Rohm & Swamnathan, 2004; Wolfinbarger & Gilly, 2001), identifying and finding ways to accurately tap individual differences in the activities and tendencies associated with hedonic drivers could play an important role in not only understanding what drives online shopping behavior, but in developing marketing strategies to attract these types of shoppers.

One recurring theme discussed in association with hedonic shopping motivation has been differences in a consumer's tendency to explore. Exploratory shopping behavior has been related to hedonic motivation in both offline (Baumgartner & Steenkamp, 1996; Raju, 1980) and online (Huang, 2000; Menon & Kahn, 2002; Moe, 2003; White & Duckler, 2007) shopping contexts, and research into both areas shares many commonalities. For example, both have been related to concepts like a need for novelty and/or variety, curiosity, and innovativeness (Baumgartner & Steenkamp, 1996; Hoffman & Novak, 1996). In addition to this, exploratory shopping behavior has been shown to be

primarily intrinsically motivated, tied to the pleasure and value associated with stimulation, and characterized as undirected and stimulus-driven (Baumgartner & Steenkamp, 1996; Janiszewski, 1998). Finally, both hedonic motivation (Arnold & Reynolds, 2003; Bellenger & Korgaonkar, 1980; Westbrook & Black, 1985) and some aspects of exploratory shopping behavior (Baumgartner & Steenkamp, 1996; Raju, 1980) have strong connections to individual differences in information seeking and browsing behaviors. For example, when testing their Exploratory Buying Behavior Tendencies (EBBT) scale, Baumgartner and Steenkamp (1996) found that their cognitive-based sub-construct of "exploratory information seeking" (EIS) was significantly and positively related to the intensity of consumer browsing behavior, where their more sensory-based sub-construct of "exploratory acquisition of products" (EAP) was not. Those consumers higher in EIS are described by the authors as having a tendency to obtain stimulation through acquiring "consumption-relevant knowledge out of curiosity" (p. 125) and those consumers higher in EAP seek stimulation through varied and innovative purchase experiences.

The interconnectedness of many of the concepts seems unavoidable. Depending on a study's focus, these terms are commonly listed as indicators, antecedents, and/or outcomes for each other. For example, while examining the impact of variety seeking on product choices, Menon and Kahn (1995) linked four concepts (exploration, novelty, variety, and stimulation) in a one sentence conclusion: "a person may engage in exploration of the environment (e.g., variety-seeking or novelty-seeking behaviors) in order to achieve a satisfactory level of stimulation" (p. 286). Likewise, a year later Baumgartner and Steenkamp (1996) note:

> There is now general agreement that such activities as risk taking and innovative behavior in product purchase, variety seeking and brand switching, recreational shopping and information search, and interpersonal communication about purchases may be regarded as manifestations of exploratory tendencies in the consumer buying process. (p. 122)

This intermingling of constructs is nothing new. Reflecting upon the literature of the time, Hirschman (1980) revealed:

> The desire to seek out the new and different (i.e., inherent novelty seeking) is conceptually indistinguishable from the willingness to adopt new products (i.e., inherent innovativeness). Especially when one defines products in their broad sense, it becomes apparent that new products may constitute new information in the form of ideas (e.g., from magazines), services (e.g., education courses), and tangible goods (e.g., apparel, automobiles). Thus, a consumer who expresses a willingness to adopt a new product is necessarily also expressing a desire for novel information. (p. 285)

This realization caused her to redefine consumer novelty seeking as a type of actualized innovativeness, *vicarious innovativeness*, a term which refers to the acquisition of information regarding a new product. This she separated from *adoptive innovativeness*, the actual adoption of a new product. Raju (1980) was also guilty of crossing construct definitions, using the same items multiple times in each of the seven categories that create his Exploratory Tendencies In The Consumer Context instrument (repetitive behavior proneness, innovativeness, risk taking, exploration through shopping, interpersonal communication, brand switching, and information seeking) (see Appendix A for a color-coded list). Taking this intermingling a step further, Raju (1980) then compared his scale to Mehrabian and Russell's (1974) Arousal Seeking Tendency scale to show that those who have a higher optimum stimulation level are "generally more likely to manifest exploratory behaviors in the consumer-behavior context" (Raju, 1980, p. 279).

Complicating the matter further is the fact that the foundations for the operationalizing of many of these constructs share common roots. This fact is reflected in the similar language found among the definitions and sample items provided in Table 1 (or see Appendix A for some of the scales in full). Examples of how these concepts were outgrowths of each other include the fact that Baumgartner and Steenkamp's (1996) Exploratory Buying Behavior Tendency (EBBT) Scale was created in part to address the "fuzziness" of the boundaries between Raju's (1980) original seven categories. Yet, of their final 20 items, 13 were recycled from the Raju's (1980) original scale. Similarly, Pessemier and Handelsman's (1984) Index of Temporal Variety (Varied Consumer Behavior) instrument was developed off of Mehrabian and Russell's (1974) scale in the hopes to improve upon some of the limitations they identified. Furthermore, Goldsmith and Hofacker's (1991) Domain Specific Innovativeness scale relied heavily on work by Rogers and Shoemaker (1971) and Midgley and Dowling (1978), as did Hirshman's (1980) work on innovativeness, which in turn, was a primary influence for Hausman's (2000) Hedonic Consumption Scale. Finally, Manning, Bearden, and Madden's (1995) Consumer Innovativeness scale contains sections for both Consumer Novelty Seeking and Consumer Independent Judgment Making, was developed based on Hirschman's (1980) and Midgley and Dowling's (1978) studies, and includes scale items from both Goldsmith and Hofacker (1991) and Raju (1980).

Table 1.

Construct Definitions and Examples for Various Interconnected Terms

Construct	Definition(s)	Scale Example	Operationalization Example
Hedonic Consumption	• Value associated with the act of shopping itself (including browsing and searching), for its own sake, without respect to purchasing or acquiring a product. (Baumgartner & Steenkamp, 1996; Bloch, Sherrell & Ridgway, 1986; Hausman, 2000; Hirschman & Holbrook, 1982; Hoffman & Novak, 1996) • "Hedonic consumption designates those facets of consumer behavior that relate to the multi-sensory, fantasy and emotive aspects of one's experience with products." (p. 92) (Hirshman and Hollbrock, 1972) • "Increased arousal, heightened involvement, perceived freedom, and escapism" (p. 646) (Babin et al., 1994)	Hedonic Consumption Scale Hausman (2000)	• I like to shop for the novelty of it • Shopping satisfies my sense of curiosity • Shopping offers new experiences • I feel like I'm exploring new worlds when I shop • I go shopping to be entertained
Exploratory Shopping Behavior	• "A preference for shopping and investigating brands" (Raju, 1980, p. 278) • Curiosity-motivated behaviors, variety seeking, and risk taking (Raju, 1980) • Shopping activities performed that "provide consumers with a means of regulating their exposure to sensory and cognitive stimulation, and the various behaviors are exploratory in the sense that consumers engage in them primarily for the pleasure inherent in changing the stimulus field and not out of extrinsic reason." (Baumgartner & Steenkamp, 1996, pp. 121-122) ○ Exploratory Acquisition of Products: "a consumer's tendency to seek sensory stimulation	Exploratory Buying Behavior Tendency (EBBT) Scale Baumgartner & Steenkamp (1996)	*Exploratory Acquisition of Products* (EAP): • If I like a brand, I rarely switch from it just to try something different • I enjoy taking chances in buying unfamiliar brands just to get some variety in my purchase *Exploratory Information Seeking* (EIS): • I like to go window shopping and find out about the latest styles • I don't like to shop around just out of curiosity • I like to browse

		in product purchase through risky and innovative product choices and varied and changing purchase consumption experiences." (p. 124) ○ Exploratory Information Seeking: "a consumer's tendency to obtain cognitive stimulation through the acquisition of consumption-relevant knowledge out of curiosity." (p. 125)		through mail order catalogs even when I don't plan to buy anything
Consumer Innovative-ness	• "Eagerness to buy or know about new products/services" (Raju, 1980, p. 278) • "Consumers who wish to learn about and own the newest products. They are knowledgeable, somewhat price insensitive, and likely to be heavy users." (Goldsmith, Flynn, & Goldsmith, 2003, p. 54) (Also see Goldsmith, 2001)	Domain Specific Innovativeness Scale Goldsmith & Hofacker (1991)	• I know more about new products before other people do • Compared to my friends, I do little shopping. • I will consider buying a new product, even if I haven't heard of it yet	
Consumer Novelty Seeking	• "Consumers' motivation to obtain information regarding new products from commonly available sources" (Manning, Bearden, & Madden, 1995, p. 331) • "Through some internal drive or motivating force the individual is activated to seek out novel information" (Hirschman, 1980, p. 284)	Consumer Innovativeness Scale *(Consumer Novelty Seeking)* Manning, Bearden, & Madden (1995)	• I often seek out information about new products and brands • I seek out situations in which I will be exposed to new and different sources of product information • I am continuously seeking new product experiences	
Stimulation	• "Every organism most prefers a certain level of stimulation, which may be termed 'optimum stimulation.' When the environmental stimulation (which is determined by properties such as novelty, ambiguity, complexity, etc.) is below optimum, an individual will attempt to increase stimulation; when it is above optimum s/he will strive to	Arousal Seeking Tendency Scale Mehrabian & Russell (1974)	• I am continually seeking new ideas and experiences. • When things get boring I like to find some new and unfamiliar experience. • I eat the same kind of food most of the time. • I like to experience	

	reduce it." (Raju, 1980, p. 272) • "The amount of stimulation a person prefers, in general, from all possible internal and external sources across all possible situations and over time" (Menon & Kahn, 1995, p. 286)		novelty and change in my daily routine. • I don't like to have lots of activity around me.
Variety Seeking	• "The desire for a new and novel stimulus" (Hoyer & Ridgeway, 1984, p.115) • "A means of obtaining stimulation in purchase behavior by alternating between familiar choice objects (e.g., brands, stores) simply for a change of pace." (Steenkamp & Baumgartner, 1992, p. 435) • "The tendency of the individual to seek change or variety in choices over time" (Menon & Kahn, 1995, p. 285)	Straight Count/ Switching Behavior Menon & Kahn (1995) *Or* Index of Temporal Variety *(Varied Consumer Behavior)* Pessemier & Handelsman (1984)	• Based on purchase or browsing sequences "with variety-seeking behavior's being operationalized with such measures as the number of different brands chosen or the degree to which choices are concentrated." (Steenkamp & Baumgartner, 1992, p. 438) • "The dissimilarity of the brands chosen by an individual and the extent of the change an individual experiences from one purchase occasion to the next" (Pessemier & Handelsman 1984, p. 437).
Information Seeking	• "Interest in knowing about various products and brands mainly out of curiosity." (Raju, 1980, p. 279)	Exploratory Tendencies In The Consumer Context (*Info Seeking Scale*) Raju (1980)	• I like to browse through mail order catalogs even when I don't plan to buy anything • I often read advertisements just out of curiosity

An outcome of this interconnectedness is the fact that as seen above, these concepts (be they affective or cognitive in nature) can and have been used to operationalize each other. For example, Menon and Kahn (1995) used Raju's (1980)

"exploratory" scale and Mehrabian and Russell's (1974) "stimulation" scale in tandem to operationalize consumer variety seeking in their study. Given this trend, and given the fact that human shopping behavior involves an intermingling of related cognitive and affective antecedents (a detailed discussion of which falls beyond the scope of this paper), it is proposed herein that a single measurable individual difference in shopping behavior could represent manifestations of several of the related concepts discussed above – exploratory shopping behavior, hedonic shopping motivation, variety/novelty seeking, stimulation, innovativeness, and information seeking. This idea is supported through a closer examination of the research on exploratory shopping behavior, innovativeness, and information seeking/browsing behavior. As one will see, these concepts, though treated as separate constructs in the literature, are interconnected to a degree that differentiating between them is difficult to do, especially given the fact they are often shown to drive similar shopping behaviors, like browsing.

1.2.1 Exploratory Shopping Behavior and Innovativeness. As seen above, the concept of innovativeness has been inextricably tied to the definition of exploratory shopping behavior. Innovativeness has been researched in a general *life* sense - as an innate or global personality trait which is present in all individuals to some extent (Midgley & Dowling, 1978). Another stream of research has looked specifically at consumer innovativeness, with a focus on the adoption of new products or product information by consumers. Innovative consumers have been described as "dynamic, curious, communicative, stimulation-seeking, venturesome, and cognitive individuals" (Wood & Swait, 2002, p. 2). The scales designed to measure innovativeness at this level of abstraction are generally considered *adoptive* innovativeness scales (Roehrich, 2004)

and are designed to measure innovativeness as a tendency to buy new products. Examples of this type of scale include many of the ones already discussed, including Raju's (1980) innovativeness scale, Goldsmith and Hofacker's (1991) Domain Specific Innovativeness Scale (DSI), Baumgartner and Steemkamp's (1996) Exploratory Buying Behavior Tendency (EBBT) scale, and Manning et al.'s (1995) Consumer Innovativeness scale. Not surprisingly, given the relationships already discussed between these scales and the constructs they reflect, these scales have been found to be strongly related to constructs like stimulation need, sensory sensation seeking, variety seeking, and novelty seeking (Hirshman, 1980; Roehrich, 2004).

Important here is the fact that innovativeness scales at this level of abstraction have been shown to be better predictors of online behavior than those on the general level (Chang, Cheung, & Lai, 2005). For example, Blake, Neuendorf, and Valdiserri (2003) surveyed 208 Internet users and found that DSI is related to activities like Internet shopping and using the Internet to gather product information, and was found to be predictive of the number of different product classes shopped (visited or purchased from) online. Hodges (2009) showed that a new scale that falls at a level of abstraction between innate "life" innovativeness and DSI - the General Shopping Innovativeness (GSI) scale (see Appendix A for the scales in full) - was able to predict the frequency of online purchase behavior and the number of product categories purchased from online, but was not predictive of the range of categories browsed online (searched/visited) above and beyond the variables of intention and DSI. Similarly, Baumgartner and Steemkamp (1996) found the Exploratory Acquisition of Products sub-scale (EAP) to be strongly related to innovativeness (as defined by whether or not the subject purchased a lottery

ticket) and the Exploratory Information Seeking sub-scale (EIS) to be related to the amount of time spent looking for and examining product information. Additionally, Bellenger and Korgankar (1980) found that the more innovative a consumer was the more likely they were recreational shoppers and actively involved in information seeking behaviors. Finally, Raju (1980) defined consumer innovativeness as an "eagerness to buy or know about new products/services" (p. 278), and concluded that exploratory consumer behavior was most likely to manifest itself through risk taking behaviors and innovativeness.

1.2.2 Browsing Behavior. A large component of a consumer's shopping process is generally recognized to be that of the information search, which has been traditionally reduced to a comparison between two general types of search behavior; browsing and goal-directed pre-purchase search (Bloch, Ridgway, & Sherrell, 1989; Janiszewski, 1998; Rowley, 2000). "Browsing" is understood in the literature as ongoing search behavior in a retail environment for informational and/or recreational purposes, without an immediate intention to purchase a product or service (Bloch et al., 1989). Originally, the idea of browsing was conflated with utility-driven pre-purchase deliberation behaviors, where search behavior is calculated, rational, and motivated by a desire to seek out information as a function of the expected benefit that information will have on a specific impending purchase (Bloch & Richins, 1983). However, it has since been accepted that that many consumers enjoy the hedonically motivated act of browsing, or "shopping" itself, without respect to its impact on immediate purchase decisions (Bloch et al., 1986; Holbrook & Hirschman, 1982).

Traditionally, the literature suggests that browsing behavior differs from goal-directed search in that it is, among other things, primarily recreationally motivated (Bloch et al., 1989; Jarboe & McDaniel, 1987), related to the need for stimulation, exploration, and variety (Bloch et al., 1989), and used to gather information for future use and/or to maintain opinion leadership status (Bellenger & Korgaonkar, 1980; Bloch et al., 1986). Similarly, studies have shown that in offline contexts, primarily "recreational" shoppers have a tendency to browse more often (Arnold & Reynolds, 2003; Bellenger & Korgaonkar, 1980; Bloch & Richins, 1983) and enjoy the shopping process more (Bäckström, 2011; Kim & Kim, 2008; Westbrook & Black, 1985), than those motivated by utility alone. More exploratory search behaviors in consumers have also been shown to explain differences in consumer involvement and purchase behavior above and beyond what was accounted for by goal-directed search motivations (Janiszewski, 1998).

Like in an offline context, browsing online holds value in and of itself, as it can provide both practical informational findings as well as a hedonic "consumption experience" for the online shopper (Menon & Kahn, 2002, p. 39). Research has demonstrated a connection between hedonic shopping motivation in an online context and higher levels of browsing, exploratory search behavior (Kim & Eastin, 2011; Menon & Kahn, 2002; Moe, 2003) and information search behavior (Vazquez & Xu, 2009). To test the relationships among variables including hedonic shopping motivation, exploratory information-seeking behavior, and online browsing, Kim and Eastin (2011) used Hausman's (2000) Hedonic Consumption Scale and Baumgartner and Steenkamp's (1996) Exploratory Buying Behavior Tendency (EBBT) Scale in an online survey of university students. With a final sample of 255, their results found significant positive

bivariate relationships between these variables, illustrating the connection between exploratory online behavior and "trait-based" (p. 83) hedonic shopping motivation. Additionally, by using structural equation modeling, the authors confirmed a model where a consumer's level of hedonic shopping motivation drives exploratory information-seeking behavior, which in turn drives pre-purchase online browsing time (online browsing that is both more frequent and longer in duration).

1.2.3 Demographics and Online Browsing Behavior. As the effect of demographics on online shopping behavior is not the focus of this paper and did not play a large role in this study, they will be discussed briefly in the "Methods" and "Results" chapters. However, on this note, it does bear mentioning that Internet users are a varied bunch and research findings on Internet shoppers' demographic characteristics are somewhat mixed and inconclusive. While some researchers have attempted to demonstrate that the "digital divide" is alive and well when it comes to education level, ethnicity, and gender (Goel, Hofman, & Sirer, 2012), others argue that as Internet usage increases the variability in its users' demographic profile has begun to resemble the general population's as a whole. Weinreich, Obendorf, Herder, and Mayer (2008) supported the latter argument and concluded from their study of web usage that individual differences in web browsing were not related to demographics, but were mainly caused by differences in user tasks, habits, and the character of the websites visited.

That being said, a demographic effect that has been reliably demonstrated is the effect of gender on online browsing and information search, and this deserves discussion. Campbell (2000) noted that males generally view shopping as something that is utilitarian

in nature and goal-driven. Seeking a successful conclusion to the "task" of shopping, men will put a premium on site features supporting efficiency and convenience, thus limiting online search time. On the other hand, females were described as finding the act of shopping intrinsically rewarding and enjoyable – an end in and of itself. Supporting these conclusions, Park, Yoon, and Lee (2009) used a month of clickstream data from visitors to a clothing website and a personal electronics website (377,797 total recorded visits) and showed that compared to males, females tended to search for various shopping-related information more frequently during the shopping process, including reading product and customer reviews. Similarly, Laroche, Saad, Cleveland, and Browne (2000) demonstrated that males will attend to a smaller range of information sources than females before declaring the shopping task a success. In addition to this, Richard, Chebat, Yang, and Putrevu (2010) noted that the men and women in their sample differed in their exploratory online behavior. Here men were found to be straightforward information processers driven by both entertainment and structure, and women were found to be relational and "big-picture" navigators. Overall they found that women explored more online and became more involved in the online shopping process. They also noted that though women were also driven to explore online by entertainment features of a website, they were also influenced by the detail of the information provided, as opposed to the structure/navigability of the site itself, like men.

1.3 Online Browsing Environment

Though there may be significant underlying similarities between offline and online shopping motivations and orientations there are fundamental differences in the shopping experiences themselves. For one, the online environment is uniquely suited for

browsing and consumer exploration. As Shim, Eastlick, Lotz, and Warrington (2001) state: "The role of information search is significantly heightened in the context of Internet shopping as compared to traditional store shopping" (p. 398). Where offline shopping requires a series of discrete, specific activities that are separate in time and space, the online environment allows for the simultaneous performance of browsing, searching, and purchasing activities, utilizing the same actions - clicks and searches - to perform each one (Demangeot & Broderick, 2009; Kumar & Tomkins, 2010). This fluidity of access, use, and execution creates an environment that is exceptionally suited to information search activities and encourages exploration, as consumers must "find" their way through the environment as they gather information. The ability to perform these shopping activities simultaneously has led some to propose the categories of browsing and pre-purchase information search as outlined by Bloch et al. (1989) may be less relevant to an online shopping context. As stated by Demangeot and Broderick (2009) "consumers likely switch from one mode to the other during the course of one shopping navigation, committing some information to memory…while concurrently deciding to make a particular purchase. The concept of exploration encompasses both motives" (p. 473). This point was illustrated by Stafford and Stafford (2001) who found that for their sample of 343 Internet users, the dominant motivation for Internet use was that of "search", a factor comprised of both ongoing browse/surfing activities (process-related/hedonic) and goal-directed informational search activities (content-related/utilitarian).

Consumers' involvement in online exploration is perpetuated by the fact that websites are designed for active use, and as sites evolve from static information resources to dynamic and interactive applications, the user's control over their personal online

consumption experience grows (Weinreich et al., 2008). Menon and Kahn (2002) describe the unconstrained freedom of an online retail environment when they note:

> On the Internet, consumers have full control over choice of websites to visit and the information they seek. Unlike a physical retail environment, where the store layout can significantly constrain consumers' search patterns and choices, consumers traversing the Internet can effortlessly move from one "aisle" to the next and from one website to another. (p. 37)

The idea of active involvement and control is important when studying online shopping behavior. Heighted involvement and freedom of choice within any retail context have previously been shown to be fruitful sources of hedonic value (Babin et al., 1994; Bloch & Richins, 1983). In addition to this it has been claimed that intrinsic motivation and involvement in online shopping contexts make hedonistic consumers more likely to be loyal than goal-directed consumers (Zhou et al., 2007). Understanding the motivations associated with a user's continued involvement with, and exploration of, an online shopping environment will help researchers and marketers understand what influences online shopping behavior (Stafford & Stafford, 2001).

Today's consumers live in an Information Age, with access to an online world that offers an infrastructure through which they are able to search, compare, and retrieve information more easily and at deeper levels than in traditional offline contexts (Brown et al., 2003; Krogonkar & Wolin, 1999; Kumar & Tomkins, 2010; Lynch & Ariely, 2000). This world's unique features are summed up by Demangeot and Broderick (2009), who wrote:

> Electronic data is (sic) stored and can be retrieved in a manner which gives shoppers access to quasi-unlimited amounts of information from a variety of sources (the marketer, other users, experts, opinion leaders etc.). The data can be accessed immediately (via competently-executed searches) or can facilitate, through a series of hyperlinks, in-depth information gathering, to browse or make

> a purchase decision. Thus, the scrolling up or down of long pages or the clicking of successive hyperlinks are different forms of exploration of the virtual shop, of the product range or of a particular product's information. (p. 473)

It has been proposed that these value-added features have greatly reduced the effort and costs associated with searching for information, thus encouraging more search activity (Klein, 1998; Kumar & Tomkins, 2010; Liang & Huang, 1998; Menon & Kahn, 2002). Though some have been surprised by the limited amount of browsing activity they observe in their studies (Johnson, Moe, Fader, Bellman, & Lohse, 2004), most research indicates that online search behaviors are growing, especially in the U.S. (Kumar & Tomkins, 2010). Recent user statistics collected by the Pew Research group support the latter, reporting that more American adult Internet users are using a search engine to assess information online (91%) than are using email (88%). In addition to this 78% of users claim to use the web to look up information on something they are thinking of buying and 74% report going online for fun or to pass time (Pew Internet & American Life Project, 2012). Similarly, in their "Understanding how U.S. online shoppers are reshaping the retail experience" paper, PricewaterhouseCoopers LLP cited research from Forrester's "U.S. Online Retail Forecast, 2010 To 2015" report referencing the sophistication level of present-day online shoppers: "Many of our respondents considered themselves to be highly capable in terms of researching and purchasing online. In fact, 72% of U.S. respondents consider themselves to be either confident or experts in this regard" (PricewaterhouseCoopers LLP, 2012, p. 7). In addition to this they noted the large range of product categories reported to be shopped by online consumers, with 48% of the global population surveyed saying they shopped online across at least ten of the

categories listed (the total number of product categories included in survey was not listed in report).

1.3.1 Measuring Online Browsing Behavior. Another unique feature of an online shopping environment is the measurability of shopping activity. Internet web usage data, or clickstream data, from either the client (ComScore Networks) or server side (Yahoo!, Google) allows for the examination of customers' online search behavior in a field setting. The existence of this data has been described as one of the "most promising facets" (Bucklin & Sismeiro, 2003, p. 249) of the online medium, providing an opportunity to study how users browse or navigate websites, leading to a veritable "cornucopia" (Moe, 2003, p. 29) of data and research possibilities including predictive modeling and machine learning. Recent research using clickstream data has revealed a large and growing number of online browsers, showing that online search activities in general, over pages, listings, and multimedia are increasing in usage (Kumar & Tomkins, 2010).

In this line of research "browsing" activities are distinguished from "searching" activities not from what drives them from a motivational standpoint as in the research outlined above, but from the origin of the "interaction". Specifically, *searching* involves a user typing a query into a search engine and *browsing* involves clicking through to pages that lie somewhere on path flowing away from the original search results page (hence "clickstream"). White and Drucker (2007) analyzed clickstream data for 2,527 participants over a five month period (which resulted in views of approximately 80 million web pages) and found that browsing activity made up 71% of the observed user interactions, with searching at 29%. Further analysis found that web users exist on a

spectrum, and towards the extreme ends, could be broken down into "navigators" and "explorers". Here, a navigator's online behavior is consistent, sequential, and contained, where an explorer frequently branches off the original search path, re-starts multiple searches in a session, and visits new online domains. This variability in online search and browsing behavior was echoed in a study by Weinreich et al. (2008) who found that the intensity and type of web use differed greatly between the participants in their sample, not only in the number of web pages viewed per day, but in the number of separate domains visited per day. Similarly, a study by Johnson et al. (2004) found that more-active online shoppers tend also to search across more sites.

In addition to differences between *browsing* and *searching* behaviors, the online population has also been segmented by usage level, typically into high, medium, and low users (ComScore, 2007). To study the differences in web usage and online shopping behaviors, Korgaonkar and Wolin (2002) used results from 420 participants and segmented them into high, medium, and low user groups. Their results showed that the high users searched for new and different websites with varying themes and are frequent online purchasers. These types of studies often warn against adopting a one-size-fits-all approach to understanding online browsing and search behavior, with Weinreich et al. (2008) heeding:

> We want to emphasize the risk of drawing too extensive interpretations solely from average numbers, and the necessity to consider individual differences as well. The variety in personal navigation habits between our participants suggests that one has to be careful to speak of the average user of the web. (p. 24)

Recent research has shown these "explorers" and "heavy users" are worth taking note of. For one, Internet usage has a demonstrated positive relationship with online purchase

intentions (Blake at al., 2003; Citrin, Sprott, Silverman, & Stem, 2000; Shim et al., 2001). In addition to this, heavy users are responsible for a great deal of online activity, the motivations of which should be of particular interest to academics and practitioners alike. As noted by Goel et al. (2012): "given that the top 20% of users generate more than 60% of all pageviews these heavy users' behavior is particularly consequential" (p. 3).

With the ability to measure and track behavior comes the battle to uncover, analyze, and utilize the potential that lies therein. Some researchers have recently demonstrated the ability of web browsing data to predict consumer characteristics (Goel et al., 2012; Hu, Zeng, Li, Niu, & Chen, 2007; Jones, Kumar, Pang, & Tomkins, 2007). Korgaonkar and Wolin (1999) noted the importance of this data in opening up a two-way communication channel between "heavy"/"interactive" online users and marketers:

> Web users have control over the presentation order of the information they view, the amount of information they view, and the style in which they view information (i.e., video, audio, pictorial, and text formats). This interactivity feature unique to the web iterates between the firm and the user, requiring information from both parties to align the needs of the user. These iterations allow firms to build databases that enhance both the consumers' experiences and the firms' marketing efficiencies. Thus, web users who enjoy the interactivity of the web are likely to be important targets for marketers. (p. 64)

This change in the flow of information was also highlighted by Stafford and Stafford (2001) who noted that an evolution was taking place in e-commerce, one where "the marketing communication flows that support commercial activity are reversing from marketer-consumer to consumer-marketer" (p. 22).

Though collecting data on general browsing behavior is a rich source of information, there are researchers calling for information specific to cross-category behavior (range), as opposed to general Internet usage (frequency). Assessing the range

of categories browsed is clearly different from accounting for the frequency of browsing, as they tap different forms of behavior – breadth versus depth – and have been shown to respond to different determinants (Blake et al., 2003). In their discussion of the facets that make up their Online Shopping Profile, Blake, Valdiserri, Neuendorf, and Valdiserri (2007) note that accounting for the distinction between range and frequency could be "critical" (p. 29):

> Consider a market sector composed of persons who repeatedly shop online within a single product class and are reluctant to go online for other product classes. Such a market, despite its proclivity to online shopping, may offer little sales potential to a marketer with a product from a new and untried class or to a marketer whose site offers a broad line of products. (p. 29)

This was echoed by Moe (2003) who called for retailers to record webpage content and the product categories they belong to in a meaningful, searchable way. She proposed that characterizing consumers using their online browsing patterns across sites could provide insight into their shopping motivations, allowing marketers to design more effective and tailored promotions. Similarly, while looking at the benefits of storing data on individual differences in online cross-category browsing behavior, Menon and Kahn (2002) suggested that by tracking browsing behavior prior to entering a site, including the content/categories of the previous sites browsed, developers could predict the emotional state/optimum stimulation level of the online consumers and adjust website features accordingly. This sort of real-time modeling is what Weinreich et al. (2008) referred to as the coupling of "machine learning with large-scale behavioral data to better understand and support human information-seeking behavior" (p. 27). In their study they also stressed the need to tap data on cross-site browsing patterns.

1.3.2 Cross-Category Online Browse Range. Given the research examined above, it is proposed that the range of categories browsed by a consumer online could be an important individual difference, one with the potential to represent manifestations of several of the inter-related shopping motivations, orientations, and tendencies discussed above. Referred to here as *cross-category online browse range*, this individual difference pertains to the variety of product categories browsed online and is represented by a total count of the different product categories visited online within a specified timeframe. This variable is related to (Johnson et al., 2004), but different from (Weinreich et al., 2008) the frequency of browsing behavior (usage, hours/days count). Here, the term "product category" pertains to a group of products or services that share similar attributes. This study utilized a list of 13 product categories, representing a general list of product and service categories likely to be shopped for online, and included the following categories: clothing/accessories, books/magazines, travel transportation, travel destinations, health and medical products, financial securities and investments, consumer electronics equipment, home appliances, entertainment events, music/movies, computer hardware or software, restaurants, and food/beverage/groceries.

The study of "individual differences" in Psychology takes place on several different levels of analysis and generally involves identifying how *some* individuals are similar to others. Research in this stream often focuses on identifying underlying latent constructs reflecting chronic orientations and predispositions to respond. Studying the variable of *cross-category online browse range* differs from this traditional research as it is indicative of a form of behavior that in itself is not proposed to reflect a specific underlying latent variable, but instead represents a more covert, manifest individual

difference in shopping behavior. In this case, *cross-category online browse range* would fall under what Weinreich et al. (2008) refer to as "personal navigation habits" (p. 24), or important individual differences among consumers regarding the way they search and browse for information online.

Supporting this connection between *cross-category online browse range* and the inter-related shopping motivations, orientations, and tendencies already discussed, research has illustrated a connection between an increase in the variety of websites visited and constructs like online exploratory shopping behavior, innovativeness, and hedonic motivation. For example, heavy and more exploratory users have been shown to have hedonic motivations, shop and browse online more (Bloch & Richins, 1983; Kim & Eastin, 2011) and regularly visit new online domains (Korgaonkar & Wolin, 2002; White & Drucker, 2007). In addition to this, Blake et al. (2003) and Hodges (2009) found that a consumer's level of Domain Specific Innovativeness was positively related to the number of product categories browsed and purchased from online and General Shopping Innovativeness was related only to their purchase range. Moreover, Rohm and Swamnathan's (2004) "variety seekers" were hedonically motivated and exhibited a high propensity to purchase from a variety of product classes, and Ganesh et al.'s (2010) "e-window shoppers" were motivated by stimulation and commonly spent time online browsing, surfing, and visiting "interesting" websites.

Moreover, exploratory behavior and variety/novelty seeking are often found to be related to a need for stimulation in a consumer context, as repetition of the same item (product, promotion) has been said to reduce the level of stimulation for the consumer because the item is no longer novel or complex (McAlister & Pessemier, 1982; Raju,

1980). Hoyer and Ridgway (1982) observed that individuals with a high need for stimulation were more likely to engage in consumer variety seeking – a hunt for new and novel stimuli - and that this in part drove exploratory shopping behavior. Additionally, Menon and Kahn (1995) concluded that a desire for stimulation or variety could be satisfied either from variation within a product category (a term called "brand switching") (p. 294) or from variation across product categories.

Moe (2003) brought together many of these concepts in her study of online shopping behavior. The study was based on seven weeks of clickstream data from 5,730 unique visitors of an online store that sold a variety of products associated with health and nutrition. The content of the pages was tracked (category-level, product-level, informational, etc.) and patterns were derived. A cluster analysis revealed five clusters of consumers, one of which was called "shallow" as they did not represent "serious visitors" (p.36), two of which were classified as utilitarian; "directed buying" and "search/deliberation", and two of which were exploratory; "knowledge building" and "hedonic browsing". The author noted that where knowledge building behaviors are undertaken in order to learn and retain product-related information:

> behavior for hedonic browsers is significantly less focused…because hedonic utility is derived by exploring and encountering new stimuli during these visits, hedonic-browsing sessions should exhibit a lot more variety, both in terms of the products and categories viewed. (p. 31)

The study's results supported this description, with those engaging in hedonistic online browsing behavior exhibiting "very broad search patterns across a high variety of both categories and products" (p.38). In addition to this, Moe (2003) concluded that based on their search patterns, these browsers were seeking out new stimuli to view (p. 35).

Also worth noting here is the sheer size of the hedonic browsing group found in this study. When considering the *shallow* non-serious visitors (who are the majority at 75.6%), *hedonic browsers* are next in line at 16%. This is significant when compared to the next largest group, *directed buyers* at 3.5%. By eliminating the *shallow* visitors and considering only the four groups of "serious" visitors (people who actually took some time to look around), *hedonic browsers* account for 65.5% of the remaining sample. Therefore, Moe (2003) not only demonstrated the positive relationship between hedonic motivation, exploratory behavior, variety/stimulation, and an increase in the range of categories browsed online, but provided some insight into the potentially large number of browsers that exist online. This latter point lends support to the previous observation regarding the growing presence (and therefore importance) of hedonically motivated shoppers online.

1.4 Bottom-line Implications of Exploratory Shopping Behavior

The literature shows that there is significant practical value associated with gaining a better understanding of hedonic shopping motivation, exploratory behavior, browsing, and the roles they may play in e-commerce. Research has connected these constructs to tangible outcomes like a consumer's intent to purchase, impulsive purchase behavior, attitudes about the website, and additional forms of online shopping attitudes and behavior that have the potential to affect a business's bottom line (Kim & Eastin, 2011). Additionally, by reviewing some studies that connect these shopping behaviors to website features and attributes, one will see that the literature in this area holds huge implications for website design and differentiation.

1.4.1 Intention to Purchase. Research shows there is a strong connection between a consumer's intent to search for information and his or her intention to purchase a product or service. Focusing on the online consumer's intentions to purchase products and search for information online, Shim et al. (2001) used a mail survey and collected data from a total of 684 U.S. computer users. Analyzing the data using a structural equation model, their results showed that a consumer's intention to use the Internet to search for information (operationalized as the likelihood that they would seek information about each of the products entirely from a retail store, entirely from the Internet, or from some combination of the two) was not only the strongest predictor of Internet purchase intention but also mediated relationships between purchasing intention and other predictors like attitude toward Internet shopping, perceived behavioral control, and previous Internet purchase experience. These results were supported by Kim and Park (2005) whose results showed a strong positive impact of online information search intention on purchase intention in an online store. It is important to note that the Shim et al. (2001) study focused specifically on attitudes and behaviors pertaining to what have termed "search goods" (like books), as opposed to "experience goods" (like shoes) (Klein, 1998). Here, "experience goods" are products where individuals prefer to obtain product information by experiencing the product through their senses (touching, smelling, tasting, etc.) as opposed to "search goods" where a hunt for factual information is preferred for product evaluation. The results from this study indicated that for products that can be considered search goods, a consumer's intention to search online for product information "*leads to* an intention to purchase through the same *medium*" (Shim et al., 2001, p. 411), meaning that these consumers are more likely to purchase online as

opposed to utilizing multi-channel strategies where they search online and purchase through a traditional bricks-and-mortar channel. The finding that a consumer's intention to engage in a form of online exploratory behavior is predictive of purchase intention through the same medium not only highlights the need to understand this type of exploratory behavior, but also makes evident the importance of uncovering the attributes that encourage this type of exploratory behavior to take place in the first place.

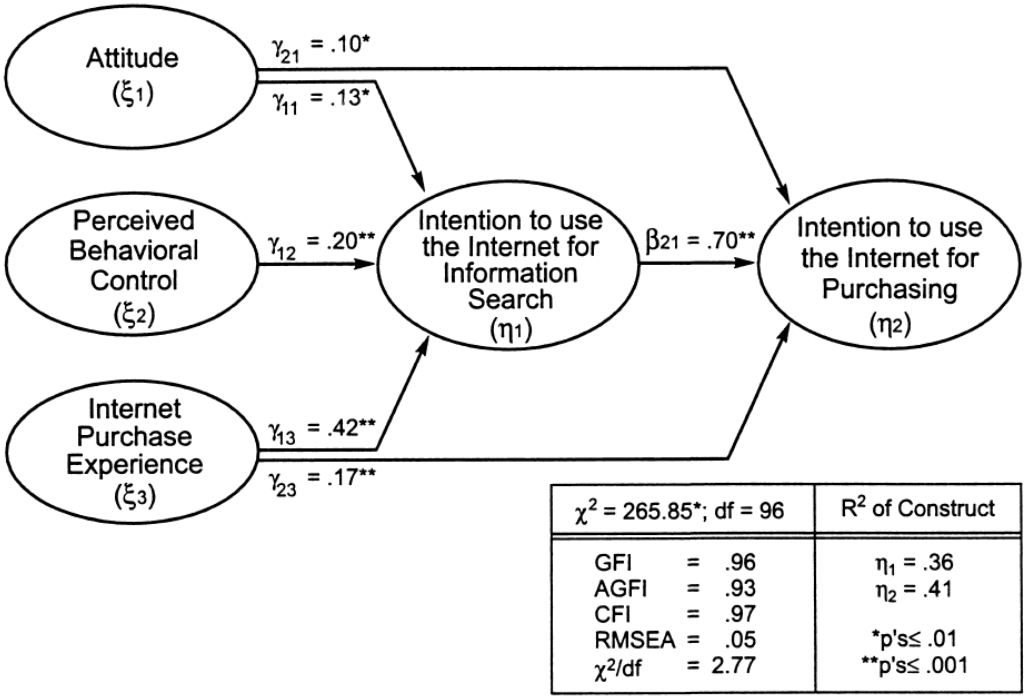

Figure 1. Final model predicting online prepurchase intentions. Reprinted from "An Online Prepurchase Intentions Model: The Role of Intention to Search," by S. Shim, M. A. Eastlick, S. L. Lotz, and P. Warrington, 2001, Journal of Retailing, 77, p. 409. Copyright 2001 by New York University.

1.4.2 Purchase Behavior. As previously described, a study performed by Kim and Eastin (2011) used results from a self-report survey to confirm a structural equation

model (Chi-square = 20.750, df = 16, p > .05, GFI = 0.980, AGFI = 0.956, CFI = 0.983, RMSEA = 0.034) (p. 82) where a consumer's level of *hedonic shopping motivation* drove *exploratory information-seeking behavior*, which in turn drove *pre-purchase online browsing time*. However, their study went on to show that *pre-purchase online browsing time* (in hours and minutes) drove *online buying frequency*. The authors note that their findings support that "frequent and longer browsing may also contribute to future purchase decisions" (p. 84). Their results also showed that a consumer's *hedonic motivation tendency* had a direct impact on level of online *impulse buying*.

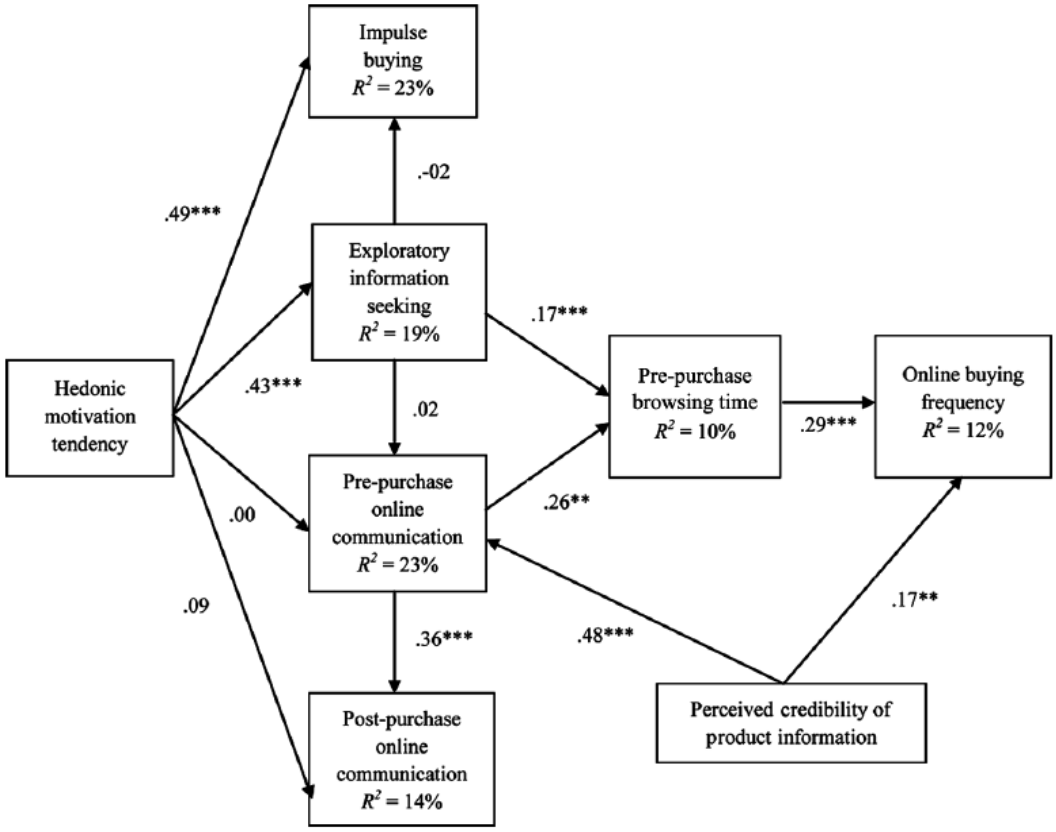

Figure 2. Hypothesized structural model. Reprinted from "Hedonic Tendencies and the Online Consumer: An Investigation of the Online Shopping Process," by S. Kim and M. S. Eastin, 2011, *Journal of Internet Commerce, 10*, p. 82. Copyright 2011 Taylor & Francis Group, LLC.

Kim and Eastin's (2011) confirmed connection between hedonic motivation, exploratory consumer behavior, and impulse buying is nothing new. As hedonically motivated online consumers tend to navigate the web without specific goals, some have hypothesized that this would, by nature, make them more reactive and impulsive, therefore making them more likely to engage in unplanned purchase behavior (cf. Bellenger & Korgaonka, 1980; Zhou et al., 2007). These theories are based in part on a string of research connecting hedonic motivations to impulse buying in offline contexts (cf. Arnold & Reynolds, 2003; Babin et al., 1994; Beatty & Ferrell, 1998; Hausman, 2000; Wolfinbarger & Gilly, 2001). Impulse buying was defined by Beatty and Ferrell (1998) as "as sudden and immediate purchase with no pre-shopping intentions either to buy the specific product category or to fulfill a specific buying task. The behavior occurs after experiencing an urge to buy and it tends to be spontaneous and without a lot of reflection" (p. 170). Unlike Kim and Eastin (2011) who found a direct path from hedonic motivation and impulse buying, research focusing on offline retail contexts have often illustrated a mediating effect that browsing has on the hedonic/impulse buying relationship. Here, a consumer's hedonic shopping motivation drives longer in-store browsing sessions, which leads to a greater likelihood that a consumer will engage in impulse purchasing behavior (Beatty & Ferrell, 1998; Gültekin & Özer, 2012). These findings are similar to the line of literature that suggests a positive relationship between the amount of time spent in a store and the amount of money spent in it (Wakefield & Baker, 1998).

1.4.3 Website Design. Hedonic and exploratory searching/browsing behaviors' reliance on environmental stimuli has led many to focus on features associated with the

in-store experience and their effect on shopping behaviors, impulsive or otherwise. Furthermore, past research has shown in both offline (Jarboe & McDaniel, 1987) and online (Parboteeah, Valacich, & Wells, 2009) contexts that the right kind of stimulus can influence not only the likelihood of impulse buying but also the amount of money spent (its magnitude). Here again, we find literature supporting a utilitarian/hedonic comparison between site characteristics such as *navigability*, that can help an online consumer fulfill a shopping goal, and characteristics like *visual appeal*, that "affect the degree to which a user enjoys browsing a website but that do not directly support a particular shopping goal." (Parboteeah et al., 2009, p. 60). Select research has respectively referred to these types of features with a variety of terms, including utilitarian/hedonic (Childers et al., 2001), functional/non-functional (Parsons, 2002) and task-relevant/mood-relevant (Parboteeah et al., 2009).

Studying the effects of how a web interface influences a consumer's urge to buy impulsively, Parboteeah et al. (2009) ran a 2 x 2 controlled laboratory experiment manipulating the type of websites their participants were exposed to. The 216 participants were randomly assigned to a single website condition comprised of either high or low-quality task-relevant site features, and either high or low-quality mood-relevant site features, and were asked to complete a projective online shopping scenario and complete a questionnaire (therefore allowing the participant to experience all aspects of the website, and the researchers to gauge the impulsivity of the participant). The results showed that both task and mood-relevant website features positively impacted the likelihood and magnitude of a consumer's impulsive purchases, and that this effect was maximized when the website provided both high-quality task-relevant and high-quality

mood-relevant features. Furthermore, the research shows that where task-relevant cues had a greater impact on perceptions regarding *perceived usefulness*, both types had a positive effect on *perceived enjoyment*, with mood-relevant cues having the most. The authors go on to note the importance of these finding for websites that are more hedonic in nature, as their competitive advantage is more likely to be found through finding a the right balance of both task and mood-relevant website features, when compared to sites more utilitarian in nature.

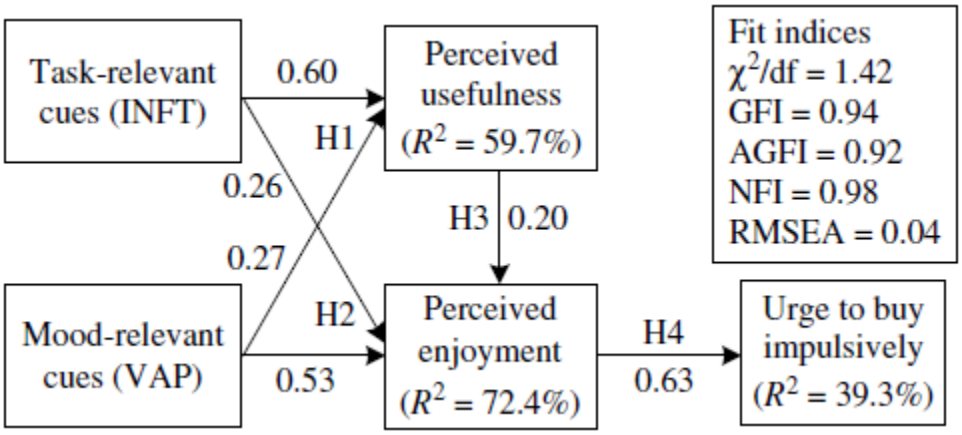

Figure 3. Model with Standardized Regression Weights. Reprinted from "The Influence of Website Characteristics on a Consumer's Urge to Buy Impulsively," by D. V. Parboteeah, J. S. Valacich and J. D. Wells, 2009, *Information Systems Research, 20* (1), p.70. Copyright 2009 INFORMS.

The shift towards recognizing the important impact of hedonic value in an online shopping context is also reflected in an addition made to the widely used Technology Acceptance Model (TAM). Developed to explain what motivates an individual to adopt different technologies (originally work-place technologies), Davis's (1989) TAM has often been used to study online shopping adoption (Childers et al., 2001; Dabholkar &

Bagozzi, 2002; Gefen, Karahanna, & Straub, 2003). As it was originally defined, TAM was comprised of two primarily utilitarian determinants - usefulness and ease of use - to predict an individual's attitude toward and intention to use new technology. A more recent addition to the model is the enjoyment construct, or "the extent to which the activity of using the technology is perceived to provide reinforcement in its own right, apart from any performance consequences that may be anticipated" (Childers et al., 2001, p. 513). Childers et al. (2001) used this updated model to test a theory that hedonic and utilitarian elements of online shopping sites would predict attitudes toward interactive online shopping, hypothesizing that the former would be a stronger predictor of attitudes in a stimulus-driven context (web browsing a variety of sites for gift ideas) and the latter in a goal-oriented one (online grocery shopping). Using structural equation modeling, they found that not only were the more utilitarian website elements critical determinants of online attitudes, but the more immersive, hedonic aspects of the sites (those that contributed towards enjoyment) played an equally important role in both stimulus-driven and goal-oriented online shopping contexts.

Richard et al. (2010) analyzed antecedent variables including Internet experience and web atmospherics (including skills and challenge, structure, effectiveness of its content, informativeness, and entertainment) and their relationship to online consumer behavior, attitudes, and pre-purchase evaluation. With a final sample of 261, the data were collected by asking participants to browse an over-the-counter pharmaceutical page and then fill out a questionnaire. Using structural equation modeling, they developed a model where *experience* and evaluation of *site features* drove *exploratory behavior* ("I like to browse the web and find out about the latest sites") and *site involvement* which in

turn drove *site attitudes* ("I was smiling while I was exploring this wsite") and *pre-purchase evaluation* (p. 929). Specifically, they found that the "hedonic or entertainment aspects of a website had positive influences on exploratory behavior, website involvement, and website attitudes" (p. 933), with consumers who exhibited high levels of exploratory behavior developing more positive website attitudes. In addition to this they found that skills, challenge, and effectiveness were positively related to exploratory behavior, with informativeness having a negative impact. A summary of the remaining relationships can be found below in Figure 4.

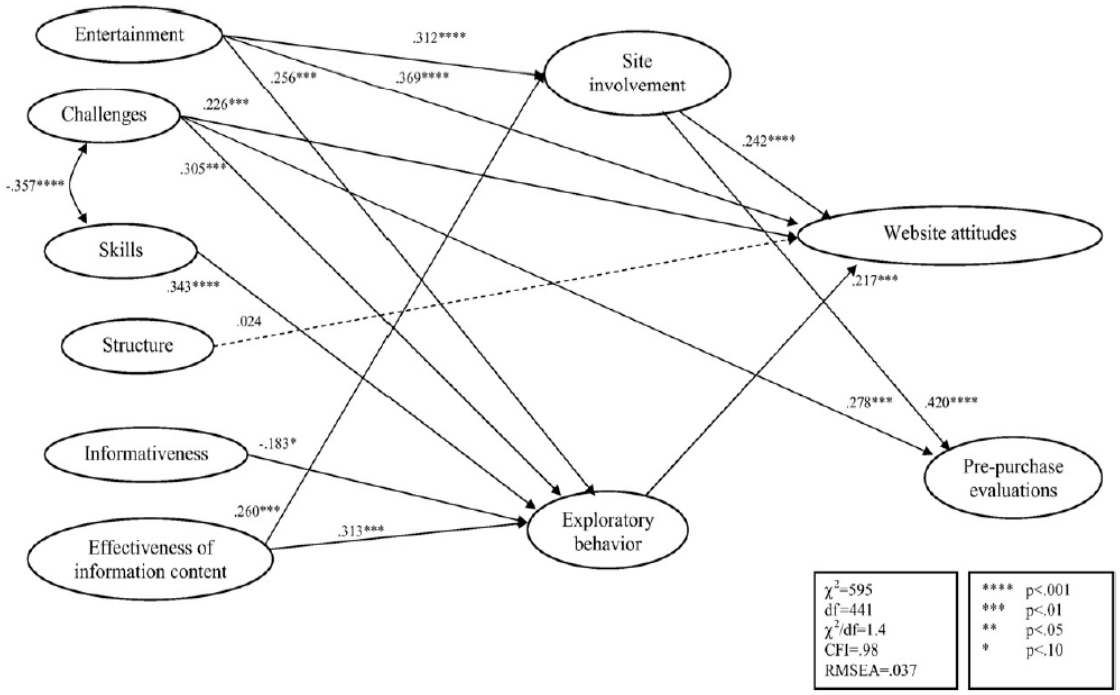

Figure 4. Overall model of online consumer behavior. Reprinted from "A Proposed Model of Online Consumer Behavior: Assessing the Role of Gender," by M. O. Richard, J. C. Chebat, Z. Yang, and S. Putrevu, 2010, *Journal of Business Research, 63,* p. 930. Copyright 2009 Elsevier Inc.

Drawing attention to what they call the "integrating role of exploration in online shopping" (p.473), Demangeot and Broderick (2009) play with the order of the models discussed above to illustrate what they a call "the central role" (p. 477) of online exploration in providing consumers with hedonic and utilitarian shopping value. Using results generated by a final sample of 301 university students and staff who were asked to shop an online bookstore and complete a questionnaire, the authors first show that the higher order construct of *exploratory potential* of a website (made up of visual impact, experiential intensity – interactivity and involvement, marketer informativeness, and non-marketer informativeness – customer reviews) is driven in part by a site's *sense-making potential* (page clarity and site architecture). Here, exploratory potential is defined as "the perceived ability of the site to provide scope for further exploration over and beyond what is visible to consumers on the page they are viewing" (p. 473). They then confirm a model where *exploratory potential* drives both *hedonic value* ("while shopping on this site I felt a sense of adventure") and *utilitarian value* ("I accomplished just what I wanted to on this navigation"), which in turn drove *site commitment* ("I plan to use this website in the future") (p. 480). Based on the relationship found between both hedonic and utilitarian shopping value and a website's exploratory potential, and the lack of a direct relationship between sense-making and utilitarian value, Demangeot and Broderick (2009) conclude that website features promoting exploration are crucial if online consumers are to gain any value from an online browsing experience.

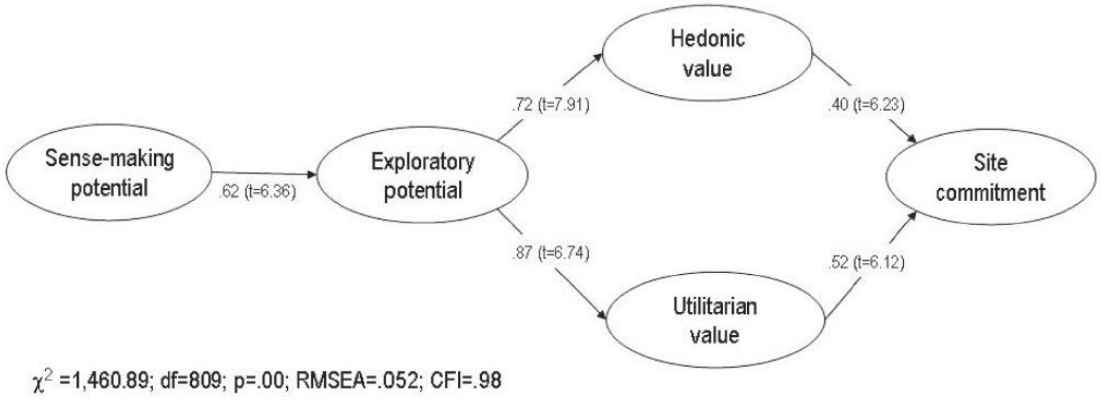

Figure 5. Final model results. Reprinted from "The Role of Exploration in Creating Online Shopping Value," by C. Demangeot and A. J. Broderick, 2009, Advances in Consumer Research, 36, p. 476. Copyright 2009 Advances in Consumer Research.

1.5 Researching Exploratory Online Shopping Behavior: Why This and Why Now? A Section-by-section Breakdown

The review of relevant online shopper orientation and typology research in *Section 1.1* showed that starting with Stone (1954) traditional offline shopper typology research supported the existence of a spectrum of consumer motivations and orientations. These ranged from primarily utilitarian: economic (Bellenger & Korgaonkar, 1980; Darden & Reynolds, 1971; Stone, 1954), convenience (Bellenger & Korgaonkar, 1980; Stephenson & Willett, 1969), utility (Tauber, 1972; Westbrook & Black, 1985), product-oriented (Dawson et al. 1990), and price-oriented (Stephenson & Willett, 1969). To primarily hedonic: personalizing (Darden & Reynolds, 1971; Stone, 1954), recreational (Bellenger & Korgaonkar, 1980; Stephenson & Willett, 1969), personal (Tauber, 1972), social (Tauber, 1972), stimulation (Westbrook & Black, 1985), and experiential (Dawson et al. 1990).

While many researchers believed that consumers in offline contexts could enjoy the act of shopping itself, without respect to purchasing or acquiring a product (Baumgartner & Steenkamp, 1996; Bellenger & Korgaonkar, 1980; Bloch et al., 1986; Hausman, 2000; Hirschman & Holbrook, 1982), this view was not widely held when it came to online shopping. Early on, many researchers concluded that online consumers were motivated to shop for utility-based reasons alone, because it was efficient, convenient, and economical (Burke, 1998; Donthu & Garcia, 1999; Jarvenpaa & Todd, 1997; Joines et al., 2003; Monsuwe et al., 2004; Szymanski & Hise, 2001; Wolfinbarger & Gilly, 2001).

Where some earlier research on Internet use in a general sense found support for a broader utilitarian/hedonic range of user motivations (Eighmey & McCord, 1998; Hoffman & Novak, 1996; Korgaonkar & Wolin, 1999; Parker & Plank, 2000; Stafford & Stafford, 2001), evidence supporting hedonic motivation's impact on online shopping behavior has been more recent. Specifically, studies by Brown et al. (2003), Rohm and Swamnathan (2004), and Ganesh et al. (2010) provide support for the presence of a growing hedonically-oriented and exploratory group of online consumers. The existence of these types of consumers online supports the idea that the online shopping population is as varied in their motivations to shop as the offline shopping population. It also highlights the need to reassess previous assumptions about how to attract online consumers. In particular, more research is needed to better understand the major online groups that are being uncovered, many of whom exhibit exploratory shopping tendencies (groups like Rohm and Swamnathan's (2004) "variety seekers" and Ganesh et al.'s (2010) "e-window shoppers").

Given this shift in the research addressing online consumer motivation, there is an expressed need to better understand the growing impact of different, less utilitarian types of motivation on behavior in an online shopping context (Brown et al., 2003; Ganesh et al., 2010; Rohm & Swamnathan, 2004; Wolfinbarger & Gilly, 2001). In a step towards developing this understanding, *Section 1.2* touched on a variety of research demonstrating the interconnectedness of constructs like hedonic shopping motivation, variety/novelty seeking, stimulation, innovativeness, and information seeking/browsing behavior and their connection to exploratory shopping behavior. These studies included: Arnold and Reynolds (2003), Baumgartner and Steenkamp (1996), Bellenger and Korgaonkar (1980), Hausman (2000), Goldsmith and Hofacker (1991), Hirschman (1980), Hoffman and Novak (1996), Huang (2000), Janiszewski (1998), Manning et al. (1995), Mehrabian and Russell (1974), Menon and Kahn (1995), Menon and Kahn (2002), Moe (2003), Pessemier and Handelsman (1984), Raju (1980), Roehrich (2004), Westbrook and Black (1985), White and Duckler (2007), and Wood and Swait (2002).

With a specific focus on exploratory shopping behavior and its relationship to innovativeness (Baumgartner & Steemkamp, 1996; Bellenger & Korgankar, 1980; Blake et al., 2003; Hodges, 2009; Raju, 1980) and browsing behavior (Arnold & Reynolds, 2003; Bellenger & Korgaonkar, 1980; Bloch & Richins, 1983; Janiszewski, 1998; Kim & Eastin, 2011; Menon & Kahn, 2002; Moe, 2003; Vazquez & Xu, 2009), it is proposed in this section that given the similarities and shared origins of the above listed constructs, it may be possible to find a single, measurable, behavioral indicator that taps this underlying “exploratory” or “hedonic” vein. It is suggested herein that the inclusion of such a variable in future research could help develop our understanding of what drives

online shopping behavior and provide practitioners ways to tailor a marketing mix to appeal to these types of shoppers.

The need to study exploratory online shopping behavior is further reinforced in *Section 1.3*, where a variety of research from different disciplines is shown to conclude that, when compared to an offline context, an online shopping environment is uniquely suited for browsing and consumer exploration (Brown et al., 2003; Demangeot & Broderick, 2009; Klein, 1998; Kumar & Tomkins, 2010; Krogonkar & Wolin, 1999; Liang & Huang, 1998; Lynch & Ariely, 2000; Menon & Kahn, 2002; Shim et al., 2001; Stafford & Stafford, 2001; Weinreich et al., 2008; Zhou et al., 2007). Offering fluidity of access, use, and execution, a consumer's control over their dynamic and interactive online consumption experience is growing daily. Furthermore, a shopper's ability to search, compare, and retrieve information easily and at exceedingly deeper levels has reduced the effort and costs associated with searching for information, leading some researchers to suggest that the line separating hedonic browsing and pre-purchase deliberation has begun to blur (Bäckström, 2011; Demangeot and Broderick, 2009).

Technological advances in e-commerce have not only made exploratory online behavior more necessary to study, they have brought within them new opportunities to do so. The measurability of online shopping behavior through the collection of both client-side and server-side clickstream data has allowed researchers to study online search behavior in a field setting (Bucklin & Sismeiro, 2003; Goel et al., 2012; Hu et al., 2007; Johnson et al., 2004; Jones et al., 2007; Korgaonkar & Wolin, 1999; Korgaonkar & Wolin, 2002; Kumar & Tomkins, 2010; Moe, 2003; Weinreich et al., 2008; White & Drucker, 2007). Data of this variety allow for the study of what Weinreich et al. (2008)

refer to as "personal navigation habits" (p. 24), important individual differences among consumers regarding the way they search and browse for information online. Though advances in data collection such as these are changing the way research on online shopping behavior is being conducted, there are calls for how it can be improved. Reflecting the important distinction Blake et al. (2007) drew between the "range" and "frequency" of shopping behavior, studies like Menon and Kahn (2002), Moe (2003), and Weinreich et al. (2008) spell out the need to record usable data on both the content and product categories of the sites visited by consumers, noting that information on these cross-site browsing patterns could provide additional insights into consumer motivations and individual differences. And this author agrees. Given the literature reviewed, it was proposed in this section that the range of categories browsed by a consumer (*cross-category online browse range*) is an important and measurable individual difference that has the potential to act as a behavioral indicator for a variety personal traits and shopping motivations, including those exploratory and hedonic in nature.

Finally, in *Section 1.4* research pertaining to specific, bottom-line implications associated with hedonic shopping motivation, exploratory behavior, and browsing were reviewed. Studies by Shim et al. (2001) and Kim and Park (2005) showed that intention to engage in information search online was significantly positively related to intention to purchase online. Kim and Eastin (2011) identified a direct path between hedonic shopping motivation and an increase in impulse purchases online. Results from studies performed by Parboteeah et al. (2009), Childers et al. (2001), and Richard et al. (2010) showed, respectively, that the presence of hedonic features on a website: positively impacted the likelihood and magnitude of a consumer's impulsive purchases, played an

equally important role as utilitarian features in both task and stimulus-drive contexts, and had a significant positive influence on exploratory behavior, website involvement, and website attitudes. Finally, a study by Demangeot and Broderick (2009) showed that the exploratory potential of a website was related to both the hedonic and utilitarian value, and indirectly effected website commitment. Studies of this nature, those that demonstrate connections between shopping behaviors (browsing, searching, purchasing), attitude formation, exploratory/hedonic motivations, and website features drive home the need to study this type of behavior for both its academic and practical purposes.

1.6 Cross-category Online Browse Range: Posited Relationships

As the proposed variable of cross-category online browse range (CCBR) is relatively novel, there is an insufficient amount of research demonstrating its direct relationship to existing constructs, motives, attitudes, and orientations. However, in *Section 1.2.5* specific attention was given to a discussion of cross-category online browsing behavior, and by considering the information provided in that section in combination with the literature discussed through this paper, some general assertions regarding its relationship to a recreational shopping orientation/hedonic shopping motivation, price insensitivity, innovativeness, variety, novelty and/or stimulation, and heavy Internet use could be reached:

- Posited relationship 1: Those consumers who are primarily **recreationally oriented** and **hedonically motivated** may exhibit more CCRB.

Bellenger and Kargoankar (1980) showed that recreational shoppers were information seekers and continue browsing even after a purchase is made. This browsing behavior

was seen as an outlet to gain general information regarding a specific product class or the "marketplace in general" (across product categories). Kim and Eastin (2011) found that hedonic consumers were more exploratory online, sought exposure to a variety of online shopping stimulations, and made more frequent and longer website visits. They also showed that a consumer's level of hedonic shopping motivation drove exploratory information-seeking behavior, which in turn drove pre-purchase online browsing behavior. Rohm and Swamnathan's (2004) variety seeker group was described as hedonically motivated and exhibited a high propensity to purchase from a variety of product classes, as were Moe's (2003) hedonic browser group, who were found to exhibit the most range in the number of categories and products searched for online.

- Posited relationship 2: More **innovative** consumers may exhibit more CCRB.

As innovative consumers seek out new and novel information about new products, Goldsmith (2001) and Goldsmith et al. (2003) found that innovative consumers (using the DSI scale) spent significantly more time shopping (heavy users) in online and offline environments, respectively, with Goldsmith (2001) also demonstrating DSI's relationship to a greater likelihood of future online buying. Studying online consumers, Blake et al. (2003) and Hodges (2009) found that a consumer's level of DSI was positively related to the range of product categories browsed and purchased from online and GSI was related only to their purchase range.

- Posited relationship 3: As consumers who are recreationally and hedonically motivated are **less price sensitive**, so too will those exhibiting more CCRB.

Though the idea of price sensitivity has not been directly discussed thus far, the literature pertaining to shopper typologies and recreational shoppers (hedonic) and

convenience/economic shoppers (utilitarian) has been reviewed. Of importance here is the fact that in these typologies a recreational shopper is often described as being relatively price insensitive, where a convenience/economic shopper is said to desire convenience as well as lower prices (Bellenger & Korgaonkar, 1980). Illustrating this point, Brown et al.'s (2003) shopper segmentation resulted in the two largest groups being the "economical" shopper, who was primarily price conscious, and the "recreational" shopper whose membership in the group was negatively related to price consciousness. Supporting this point further, Ganesh et al. (2010) found that their two unique online shopper types were "interactive", who enjoyed haggling online for lower prices and "e-window shoppers" who were more interested in browsing and exploring new sites than with low prices. In addition to this, there is research supporting that more innovative consumers are generally less price sensitive (Goldsmith, 2001)

- Posited relationship 4: Those with greater needs for **variety, novelty and/or stimulation** may exhibit more CCRB.

Kim and Eastin (2011) concluded that exploratory behavior is related to trait-based hedonic desires which are connected to a need for "novel experiences, variation and change, and curiosity" (p. 83). In offline shopping settings it has been observed that individuals with a desire for stimulation/variety/novelty will seek variation within a product category or from variation across product categories (consumer variety seeking) (Hoyer & Ridgway, 1982; Menon & Kahn, 1995). Menon and Kahn (2000) also showed that novel website features encouraged online shoppers to explore across more websites. Additionally, Ganesh et al.'s (2010) "e-window shopper" group were described as being

motivated by stimulation and spent more time online browsing, surfing, and visiting different websites.

- Posited relationship 5: **Heavy Internet users** may exhibit more CCBR.

Heavy Internet users were described as have more exploratory shopping tendencies, have been shown to regularly visit new online domains, and are responsible for the majority of online activity (Goel et al., 2012; Korgaonkar & Wolin, 2002; White & Drucker, 2007). Additionally, Blake et al. (2003) found that the more innovative and experienced Internet users were disposed to more frequent online shopping, and Johnson et al. (2004) found that more active online shoppers tended to search across more sites.

1.7 Justification and Purpose of Present Research

Researchers have recognized a need to focus on consumers' online consumption and browsing behavior (Weinreich et al., 2009). Recent studies on the topic have focused on specific one-time shopping tasks, were performed as true experiments in laboratory settings, and/or have taken and information sciences approach and dealt with users' interactions with specific search engines or browsers. There is a need, therefore, to study the content, structure, and experience of online browsing using actual real-world behavior. By finding ways to connect the variety of content browsed online to website feature preferences, it may be possible to identify a track-able behavioral indicator that could provide insights on consumer shopping motivations and what structures support online browsing behavior (Menon & Kahn, 2002; Moe, 2003). Identifying and studying these types of behavioral indicators may also help inform practitioners' decisions regarding strategy, web design, and marketing, and could provide a more robust basis for

targeting and appealing to different groups of online consumers (Blake et al., 2003; Wolfinbarger & Gilly, 2001).

Achieving this in an actionable manner requires studying, in combination, pertinent individual differences found in Internet users and their preferences regarding the websites they visit (Joines et al., 2003). Here the individual difference of interest is *cross-category online browse range* - a measurable and potentially impactful individual difference observed in online shopping behavior. This variable captures the variety of different product categories browsed online by web users and, as outlined in the previous sections, holds demonstrated ties to constructs related to exploratory online shopping behavior including recreational shopping orientation/hedonic shopping motivation, innovativeness, price insensitivity, need for variety, novelty and/or stimulation, and heavy Internet use. It is proposed herein, based on the research reviewed, that individual differences in *cross-category online browse range* will have a positive relationship with individual differences in hedonic shopping motivation and exploratory online tendencies. Of significance here is the fact that where the latter two concepts require individuals to complete self-report survey instruments in order for them to be categorized/segmented (Baumgartner & Steenkamp, 1996; Hausman, 2000), *cross-category online browse range* has the potential to be captured up-to-the-minute and on-the-go through clickstream data, and may therefore be representative of actual and not just reported consumer behavior. This is important as it has been shown that information on actual past shopping behavior predicts online shopping habits over and above a variety of additional variables, including demographics (Bellman, Lohse & Johnson, 1999).

Given the potentially large presence of hedonic shoppers online and the dynamic nature of the online retail environment itself, research has illustrated a growing need to better understand what motivates hedonic browsing and exploratory behavior in an online shopping context. Noting the positive relationship between the time spent exploring a shopping site and purchase activity, Huang (2000) concluded that online customer retention could be best achieved by designing novel online shopping sites, thus increasing consumers' desire to explore. Similarly, the results from Demangeot and Broderick's (2009) study indicated that a major concern for online retailers should be to design websites that facilitate consumer exploration. They further noted that this could be accomplished through not just developing sites with a focus on utilitarian features, but especially on hedonic ones, as "the ability to stage intrinsically rewarding experiences is likely to be a source of competitive advantage" (p. 477). Childers et al. (2001) warned practitioners not to discount the importance of hedonic features when designing a website when they stated:

> A technology oriented perspective that attempts to treat shopping media as cold information systems, rather than immersive, hedonic environments, is likely to be fundamentally misguided, especially for products with strong hedonic attributes. Rather, media design characteristics must be considered only in conjunction with the intrinsic enjoyment criterion and the design characteristics driving it (e.g., convenience, navigation, and the substitutability of personal examination). Indeed, many of the unique aspects of the new media (e.g., its flexibility in navigation, in particular) most likely create a novel, intrinsically enjoyable virtual environment that should be *featured* in the design of shopping media - even though it may appear to tax the user from a strictly instrumental point of view. Creating a more enjoyable environment may involve or require the use of more powerful languages such as JAVA, and the inclusion of images, video, color, humor, sound, music, games, animation, and all of the other aspects of interactive, networked multimedia that make it enjoyable to experience. (p. 527)

The importance of finding the right balance between utilitarian and hedonic websites features was also supported by studies including Bäckström (2011), Richard et al. (2010), and Parboteeah et al. (2009).

Research findings supporting the existence of intrinsically motivated e-consumers like Moe's (2003) "hedonic browsers" and Rohm and Swamnathan's (2004) "variety seekers", represents an important opportunity for retailers to differentiate their online offerings utilizing elements of their marketing mix other than price (structure/content of "store", promotional messages) (Hoffman, Novak, & Chatterjee, 1996). Mirroring the "competitive advantage" outlined by Demangeot and Broderick (2009) referenced above, Hoffman et al. (1996) noted that:

> From a marketing perspective, it is rarely desirable to compete solely on the basis of price. Instead, marketers attempt to satisfy needs on the basis of benefits sought which means pricing is dependent upon value to the consumer, not costs…This results in the delivery of value-laden benefits, for example, convenience through direct electronic distribution of software, or enjoyment through a visually-appealing and unusual website. (Marketing Communications, para. 4)

Therefore, through gaining an understanding of what website features are important to those most likely to be recreationally/hedonically motivated and innovative, practitioners can learn how to increase their appeal to those consumers who are less economically-oriented and therefore less price sensitive (Bellenger & Korgaonkar, 1980; Goldsmith, et al., 2003).

This study is formed on the belief that developing an understanding of online shoppers who browse across a greater variety of product categories will not only allow academics and practitioners to utilize a potentially important and measurable individual difference, but may provide insights into how to better target customer who may have a greater potential to exhibit hedonic, exploratory, and innovative consumer tendencies.

This will be examined using results from a self-report measure of browsing behavior across thirteen different product categories and general importance ratings for 26 different website features sampled from the Variegated Inventory of Site Attributes (VISA) (Blake, Hamilton, Neuendorf, & Murcko, 2010). These websites features range from functional and utilitarian (credit card security and reasonable prices) to non-functional and hedonic (attractive colors, interactive design, and unusual).

Given this belief, the present research was undertaken in the interest of exploring the following research questions:

RQ1. Do those individuals in the low, medium, and high *cross-category browse range* groups differ in their intentions to purchase, search, and browse for information online?

Though positive relationships are likely to be found between *cross-category browse range* and all three intention variables, it is anticipated that each group will significantly differ from the other and that, out of the three variables, *cross-category browse range* will be more highly correlated with the hedonically-driven intention to browse. This will be an indicator that *cross-category browse range* is tapping tendencies related to online exploration and hedonic motivation.

RQ2. Do those individuals in the low, medium, and high *cross-category browse range* groups differ in their level of DSI and GSI?

Based on the literature, it is anticipated that *cross-category browse range* will be significantly and positively related to DSI and perhaps to GSI, but to a lesser extent (based on findings from Hodges, 2009). In addition to this, it is anticipated that each group will significantly differ from the other. This will be an indicator that *cross-category browse range* is tapping tendencies related to consumer innovativeness.

RQ3. Do those individuals in the low, medium, and high *cross-category browse range* groups differ in the importance they assign to different website features?

As it is believed that the single, measurable, individual difference of *cross-category browse range* may represent manifestations of several of the related constructs discussed above – exploratory shopping behavior, hedonic shopping motivation, variety/novelty seeking, stimulation, innovativeness – it is anticipated that those in the high CCBR group will place a greater importance on the more hedonic website features ('Visual and Auditory Richness', 'New and Different', 'Uniquely Entertaining', 'Human Touch') when compared to the lower group, and that these features will differentiate the groups from one another. Additionally, given the tendency towards price insensitively associated with hedonic, recreational, and innovative shoppers, it is anticipated that the specific site

feature of ‘reasonable prices’ will be less important for those in the higher CCBR group.

CHAPTER II

METHODS

2.1 Data Collection

This study utilizes data originally collected from late Fall 2009 to early Spring 2011 through an IRB approved web-based survey using www.surveymonkey.com (IRB Submission #29081-BLA-HS). The survey was developed by former Consumer and Industrial Research Program students Steven Given and Nicole Celin under the guidance of Dr. Brian Blake from the Consumer and Industrial Research Program at Cleveland State University and Dr. Kimberly Neuendorf from Cleveland State University's School of Communication. As previously outline by Given (2009), participants were given one hour to complete the survey with an optional five to ten minute break at a half-way point, where snacks were offered. Administration of the survey was performed on campus using a Cleveland State University computer lab, where a member of the research team was present. When participants arrived a member of the research team handed them a slip of paper that was randomly selected from a bag. On this slip of paper was the URL participants used to access the online survey. Using this method, each participant in the study was randomly assigned to one of four parallel versions of the survey (represented by four different URLs). With all four versions containing the exact same 214 forced-

choice items, the versions varied with regard to the order in which the sections were presented.

The final sample was gathered from one primary and one secondary source. The majority of the participants were Psychology students at Cleveland State University and received extra course credit for their participant (n =326). The remaining participants were known to the original research team, and were obtained through the snowball sampling technique (n = 26). This resulted in an original sample size of 352. To assure the best quality data possible the results were filtered using three techniques. First, respondents were assigned a code by a member of the research team at the conclusion of their survey. Recorded with their data file, the first digit of this code represented the quality of their observed participation, as observed by the team member. Ranging from one to three, a "one" represented a quality participant (concentrated, took their time), a "two" was neutral, and a "three" represented a poor quality participant (hurried, distracted). Data sets with a code of "three" were immediately deleted. In addition to this, two dummy survey items were utilized as well as an initial "eye-balling" of the data for inappropriate uniformity of responses. The final culled sample represented quality data from 313 participants.

The survey contained items relating to Internet shopping behaviors, importance ratings for website features (general and product category specific), innovativeness, and various other items. However, not all items on the survey will be used in the current study. The analyses conducted for this study were "secondary" in the sense that the data were originally obtained to be analyzed for another project. This study is based on the analysis of a number of items, most of which have not been included in previous

examinations of this data. All together, these items include seven demographic items, four items relating to Internet usage and activity, two items relating to intent to browse online, one item relating to intent to purchase online, twelve items relating to innovativeness, and importance ratings for 26 general website features taken from the Variegated Inventory of Site Attributes (VISA) (Blake et al., 2010). In addition to this, the survey included an index of how many days each of the thirteen product listed categories were browsed online by participants in the last two weeks, and an index of how many days each of the thirteen product categories listed were purchased from by participants online in the last two weeks. Below is a summary of some of measures, items, and variables used in the current study. To see one of the parallel versions of the complete survey please see Appendix B.

2.2 Measures

Attribute Importance Rating Scales

Participants were asked to rate the general importance of 26 different shopping website features selected from VISA (Blake et al., 2010). These features range from questions about reference groups ("satisfaction of family and friends who have used it", "friends and family's opinions of the site"), to design features ("has an interactive web design", "is unusual and different", "contains attractive/interesting colors"), to security and price considerations ("guarantees credit card security", "has reasonable prices"), to general emotive reactions ("the website is enjoyable to use"). A full list of the 26 site features included in this study can be found in Table 2 under the "Feature/Item Included in Survey" column.

The Variegated Inventory of Site Attributes (VISA) (Blake et al., 2010) is a comprehensive list of 55 shopping websites features that, when factor analyzed, were found to fall along an underlying structure consisting of 11 dimensions altogether explaining 61.39% of the total variance. These 11 dimensions are representative of what consumers reference to make importance (and performance) judgments about shopping websites. These dimensions include: Security Transactions and Privacy (nine items), Near Ideal (eight items), Visual and Auditory Richness (six items), Website Functionality (six items), Product Comparison (five items), New and Different (four items), Uniquely Entertaining (four items), True to Its Word (five items), Human Touch (three items), Product Information (three items), and Others' Recommendations (two items). The researchers who designed the survey used in the current study selected 26 features to provide sufficient coverage of all 11 VISA dimensions, with at least one feature chosen to represent each of the 11 dimensions. The 26 features align with the 11 dimensions as follows:

Table 2.

Shopping Website Features Chosen to Represent 11 VISA Dimensions, as Identified by Blake et al. (2010)

VISA Dimension	**Feature/Item Included in Survey**
Security Transactions and Privacy	There is a guarantee that my credit card information will be safely and securely protected / It has seals of companies stating that my information on the site is secure
Near Ideal	The things I am looking for are easy to find on the site / It has reasonable prices / It has a wide selection of producers on the site
Visual and Auditory Richness	It has interesting, attractive color / It has entertaining, attractive graphics
Website Functionality	It is free of grammatical and typographical errors / The Internet links on the site are working properly / It has interesting graphics and displays / It provides price incentives / It has a return policy that is easy to

	understand and use
Product Comparison	It has photos of products / Products on the website can be easily compared with each other / The site presents both benefits and drawbacks of the products and services
New and Different	It has an interactive web design / It is quite different from the usual sites for the type of product involved
Uniquely Entertaining	My friends and family let me know their opinions of the site / It is enjoyable to use
True to Its Word	It allows instant messaging with the company or a company representative
Human Touch	It has one or more animated characters that move or speak / It has photos of real people using products and services
Product Information	Provides customer feedback / The order process is easy to use
Others' Recommendations	I hear about it on the radio, television, or newspapers / My friends and family have been happy when they have shopped there

For this section participants were given the following instructions "Compared to the other features of the shopping websites, how strongly, if at all do the following features encourage you to shop at a particular site that has that feature? For example, consider the feature 'there is a guarantee that my credit card information would be safely and securely protected.' If this is not important to your browsing to shop at a particular site rate it as a '1' or '2'. Choose one number to answer each item." The importance of these general website features was rated on a 5-point numerical scale with 1 anchored as "Does not at all encourage me" and 5 anchored as "Strongly encourages me".

Online Shopping Behaviors

The Online Shopping Profile (OSP) was developed by Blake et al. (2003) and Blake et al. (2007) as a measure of Internet shopping behaviors and includes the variables "purchase frequency", "visit frequency", "typical purchase", "atypical purchase", "typical visit", "purchase range", and "visit range". The variables examined in this study are

similar to "purchase frequency", "visit frequency" (referred to herein as "browse frequency"), "purchase range" (referred to herein as "cross-category purchase range"), and "visit range" (referred to herein as "cross-category browse range"), with the last as the primary focus of analysis. The primary difference between the OSP and the current study is that the OSP defined visiting as an inclusive activity – browsing a site for information and/or to purchase a product or service, where the current study considered browsing a site as a separate activity from visiting a site to purchase.

Purchase behavior was calculated from the survey item asking participants "On how many days in the last two weeks, have you actually MADE A PURCHASE ONLINE (paid online) for each type of product or service? For example, if you purchased online concert tickets on one day and football ticks on a second day your answer would be two days for 'Entertainment Events'." Participants then indicated the number of days purchased from each of the following thirteen product categories: clothing/accessories, books/magazines, travel transportation, travel destinations, health and medical products, financial securities and investments, consumer electronics equipment, home appliances, entertainment events, music/movies, computer hardware or software, restaurants, and food/beverage/groceries.

Chosen to represent a list of general categories that are often shopped for online, the 13 categories used in this study represent a highly diversified mix of categories and was designed to mirror product category lists used in professional reports of online shopping and similar academic studies. For example, Blake et al. (2007) used the categories of: clothing/accessories; books/magazines; travel; health and medical; financial services; consumer electronics (TV, VCR, stereo, cellular phones);

entertainment (compact disks, videos, concert tickets); computer hardware or software; home appliances (dishwasher, refrigerator); food/beverage/grocery; and other. Similarly, Levin, Levin, and Heath (2003) used the categories of airline tickets, books, CDs, clothing, computer software, electronic products, health and grooming products, and sporting goods, where Rohm and Swamnathan (2004) used the categories of books/magazines, clothing, toys, music CDs, computer hardware, computer software, travel home electronics/appliances, flowers, financial services, and Shim et al. (2001) used the categories of videos, apparel, books, computer software, and clothing accessories.

An individual's *purchase frequency* was calculated by taking the number of days they indicated they had made a purchased for each product category and summing across all thirteen categories. With a higher score representing a higher frequency; scores ranged from zero to forty-two, with a median of one, and a distribution that was highly positively skewed and leptokurtic. To characterize the online shopping behavior of cross-category purchasing, *cross-category purchase range* was computed by coding each category indicated has having been purchased from in the last two weeks with a "1" and the others (not purchased from) with a "0". The thirteen coded categories were then summed to create the variable. With a higher score representing a higher level of *cross-category purchase range*; the scores ranged from zero to thirteen, with a median of one. Given this it is not surprising that the distribution of the scores was positively skewed and leptokurtic.

An additional item addressed the participant's online purchase activity: "How often, if ever, do you go online and make a purchase online?" This item had six available

responses: “Just about never”, “Less than once a month”, “1-5 times a month”, “6-10 times a month”, “11-15 times a month”, “Over 15 times a month”. A frequency distribution for this variable can be found in Table 4.

Browsing behavior was calculated from the survey item asking participants “On how many days in the last two weeks (including today), have you spent time ONLINE LOOKING FOR INFORMATION to help you make a decision about purchasing each type of product or service? For example, on how many different days in the last two weeks did you go online to get information on some articles of clothing or accessory you were thinking of getting? Supposed you send 5 minutes one day looking for a new jacket, 2 hours on another day checking out a pair of boots, and 1 hour of a third day looking some more for boots, you answer would be three days for ‘Clothing/Accessories’.” Participants then indicated the number of days spent browsing in each of the following thirteen product categories: clothing/accessories, books/magazines, travel transportation, travel destinations, health and medical products, financial securities and investments, consumer electronics equipment, home appliances, entertainment events, music/movies, computer hardware or software, restaurants, and food/beverage/groceries.

An individual’s *browse frequency* was calculated by taking the number of days they indicated they had browsed for each product category and summing across all thirteen categories. With a higher score representing a higher frequency; scores ranged from zero to ninety-four, with a median of thirteen, and a distribution that was highly positively skewed and leptokurtic. To characterize online browsing range, *cross-category browse range* was computed by coding each category indicated has having been browsed in the last two weeks with a “1” and the others (not browsed) with a “0”. The thirteen

coded categories were then summed to create the variable. With a higher score representing a higher level of *cross-category purchase range*; the scores ranged from zero to thirteen with a median of six. The distribution of the scores followed a normal curve fairly well with no skewness or kurtosis issues. For the purpose of further analysis, three discrete groups (low, medium, and high) were created from the original continuous variable. The "low" group consists of those participants who browsed zero to four product categories over the last two weeks, representing 32.6% of the sample, with 102 cases out of the total 313. The "medium" group consists of those participants who browsed five to seven product categories over the last two weeks, representing 40.9% of the sample, with 128 cases. Finally, the "high" group consists of those participants who browsed eight to thirteen product categories over the last two weeks, representing 26.5% of the sample, with 83 cases.

An additional item addressed the participant's online browsing activity: "How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?" This item had six available responses: "Just about never", "Less than once a month", "1-5 times a month", "6-10 times a month", "11-15 times a month", "Over 15 times a month". A frequency distribution for this variable can be found in Table 4.

Intention to Shop Online

Three items addressed the participant's intention to engage in shopping activities online (purchase, browse, and search). These items had the following instructions: "Next are some statements about looking for information and purchasing on Internet shopping sites. Please indicate your level of agreement or disagreement with each of the following

statements." These items were: "I intend to make one or more purchases online in the next month", "There is a good chance that in the next month I will browse sites to find products I might be interested in", and "In the next month, I intend to go online to search for information about products or services I am interested in". Level of agreement for each item was rated on a 5-point numerical scale with "1" anchored as "Strongly Disagree", "3" anchored as "Neither Agree or Disagree", and "5" anchored as "Strongly Agree". Frequency distributions for these variables can be found in Table 4.

Internet Use

Two items addressed the participant's use of the Internet. The first item, "About how long have you been using the Internet?" had five available responses: "Less than 3 years", "4-2 years", "7-9 years", "10-12 years", and "12 or more years". The second item, "On average, how many hours per week, if any, do you use the Internet?" had six available responses: "Under 11 hours", "11 – 20", "21– 30", "31 – 40", "41 – 50", and "Over 50 hours". A frequency distribution for this variable can be found in Table 4.

Domain Specific Innovativeness

This six item scale was originally developed by Goldsmith and Hofacker (1991) and was modified for the domain of Internet shopping by Blake et al. (2003). Here, participants were asked about how innovative they found online shopping to be. These items had the following instructions: "Next are some statements about looking for information and purchasing on Internet shopping sites. Please indicate your level of agreement or disagreement with each of the following statements." The items were: "In general, I am among the last in my circle of friends to visit a shopping website when it appears", "If I heard that a new website was available for online shopping, I would be

interested enough to visit it", "Compared to my friends, I have visited few online shopping websites", "I will visit an online shopping website even if I know practically nothing about it", "I know the names of new online shopping sites before other people do", and "In general, I am the last in my circle of friends to know about new websites". Level of agreement for each item was rated on a 5-point numerical scale with "1" anchored as "Strongly Disagree", "3" anchored as "Neither Agree or Disagree", and "5" anchored as "Strongly Agree". High reliability was found for this six-item scale, with a Cronbach's alpha of 0.785. The variable *DSI Total Score* was then calculated by summing the responses for each of the six items, with a higher score representing a higher level of Domain Specific Innovativeness. The scores ranged from seven to thirty, with a median of 19. The distribution of the scores followed a normal curve fairly well with no skewness or kurtosis issues.

General Shopping Innovativeness

This six item scale was developed as a general measure of shopping innovativeness by Dr. Brian F. Blake and Dr. Kimberly A. Neuendorf of Cleveland State University. Here, participants were asked about how innovative they found online shopping to be. These items had the following instructions: "Next are some statements about looking for information and purchasing on Internet shopping sites. Please indicate your level of agreement or disagreement with each of the following statements." The items were: "I am suspicious of new ways of shopping", "I am reluctant to adopt new forms of shopping until I see them working for people around me", "I rarely trust new means of shopping until I can see whether the vast majority of people around me accept them", "I am generally cautious about accepting new ways of shopping", "I must see

other people using new means of shopping before I will consider them", and "I often find myself skeptical of new types of shopping". Level of agreement for each item was rated on a 5-point numerical scale with "1" anchored as "Strongly Disagree", "3" anchored as "Neither Agree or Disagree", and "5" anchored as "Strongly Agree". High reliability was found for this six-item scale, with a Cronbach's alpha of 0.894. The variable *GSI 6 Total Score* was then calculated by summing the responses for each of the six items, with a higher score representing a higher level of General Shopping Innovativeness. The scores ranged from six to thirty and had a median of 18. The distribution of the scores followed a normal curve fairly well with no skewness or kurtosis issues.

It is important to note that this scale was originally defined as an eight item scale, and it was this version of the scale that was used in Hodges (2009). For reference, the two items that were removed were: "I am aware that I am usually one of the last people in my group to accept new styles of shopping", and "I tend to feel that the old way of shopping is the best way". These items were removed based on the results of a preliminary exploratory factor analysis, which placed these two items on a separate factor as the other six items, who shared a single factor. One reason for these results could be due to the fact that the two omitted items were the only two negatively worded items in the scale and the differential loadings could be artifact of this.

Demographics

Participants were additionally asked various demographic questions. The first questions were regarding gender, race, and age: "What is your gender?" response options were "male" or "female". The next question: "What is your race/ethnicity?" response options were "White", "Black", "Hispanic", "Asian", and "Other". The next question:

“What is your age?” response options were open-ended. “The next question asks “What is your marital status?” Response options were “Single, never been married”, “Married”, “Separated/Divorced”, and “Widowed”. The next question was regarding education status and asked: “What was the last year of education you completed?” Response options were “High School”, “Community college/technical school training”, “Some university or 4 year college”, “College/university graduate”, and “Graduate or professional school”. Next current employment status was asked and states “What is your current employment?” Response options were “Employed-full time”, “Employed-part time”, “Self-employed”, “Temporarily unemployed”, “Full time student”, “Homemaker/housewife”, and “Retired”. The last question was regarding income and states: “Please indicate which of the following categories best represents your annual household income before taxes.” Response options were “$10,000 or less”, “$10,001 to $20,000”, “$20,001 to $30,000”, “$30,001 to $40,000”, “$40,001 to $50,000”, “$50,001 to $75,000”, “$75,001 to $100,000”, and “More than $100,000”. Frequency distributions for these variables can be found in Table 4.

CHAPTER III

RESULTS

3.1 Sample Characteristics

The final sample was composed of 231 males and 82 females. The lopsided nature of this sample is noteworthy, especially given that gender has been seen to have an effect on online shopping behavior (Richard et al., 2010). In addition to this, the representativeness of this breakdown of a typical university population is questionable, especially given that Cleveland State University's undergraduate student population is reportedly 45.5 percent male and 54.5 percent female (U.S. News, 2011). The age of the participants has a mean of 25 and a median of 22. When recoded into discrete categories we see that 55.3% of the sample are between the ages of 17 and 22, 30% of the sample are between 23 and 30, and 14.7% are more than 30 years old. The racial breakdown is 69.6% White, 15.3% Black, 5.1% Hispanic, 3.5% Asian, and 6.4% "Other". 84% of the sample are single and have never been married. 77% have had at least some postsecondary education, which includes 14% who have graduated with a college or university degree. 54% of the sample indicated they were employed in some way, with 6% reporting being either temporarily unemployed, retired, or a homemaker. The remaining 40% were full-time students. Reported salaries ranged from "$10,000 or less"

to “Greater than $100,000” with a mean and median of “$30,001 to $40,000”. A summary of these results can be found in Table 3.

Table 3.

Sample Characteristics – Demographics (n = 313)

Variable		Frequency	Percent
Gender	Male	231	73.8
	Female	82	26.2
Age	17 to 22 years old	173	55.3
	23 to 30 years old	94	30.0
	> 30 years old	46	14.7
Race/Ethnicity	White	218	69.6
	Black	48	15.3
	Hispanic	16	5.1
	Asian	11	3.5
	Other	20	6.4
Marital status	Single, never married	263	84.0
	Married	36	11.5
	Separated/divorced	12	3.8
	Widowed	2	0.6
Last year of education completed	High school	70	22.4
	Community college/technical school training	19	6.1
	Some university or 4 year college	179	57.2
	College/university graduate	35	11.2
	Graduate or professional school	10	3.2
Current employment	Employed full-time	46	14.7
	Employed part-time	117	37.4
	Self-employed	5	1.6
	Temporarily unemployed	11	3.5

	Full-time student	126	40.3
	Homemaker/housewife	4	1.3
	Retired	4	1.3
Annual family income before taxes	$10,000 or less	66	21.1
	$10,001 to $20,000	47	15.0
	$20,001 to $30,000	25	8.0
	$30,001 to $40,000	30	9.6
	$40,001 to $50,000	36	11.5
	$50,001 to $75,000	44	14.1
	$75,001 to $100,000	34	10.9
	> $100,000	31	9.9

Overall, the sample is very experienced with the Internet. With a median of "10-12 years", and a moderately negative skew, the majority of the participants have "used" the Internet for over a decade. In addition to this, the median hours spent on the Internet per week is "11-20 hours per week", with a moderately positive skew. With a median of "1-5 times a month", approximately 50% of participants go online to look for information on a product or service without purchasing more than six times a month, with only 2.2% indicating they do this "Just about never". When it came to going online to purchase a product or service, the majority of participants did so five or fewer times a month, with a median of "Less than once a month". This alone is an intriguing result. The fact that people are browsing and searching online more often than they are purchasing begins to shape the online shopping behavior profile of this sample. In addition to this, the majority of the sample intends to go online to purchase something, browse, and/or search for information online in the next month. With all of these distributions being negatively

skewed, and with the browsing question's distribution being leptokurtic, this tells us two things. First, it supports the conclusion that the vast majority of this sample is actively using the Internet for shopping activities. Secondly, the different patterns in answers tells us that participants may have viewed the "browse" and "search" items as having different meanings. Though more insights will be gained through examination of bivariate correlations, this result may seem to lend support to the Bloch et al. (1989) delineation between pre-purchase search and browsing behaviors. A summary of these results can be found in Table 4.

Table 4.

Sample Characteristics – Internet Use, Online Shopping Behaviors, and Intention to Shop Online (n = 313)

Variable		**Frequency**	**Percent**
About how long have you been using the Internet? *(Experience)*	Less than 3 years	4	1.3
	4-6 years	30	9.6
	7-9 years	73	23.3
	10-12 years	107	34.2
	12 or more years	99	31.6
On average, how many hours per week, if any, do you use the Internet? *(Hours)*	Under 11 hours per week	56	17.9
	11-20 hours per week	100	31.9
	21-30 hours per week	77	24.6
	31-40 hours per week	45	14.4
	41-50 hours per week	19	6.1
	Over 50 hours per week	16	5.1
How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?	Just about never	7	2.2
	Less than once a month	34	10.9
	1-5 times a month	114	36.4
	6-10 times a month	77	24.6

(Without Buy)	11-15 times a month	42	13.4
	Over 15 time a month	39	12.5
How often, if ever, do you go online and make a purchase online? *(With Buy)*	Just about never	32	10.2
	Less than once a month	142	45.4
	1-5 times a month	127	40.6
	6-10 times a month	11	3.5
	11-15 times a month	0	0
	Over 15 times a month	1	0.3
I intend to make one or more purchases online in the next month. *(Intent Purchase)*	(1) Strongly Disagree	16	5.1
	(2)	36	11.5
	(3) Neither Agree or Disagree	69	22.0
	(4)	113	36.1
	(5) Strongly Agree	79	25.2
There is a good chance that in the next month I will browse sites to find products I might be interested in. *(Intent Browse)*	(1) Strongly Disagree	7	2.2
	(2)	16	5.1
	(3) Neither Agree or Disagree	27	8.6
	(4)	105	33.5
	(5) Strongly Agree	158	50.5
In the next month, I intend to go online to search for information about products or services I am interested in. *(Intent Search)*	(1) Strongly Disagree	4	1.3
	(2)	19	6.1
	(3) Neither Agree or Disagree	42	13.4
	(4)	142	45.4
	(5) Strongly Agree	106	33.9

3.2 Preliminary Analyses for Demographic and Shopping Variables

3.2.1. Demographics. Before a regression could be performed to assess the predictive relationship between demographic variables and *cross-category browsing*

behavior, the demographic variables were modified to meet the protocols of the multiple regression analyses. This involved recoding (dummy coded) the variables and the following schema was adopted: For gender, males were coded as "0" and females as "1". For marital status, the category of "never married" (single/never married) was coded as "0" and the remaining responses were combined into one group labeled as "married/has been married" and coded as "1". For race "white" was coded as "0" and the remaining categories were coded as "1". For education, the original responses of "high school", "community college/technical school training" were combined under the single label called "no 4 year" and coded as "0" (to ensure adequate group size); while responses of "some university or 4 year college" "college/university graduate" and "graduate or professional school" were combined into one group called "some 4 year" and coded as "1". For employment, "full time" workers were coded as "0" and individuals who were not working full time ("other") were coded as "1". Finally, income and age were treated as continuous variables.

Overall, these seven demographic variables were entered simultaneously into a linear multiple regression analysis to predict individuals' *cross-category browse range* (continuous variable). These results indicated that the seven predictors had acceptable tolerance values, all well over 0.1, therefore indicating that there variables were free of multicollinearity and could be used as separate predictors. The model generated was nonsignificant at $R^2 = .010$ / Adjusted $R^2 = -.013$, $F = 0.429$, $p = .884$, and the nonsignificance of the model was confirmed by running a stepwise procedure with the same variables, which resulted in no variables being added to the model.

To confirm a lack of relationship between any of these seven demographic variables and the discrete variable of *cross-category browse range groups* (low, medium, high) chi-square analyses were run between the recoded variables (gender, marital status, race, education, and employment) and the original variable of income, as outlined above. However, for this analysis the variable of age was divided into three discrete groups; "17 to 22 years old", "23 to 30 years old", and "> 30 years old". These analyses also revealed no significant relationships between the discrete *cross-category browse range groups* and the seven demographic variables. A summary of the findings can be found in Table 5.

Table 5.

Chi-square (X^2) Significance Values for Demographic Variables and Cross-category Browse Range Groups

Cross-category Browse Range Groups Crossed With:	**X^2 Significance Value**
Gender	.613
Marital Status	.157
Race	.777
Education	.773
Employment	.646
Annual Income	.521
Age	.977

3.2.2. Bivariate Correlations for Shopping and Innovativeness Variables.

Bivariate correlations were run to analyze the relationships between the four derived online shopping behavior variables of purchase frequency, cross-category purchase range, browse frequency, and cross-category browse range, and the usage items (hours and experience), additional Internet use items, and intention items. The results indicate that the four derived shopping behavior variables are highly positively correlated. With a focus on cross-category browse range, we find that out of the four derived variables it is the only one significantly related to search intention (r = 219**), it is most significantly

related to browse intention (r = .259**), and is the next highest in significance for purchase intention (r = .279**) when compared to cross-category purchase range (r = .289**). Given this is can be concluded that the cross-category browse range is the only derived shopping behavior variable that is significantly associated with intention to perform every facet of online shopping, be it purchasing, browsing, or searching for information with the goal of purchasing. In addition to this, the highly significant correlations among the three 'intention' variables are in line with the finding of Kim and Park (2005) and Shim et al. (2001). Not surprisingly, cross-category browse range was also found to be significantly related to the OSP frequency-like measures of 'with buy' (r = 232**) and 'without buy' (r = 263**), as well as 'hours' (to a lesser extent) (r =.121*). In addition to this the results showed that 'experience' was not significantly related to any of the derived shopping behavior variables. A summary of these results can be found in Table 6.

Table 6.

Bivariate Correlations for Shopping Variables (n = 313)

	Browse Frequency	Cross-Category Browse Range	Cross-Category Purchase Range	Purchase Frequency	Experience	Hours	Without Buy	With Buy	Intent Purchase	Intent Browse
Cross-Category Browse Range	.736**									
Cross-Category Purchase Range	.475**	.556**								
Purchase Frequency	.513**	.446**	.838**							
Experience	-	-	-	-						
Hours	.181**	.121*	-	-	.195**					
Without Buy	.239**	.263**	.141*	-	.176**	.141*				
With Buy	.224**	.232**	.294**	.237**	.169**	.132*	.331**			
Intent Purchase	.167**	.279**	.289**	.200**	.190**	-	.265**	.545**		
Intent Browse	.211**	.259**	.124*	-	.142*	-	.290**	.249**	.435**	
Intent Search	-	.219**	-	-	.173**	-	.266**	.277**	.408**	.470**

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

An analysis of the bivariate correlations between Domain Specific Innovativeness (DSI) and General Shopping Innovativeness (GSI) with *cross-category browse range* gleans the anticipated results with *cross-category browse range* significantly positively related to DSI (r = .248**) and not to GSI. These findings support the findings of Blake et al. (2003) and Hodges (2009), showing a positive relationship between consumer innovativeness (a.k.a. DSI) as operationalized by Goldsmith et al. (2003) and Goldsmith

and Hofacker (1991) and *cross-category browse range*. A summary of these results can be found in Table 7.

Table 7.

Bivariate Correlations for Innovativeness Variables (n = 313)

	Browse Frequency	Cross-Category Browse Range	Cross-Category Purchase Range	Purchase Frequency	DSI Total Score	GSI Total Score
DSI Total Score	.239**	.248**	.251**	.174**	-	.409**
GSI Total Score	-	-	.161**	-	.409**	-

**. Correlation is significant at the 0.01 level (2-tailed).

3.2.3. Linearity Estimations for Shopping and Innovativeness Variables. An examination of the linearity of the above listed variables with the continuous variable of *cross-category browse range* was conducted using a curve estimation procedure. Though the continuous version of this variable is not being utilized in the primary discriminant analysis discussed later in this chapter, understanding this variable's relationship to the shopping variables already discussed will help provide insights into the nature of *cross-category browse range* in a more general sense. The results indicated that for the variables of "without buy", "with buy", "intent browse", and "DSI total score", the best or only significant model was linear. It was found, however, that for the variables of "intent purchase" and "intent search" though linear models were significant, quadratic models fit the data best (see Appendix C). The variable of "intent purchase" produced a linear model where $R^2 = .078$ / Adjusted $R^2 = .075$, $F = 26.328$, $p < .001$, and a quadratic

model where R^2 = .113 / Adjusted R^2 = .107, F = 19.721, p < .001. Similarly, the variable of "intent search" produced a linear model where R^2 = .048 / Adjusted R^2= .045, F = 15.664, p < .001, and a quadratic model where R^2= .086 / Adjusted R^2 = .08, F = 14.568, p < .001. Both quadratic models were represented by inverted U-shaped paths, indicating that as *cross-category browse range* increases, an individual's intent to purchase and search for information online may reach a tipping point where it begins to fall. This is interesting, as the literature suggests that both purchase and search activities are associated with goal-directed utilitarian motivations, and that browsing, which was found to have a linear relationship with *cross-category browse range*, is more exploratory and hedonic in nature. Therefore, these findings provide some support for the hypothesis that *cross-category browse range* may be an individual difference reflective of more exploratory online behavior, beyond those more utilitarian goals associated directly with product acquisition.

3.2.4 MANOVA for Shopping and Innovativeness Variables. As an examination of the bivariate correlations shows that many of the dependent variables outlined above were correlated, a multivariate analysis of variance (MANOVA) was conducted to determine if and where differences between the levels of the independent variable exist for each of the dependent variables (see Appendix D). These dependent variables included not only "hours", "with buy", "without buy", the three intention variables, and "DSI total score", but also "experience" and "GSI total score" even though no bivariate relationship was evident between them and the continuous raw variable of *cross-category browse range.* These variables were re-analyzed because this portion of the analysis is using the discrete, categorical independent variable of *cross-category browse range*

groups (low, medium, high) as opposed to the continuous raw variable of *cross-category browse range* that was used to produce the bivariate correlations analyzed above. Given this, all pertinent variables were included again on the off chance that the analyses using the discrete variable yield different results than those using the continuous form.

As the dependent variables used in a MANOVA need to have a sufficient amount of intercorrelation to support using such an analysis, tests of sampling adequacy and sphericity were run. Results showed that the nine dependent variables had a Kaiser-Meyer-Olkin Measure of Sampling Adequacy of 0.779 (which falls safely above the 0.5 accepted minimum cutoff), with Bartlett's Test of Sphericity significant at $p<0.001$. These results indicate that adequate intercorrelation does exist between the variables and that these variables are appropriate for inclusion in a MANOVA.

The overall multivariate test results from the MANOVA show that Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root were all significant with $F = 5.7$, $p < .001$, indicating that differences in the dependent variables are detected between the levels of the independent variable when entered simultaneously. The test of between-subject effects show that significant differences between levels of the independent variable exist for the dependent variables of "without buy" $F = 25.116$, $p < .001$, "with buy" $F = 15.987$, $p < .001$, "intent purchase" $F = 23.278$, $p < .001$, "intent browse" $F = 19.796$, $p < .001$, "intent search" $F = 15.006$, $p < .001$, and "DSI total score" $F = 24.627$, $p < .001$, and marginally for "hours" $F = 4.150$, $p < .042$. Differences were not detected for the dependent variables of "experience" $F = 2.165$, $p = .142$ and "GSI total score" $F = 1.728$, $p = .190$, which is not surprising given the results of the bivariate correlations discussed above.

3.2.5. ANOVAs for Shopping and Innovativeness Variables. Multiple one-way analyses of variance (ANOVAs) were then performed using the discrete variable of *cross-category browse range groups* (low, medium, high) and selected significant dependent variables as indicated from the MANOVA results outlined above (see Appendix E). The selected variables included "without buy", "with buy", the three intention variables, "DSI total score", and "hours". A summary of the results can be found in Table 8. The results showed that *cross-category browse range groups* failed to account for significant portion of the variance in "hours", indicating there were no significant differences between the groups in the amount of time they reported spending online. This result, in combination with the nonsignificant relationship with "experience" tells us that an individual's cross-category browsing behavior is likely related to something beyond basic online usage and experience. An examination of the ANOVA results and subsequent post hoc tests using Fisher's LSD for the "without buy" and "with buy" dependent variables (which are similar to the OSP frequency measures) shows us that the high *cross-category browse range group* goes online to purchase ("with buy") and search ("without buy") for information significantly more than the medium and low groups, with "without buy" (online searching behavior) being the only dependent variable to significantly differentiate between all three groups. Similarly, the high group is significantly higher than the medium and low groups in level of DSI. However, this is not true for the intention variables, where the medium and high *cross-category browse range groups* do not differ significantly from each other, but both score significantly higher in intention on all three variables when compared to the low group.

Table 8.

Mean Variable Rating in Each Cross-category Browse Range Group

Variable	Total	Low BR	Medium BR	High BR	F*	Sig.	Post Hoc
Hours	2.7412	2.5392	2.7734	2.9398	2.093	0.125	NS
Without Buy	3.7348	3.3235	3.7500	4.2169	12.529	< 0.001	L<M<H
With Buy	2.3866	2.2059	2.3672	2.6386	8.195	< 0.001	L,M<H
Intent Purchase	3.6486	3.2059	3.7969	3.9639	13.141	< 0.001	L<M,H
Intent Browse	4.2599	3.9216	4.3281	4.5301	10.340	< 0.001	L<M,H
Intent Search	4.0447	3.7843	4.0938	4.2892	7.640	0.001	L<M,H
DSI Total Score	18.8530	17.4706	18.6328	20.8916	12.849	< 0.001	L,M<H

* df = 2/312

3.3 Testing Statistical Assumptions for Discriminant Analysis

The principal analysis was a multiple discriminant function, differentiating the three cross-category browse range groups in regard to their general preference for the 26 site features. Like the regression outlined above, in this discriminant analysis the discrete variable of *cross-category browse range groups* (low, medium, high) will act as the dependent variable, with the 26 site feature importance ratings scores acting as predictors/independent variables. Before a discriminant analysis can be performed the sample size must be deemed acceptable and statistical assumptions must be assessed. These assumptions include multivariate normality of the independent variables (site feature importance ratings), equality of the variance/covariance matrices across levels of the dependent variable (*cross-category browse range groups*), relative absence of

multicollinearity across independent variables (site feature importance ratings), and linearity between the dependent variable and each of the 26 independent variables. Violations of these assumptions may have an impact of the estimation of the discriminant functions and on group classification process.

Sample Size

From the original 313 cases, 311 were used in the discriminant analysis. Two cases were excluded as they were each missing one of the discriminating variables required, and both of these cases were from the medium cross-category browse range group (BR). The suggested ratio of cases per independent variable is between 5 to 20 cases for every predictor variable. With 311 cases and 26 predictor variables, the ratio of approximately 12:1 falls within the limits suggested. In addition to this, it is also recommended that none of the dependent variable group sizes be less than the number of predictors. With dependent variable group sizes ranging from 83 to 126, and only 26 predictors, this also falls within the limits suggested. Given this, there are no apparent issues with the sample size (Hair, Black, Babin, Anderson, & Tatham, 2010).

Normality

As no surefire test exists to evaluate multivariate normality, a reasonable stand-in to assess normality for an analysis like this is to conduct a test of univariate normality for each predictor. To test the normality of the 26 predictor variables, skewness and kurtosis was assessed by calculating the appropriate statistics for each variable in SPSS and then converting these to *Z* skewness and *Z* kurtosis using the following equations: *Z* skewness = skewness statistic / $\sqrt{(6/N)}$, and *Z* kurtosis = kurtosis statistic / $\sqrt{(24/N)}$. These were then compared to an arbitrary cutoff of 3, which is based on a commonly used critical

value cutoff of ± 2.58 (Hair et al., 2010, pp.72-73). By using this cutoff, the following variables were identified as having non-normal distributions (see Appendix F for a complete list of statistics): "product photos" was negatively skewed and leptokurtic, "customer feedback" was moderately negatively skewed, "animated" was positively skewed and moderately leptokurtic, "links" was moderately negatively skewed, "price incentives" was moderately negatively skewed, "easy to find" was moderately negatively skewed, "reasonable price" was negatively skewed and leptokurtic, "grammar" moderately negatively skewed, "credit secure" was extremely negatively skewed and leptokurtic, "security seals" was negatively skewed and moderately leptokurtic, "friends & family" was moderately negatively skewed, "selection & variety" was moderately negatively skewed, "product comparison" was moderately negatively skewed, "returns" was negatively skewed, "benefits and drawbacks" was moderately negatively skewed, "instant messaging" was moderately platykurtic, "photos of real people" was moderately positively skewed, "ordering" was negatively skewed and moderately leptokurtic, and "entertaining graphics" was moderately positively skewed. Those these results indicate there are most definitely non-normal distributions within the predictor variables, this also provides insight into some features that may now be considered hard-and-fast site feature requirements for any online shopper (see "product photos" and "credit secure").

Equality of the Variance/Covariance Matrices

The assumption of equality of the variance/covariance matrices across levels of the dependent variable is often assessed by using Box's M statistic which tests the null hypothesis that the matrices do not differ between the groups/levels of the dependent variable. For this discriminant analysis Box's M is 1003.134 with F = 1.255, which is

significant at $p < 0.001$, therefore rejecting the null hypothesis, indicating that this assumption may have been violated. As Box's M is considered a very sensitive test that is easily affected by larger sample sizes and departures from normality (as is the case here), therefore a significant result is not surprising or all that important (Sage Publications, 2010). What is the main concern is the relative equality of the group sizes, which can be compared to a rule of thumb suggested by Hair et al. (2010): *n* largest group / *n* smallest group < 1.5. For this analysis this equates to 126 / 83 = 1.51, which falls right along the cutoff, indicating that there may or may not be an issue with group sizes. Another indicator is the relative equality of the log determinants (Sage Publications, 2010). For this analysis the log determinant for the low cross-category browse range group is -7.952, the medium group is – 10.714, and the high is – 12.447. Using the Hair et al. (2010) rule -12.447 / -7.952 = 1.56, which is greater than 1.5. Using another rule of thumb utilized by Carson (2008), the difference in range between the largest and smallest log determinants should be less than 30% of the average of all three. Using this rule the cutoff is 3.11, which the range of 4.49 exceeds, which is an indicator that there may be covariance issues.

Absence of Multicollinearity

Since each of the 26 features was entered into the analysis as a separate independent variable, tests for multicollinearity were performed. Tolerance estimations for the 26 predictors ranged from 0.43 to 0.81 with a mean of 0.63 (see Appendix G), meaning all predictors rose above the recommended 0.1 cutoff. Thus, indicating that the set of 26 predictors was adequately free of collinearity and could therefore all be included in the analysis.

Linearity

The variable of interest for this discriminant analysis the discrete, non-interval variable of *cross-category browse range groups* (low, medium, high). However, given the categorical nature of this variable, assessing curvilinear relationships between it and the 26 website features ratings is not easily accomplished. In addition to this, "linearity" was not included in what Hair et al. (2010) refer to as the "key assumptions" for performing this type of analysis (p.254), as the impact of breaking the assumption of linearity on the robustness of the discriminant analysis may not be dire. Given this, curve estimations using the discrete *cross-category browse range groups* variable were not be performed herein.

Though not used in the discriminant analysis, an understanding of the relationship between the 26 site feature importance ratings and the continuous variable of *cross-category browse range* may help us form an understanding of the nature of the variable in a general sense. Overall, analyses of linearity between the 26 features and the continuous variable of cross-category browse range yielded eight features with significant nonlinear relationships. The results of the tests for nonlinear relationships and subsequent scatterplots (see Appendix H) suggested that in four cases of these cases the linear function is superior or equal to a nonlinear function. For the remaining four cases the quadratic model was either the best significant model or the only significant model found using curve-estimation. Results are reported in tandem with the univariate ANOVA F-test results from each variable and the categorical variable of *cross-category browse range groups* (low, medium, high).

The features for which the linear model provides the best description of the relationship between the feature and the variable of *cross-category browse range* (based on superior or relatively equal R^2 values) include “interactive”, “unusual”, “color”, and “ads”. For the “interactive” feature the variable of cross-category browse range produces a linear model with an $R^2 = .046$ / Adjusted $R^2 = .043$, $F = 14.695$, $p < .001$, a logarithmic model with an Adjusted $R^2 = .039$ / Adjusted $R^2 = .035$, $F = 12.130$, $p = .001$, and a quadratic model with an $R^2 = .047$ / Adjusted $R^2 = .040$, $F = 7.349$, $p = .001$, representing a slight inverted U-shaped relationship. A linear model was further supported by univariate ANOVA results where $F = 6.442$, $p = .002$. For the “unusual” feature the variable of cross-category browse range produces a linear model with an $R^2 = .019$ / Adjusted $R^2 = .016$, $F = 5.961$, $p = .015$, a logarithmic model with an $R^2 = .013$ / Adjusted $R^2 = .010$, $F = 4.102$, $p = .044$, and a quadratic model with an $R^2 = .021$ / Adjusted $R^2 = .015$, $F = 3.234$, $p = .041$, representing a slight inverted U-shaped relationship. A linear model was further supported by univariate ANOVAs results where $F = 8.249$, $p < .001$. For the “color” feature the variable of cross-category browse range produces a linear model with an $R^2 = .019$ / Adjusted $R^2 = .016$, $F = 5.792$, $p = .017$ and a logarithmic model with an $R^2 = .016$ / Adjusted $R^2 = .012$, $F = 4.757$, $p = .030$. A linear model was further supported by univariate ANOVA results where $F = 3.623$, $p = .028$. For the “ads” feature the variable of cross-category browse range produces a linear model with an $R^2 = .13$ / Adjusted $R^2 = .10$, $F = 3.929$, $p = .048$ and a logarithmic model with an $R^2 = .015$ / Adjusted $R^2 = .012$, $F = 4.533$, $p = .034$. A linear model was further supported by univariate ANOVA results where $F = 3.386$, $p = .035$.

The two features that have multiple significant models of which the quadratic best represents their relationship with the variable of cross-category browse range (based on superior R^2 values) were "animated" and "customer feedback". For the "animated" feature the variable of cross-category browse range produces a linear model with an R^2 = .027 / Adjusted R^2 = .024, F = 8.394, p = .004 and a quadratic model with an R^2 = .064 / Adjusted R^2 = .058, F = 10.331, p < .001, representing a U-shaped relationship. Though the quadratic model has a superior R^2 value, a univariate F-test was significance with F = 5.406, p = .005. For the "customer feedback" feature the variable of cross-category browse range produces a linear model with an R^2 = .030 / Adjusted R^2 = .026, F = 9.222, p = .003, a logarithmic model with an R^2 = .039 / Adjusted R^2 = .035, F = 12.128, p = .001, and a quadratic model with an R^2 = .049 / Adjusted R^2 = .043, F = 7.808, p < .001, representing an inverted U-shaped relationship. Though the quadratic model has a superior R^2 value, a univariate F-test found significance with F = 5.294, p = .005.

The two features for which the quadratic model was the only significant model were "product photos" and "interesting graphics". For the "product photos" feature the variable of cross-category browse range produces a quadratic model with an R^2 = .028 / Adjusted R^2 = .022, F = 4.331, p = .014. Representing an inverted U-shaped relationship, this is the only model found to be significant. A univariate F-test did not find significance with F = 2.823, p = .061. For the "interesting graphics" feature the variable of cross-category browse range produces a quadratic model with an R^2 = .020 / Adjusted R^2 = .014, F = 3.084, p = .047. Representing a U-shaped relationship, this is the only model found to be significant. A univariate F-test did not find significance with F=2.898, p=.057.

As Hair et al. (2010) note that evidence regarding the sensitivity of discriminant analysis to violations of these assumptions is mixed, and since the analyses herein were based on secondary analyses of previously obtained data and are exploratory in nature, the presence of any violations did not prevent further analyses from taking place. Any violations of the statistical assumptions noted above were simply recorded and incorporated into the interpretations to the best of the author's ability.

3.4 Feature Importance

A discriminant analysis was run with the discrete variable of *cross-category browse range groups* (low, medium, high) by simultaneously entering the 26 general feature importance ratings (for full "enter" results see Appendix I, for full "stepwise" results [not discussed in this paper] see Appendix J). As shown in Table 9, one of the two functions revealed in the discriminant analysis was significant with chi-square = 88.031, $p < .001$, meaning that this discriminant function does better than chance at separating the groups. As the groups were not equal in size, the appropriate a priori probability to compare the classification rates to is a proportional chance criterion. The proportional chance criteria for assessing model fit is calculated by summing the squared proportion that each group represents of the sample. In this case for "low" CCBR group $n = 102$, for "medium" CCBR group $n = 128$, and for "high" CCBR group $n = 83$, with a total sample population of $n = 313$. Therefore the calculation is $(102/313)^2 + (128/313)^2 + (83/313)^2 = 0.34$, giving us a chance criteria of 34%. Based on the widely accepted rule-of-thumb that model accuracy be at least 25% better than the chance criteria, the standard to use for comparing the model's accuracy is 1.25 x 0.34 = 0.43, or 43%. As the classification rates for this model exceed this cutoff at 56.3% (original) and 47.6% (cross-validated), it can

be concluded that this model predicts group membership markedly better than chance alone. In addition to this Press's Q (calculated as *Press's Q* = [N – (n*K)] ^2/N*(K – 1), where N= sample size, n= number of correct classifications, K= number of groups) was 71.79, which is significant at $p < .01$. Finally, a canonical correlation coefficient of 0.431 tells us that the percent of variance explained in the dependent variable by this function is approximately 19%.

Table 9.

Discriminant Functions

Function	Eigenvalue	Percent of Variance	Canonical Correlation	Wilks' Lambda	Chi-square	df	Significance
1	0.228	70.3	0.431	0.742	88.031	52	0.001
2	0.097	29.7	0.297	0.912	27.269	25	0.343

The standardized weighting coefficients and loadings for each of the 26 variables are displayed below in Table 10.

Table 10.

Discriminant Function Weighting Coefficients and Loadings

Site Feature		Single Function	
		Weighting	Loading
1.	Interactive - It has interactive web design (e.g., design/customize your products/services)	0.212	0.426*
2.	Unusual - It is quite different from the usual sites for products of the type involved	0.296	0.414*
3.	Customer Feedback - Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	0.375	0.381*
4.	Animated - It has one or more animated characters that move or speak	0.215	0.355*
5.	Selection & Variety - It has a wide selection and variety of products on the site	0.153	0.348*

6.	Photos of Real People - It has photos of real people using products/services	0.156	0.333*
7.	Color - It has interesting, attractive color (e.g., in fonts, background, and borders)	0.147	0.313*
8.	Reasonable Prices - It has reasonable prices	-0.502	- 0.297*
9.	Product Comparison - Products on the website can be easily compared with each other	0.211	0.287*
10.	Easy to Find - The things I am looking for are easy to find on the site	0.269	0.270*
11.	Interesting Graphics - It has interesting, attractive graphics (e.g., not too complicated, not too simple)	-0.009	0.270*
12.	Entertaining Graphics - It has entertaining graphics and displays	-0.245	0.260*
13.	Ordering - The order process is easy to use	0.191	0.249*
14.	Links Work - The Internet links on the site are working properly	0.257	0.248*
15.	Enjoyable - It is enjoyable to use	-0.085	0.230*
16.	Credit Secure - There is a guarantee that my credit card information would be safely and securely protected	-0.256	- 0.192*
17.	Friends & Family - My friends and family have been happy when they have shopped there	-0.011	0.137*
18.	Price Incentives - It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	0.138	0.132*
19.	Instant Messaging - It allows instant messaging with the company or company representative	-0.022	0.115*
20.	Returns - It has a return policy that is easy to understand and use	-0.19	0.059
21.	Ads - I hear about it on the radio, television, or in the newspaper	0.158	0.239
22.	Product Photos - It has photos of products	0.054	0.213
23.	Grammar - It is free of grammatical and typographical errors	-0.198	-0.07
24.	Security Seals - It has seals of companies stating that my information on the site is secure (e.g., Verisign)	-0.032	-0.057
25.	Benefits & Drawbacks - The site presents both benefits and drawbacks of the products/services	-0.111	0.073
26.	Friends Opinion - My friends or family let me know their opinions of the site	-0.217	-0.001

* Largest absolute correlation between each feature and the first discriminant function. Features without asterisk were loaded most strongly on the second (non-significant) function.

The standardized discriminant function weights are similar to beta weights in multiple regression (partial coefficient), as they indicate the relative importance of the each feature in predicting the dependent variable. As coefficients with larger absolute values correspond to variables with greater discriminating ability, examination of the table above provides evidence that the *cross-category browse range groups* (low, medium, high) differ a great deal on the importance they place on a website featuring reasonable prices ("reasonable prices" weighting coefficient = - 0.502). Because the largest weight is negative, this means that this feature is more important for those scoring lower on this discriminant function.

The loadings represent correlations of each feature importance rating with the discriminant function. Similar to loadings in a factor analysis, by identifying the largest absolute correlations associated with the function we gain insight into the latent construct(s) that the function represents. Using the widely accepted cutoff point of $\geq |0.3|$ (Blake, Neuendorf, & Valdiserri, 2008; Hair et al., 2010), we find that the function is defined mainly by positive relationships to the features: "interactive", "unusual", "customer feedback", "animated", "selection & variety", "photos of real people", and "color". Even though the negative loading for "reasonable prices" is below the recommended cutoff at -0.297, it will also be included in deciding what the function reflects because of the feature's presence as the dominant standardized discriminant function weight and its close proximity to the $\geq |0.3|$ cutoff. The situation surrounding the interpretation of these variables will gain clarity through examination of the mean preference rating for each *cross-category browse range group*, which will be part of the next section looking at group differences.

With consideration given to the appropriate weights and loadings, this function does appear to represent the anticipated hedonically-oriented "exploratory" facets of a website. This function's positive associations with interactive web design, newness, and variety have obvious overlaps with much of the literature already discussed on hedonic shopping motivation and exploratory online shopping behaviors (stimulation, curiosity, novelty, and variety). In addition to this, as opposed to more practical features that reflect economy, security, and navigability, the presence of features pertaining to animation, photos of people, and colors, means this function is more related to the "visual appeal" aspects of a website, those features that "affect the degree to which a user enjoys browsing a website but that do not directly support a particular shopping goal" (Parboteeah et al., 2009, p. 60). This point is especially driven home when one considers the negatively weighted feature of "reasonable prices", which further exemplifies the non-utilitarian, non-substantive, nature of this function.

If this function is truly hedonic and reflects features related to a consumer's online browsing enjoyment, one could query as to why the features like "interesting graphics", "entertaining graphics", and "enjoyable" were not more prominent on the function. When one looks closely at the phrasing of the questions themselves reasons for their exclusion become somewhat more apparent. First, the "interesting graphics" feature question includes the phrase "e.g., not too complicated, not too simple". It could be the case that this middle-of-the-road approach may seem less preferential and old-hat to someone looking for new and interactive online stimuli. Secondly, the smaller coefficients for "entertaining graphics" and "enjoyable" may help to clarify the boundaries of this function. Where the idea of hedonic consumption relates to constructs

like novelty, curiosity, exploration, and variety, as well as to constructs like pleasure and entertainment, this function could be representing more of the former and less of the latter (Hausman, 2000). Given this, one could conclude that this function is more about *exploration* and less about *entertainment*, which makes sense given the nature of the dependent variable.

The feature of "customer feedback" is interesting given the potential inverted U-shaped relationship it has with the dependent variable. Depending on the arch of the curve (which we will have a better idea of once we examine the mean feature preference ratings for each group), reading customer reviews could be positively associated with this function because although it has the potential to provide practical purchase-related information, it can also provide another outlet for exploration though learning and satisfying curiosity. In addition to this, product reviews may be more important when venturing into new online territory or new product categories. Reflecting these connections, Kim and Eastin (2011) found that their variable of "pre-purchase online communication", which they defined as the degree to which a consumer read online product reviews, blogs, content distributor websites, and social network sites to obtain product information before purchase, was positively associated with hedonic shopping motivation, exploratory information-seeking behavior, and online browsing time. Conversely, Blake et al. (2008) found that the feature of "customer feedback" was substantive in nature and related to assessing a product's value. One can therefore conclude, that a consumer's preference for this feature has the possibility to reflect either or both hedonic (exploratory) or utilitarian (purchase-related) purposes.

Additional insights are gained when these features are connected back to their original source, VISA (refer back to Table 2). The dimensions from the Blake et al. (2010) study that are represented positively by this function are Human Touch ("animated", "photos of people"), New and Different ("interactive", "unusual"), Visual and Auditory Richness ("color"), Near Ideal ("selection & variety"), Product Information ("customer feedback"). The VISA dimensions that are not represented by this function are related to deducing the convenience and riskiness of the transaction and the value of the product being considered, they also share many overlapping qualities with the "form" and "substantive" website features discussed by Blake et al. (2008): Security Transactions and Privacy, Website Functionality, Product Comparison, True to Its Word, Others' Recommendations. Again, not represented on this function is the VISA dimension of Uniquely Entertaining, whose exclusion speaks to the primarily exploratory nature of the function. Finally, looking back at the Near Ideal dimension; in VISA it is represented by both the "selection & variety" and "reasonable prices" feature. The function's positive relationship with the first feature and the negative relationship with the second suggests for those scoring higher on this function their "ideal" website is features variety and not necessarily affordability, and this is supportive of activities like browsing and exploration, not necessarily purchasing. Given this evidence, let us define this function as "online exploration".

3.5 Group Differences on the Function

Now that we have an understanding of what this function represents, differences between low, medium, and high *cross-category browse range* groups must be examined. Table 11 displays the group centroids for the function. Centroids are the mean

discriminant scores for each group and help determine the profile of each group in regards to how they relate to that function. The results show us that the relationship between the function and the groups is positive and linear. As was anticipated, those with higher scores on the "online exploration" function are members of the high *cross-category browse range* group. This group of online consumers search across a wide variety of product categories and place value on website features that are stimulating, novel, and encourage exploration. These are not necessarily people searching high and low for a bargain. Where a reasonable price could be traded off for website design features in the high group, it is very important to the low *cross-category browse range* group, who browses the fewest product categories online and care the least for experiencing interactive or novel online domains. Lastly, the medium *cross-category browse range* group is relatively neutral on the function, indicating that although they appreciate some aspects of what online exploration can bring ("customer feedback") price is still a big consideration for them as well.

Table 11.

Group Centroids

Group	Function 1
Low Browse Range	- 0.568
Medium Browse Range	0.017
High Browse Range	0.671

3.6 Group Differences in Individual Feature Importance

3.6.1. MANOVA for General Site Feature Importance Ratings. A multivariate analysis of variance (MANOVA) was conducted to determine if and where differences

between the discrete levels of the independent variable exist for each of the 26 site feature importance ratings (see Appendix K).

Again, tests of sampling adequacy and sphericity were run and results showed that the 26 predictor variables had a Kaiser-Meyer-Olkin Measure of Sampling Adequacy of 0.806 (which falls safely above the 0.5 accepted minimum cutoff), with Bartlett's Test of Sphericity significant at $p<0.001$. These results indicate that adequate intercorrelation exists between the 26 predictor variables and that these variables are appropriate for inclusion in a MANOVA. What is especially noteworthy about this set of 26 variables is that they are both adequately free of multicollinearity (based on the tolerance tests reported in order to facilitate running a discriminant analysis), as well as intercorrelated enough to use MANOVA.

The overall multivariate test results from the MANOVA indicate that differences do exist, as Pillai's Trace is significant with $F = 1.734$, $p = .002$, as are Wilks' Lambda with $F = 1.748$, $p = .001$, Hotelling's Trace with $F = 1.762$, $p = .001$, and Roy's Largest Root with $F = 2.494$, $p < .001$. The tests of between-subject effects show that significant differences between levels of the independent variable exist for the feature importance ratings of "ads" $F = 3.386$, $p = .035$, "customer feedback" $F = 5.294$, $p = .005$, "animated" $F = 5.406$, $p < .005$, "interactive design" $F = 6.442$, $p < .002$, "color" $F = 3.623$, $p < .028$, "easy to find" $F = 3.617$, $p < .028$, "reasonable prices" $F = 3.359$, $p = .036$, "selection & variety" $F = 4.265$, $p = .015$, "unusual" $F = 8.249$, $p < .001$, "photos of real people" $F = 5.323$, $p = .005$, and marginally for "product comparison" $F = 2.943$, $p = .054$. Differences were not detected for the remaining site feature importance ratings.

3.6.2. ANOVAs for General Site Feature Importance Ratings. More information regarding the profile of these *cross-category browse range groups* (low, medium, high) is revealed when consideration is given to the mean feature importance rating for each group, as well as to the results of separate univariate AVOVAs testing the differences between the three groups for each site feature and the subsequent Fisher's LSD post hoc tests found in Table 12 (see Appendix L). A quick eye-ball of the directional trends of the group means are consistent with the conclusion that those in the high group rate the "exploratory" features that make up the function as more important than the mediums, who rate them as more important than the lows. However, post hoc tests revealed that for the features of "interactive", "unusual", "customer feedback", "color", and "ads" the mean differences between medium and high cross-category browse range groups do not differ significantly from each other, though both groups rate these features as significantly more important than the low group. Also seen here is the fact that the high group rated "animated" and "photos of real people" as being significantly more important than the medium and low groups, who did not significantly differ from each other in their ratings on these features. Importantly, and as anticipated, these results also show that the low and medium groups do not differ significantly in the importance they place on the site feature of "reasonable prices", though both groups rate this feature as significantly more important than the high group.

Table 12.

Mean Feature Importance Rating in Each Group

Site Feature	Total	Low BR	Medium BR	High BR	F*	Sig.	Post Hocs
1. Interactive	2.85	2.56	2.88	3.14	6.504	0.002	L<M,H
2. Unusual	2.74	2.41	2.90	2.92	8.474	< 0.001	L<M,H
3. Customer Feedback	4.01	3.75	4.06	4.25	5.266	0.006	L<M,H
4. Animated	1.42	1.33	1.36	1.62	5.473	0.005	L,M<H
5. Selection & Variety	3.86	3.67	3.87	4.09	4.285	0.015	L<H
6. Photos of Real People	2.36	2.22	2.23	2.73	5.487	0.005	L,M<H
7. Color	2.50	2.28	2.55	2.69	3.749	0.025	L<M,H
8. Reasonable Prices	4.54	4.64	4.57	4.37	3.363	0.036	L,M>H
9. Product Comparison	3.63	3.47	3.61	3.86	2.950	0.054	L<H
10. Easy to Find	4.34	4.16	4.42	4.43	3.503	0.031	L<M,H
11. Interesting Graphics	2.99	2.86	2.93	3.25	2.760	0.065	L<H
12. Entertaining Graphics	2.23	2.08	2.23	2.42	2.378	0.094	L<H
13. Ordering	4.18	4.01	4.24	4.31	2.539	0.081	L<H
14. Links Work	4.04	3.86	4.10	4.16	2.556	0.079	L<H
15. Enjoyable	3.54	3.37	3.60	3.67	2.209	0.112	NS
16. Credit Secure	4.63	4.68	4.66	4.50	1.632	0.197	NS
17. Friends & Family	3.74	3.64	3.77	3.83	0.733	0.481	NS
18. Price Incentives	3.93	3.87	3.92	4.04	0.729	0.483	NS
19. Instant Messaging	2.81	2.72	2.81	2.91	0.480	0.619	NS
20. Returns	4.09	3.97	4.24	4.03	2.208	0.112	L<M
21. Ads	2.80	2.56	2.93	2.89	3.497	0.031	L<M,H
22. Product Photos	4.46	4.30	4.55	4.51	2.970	0.053	L<M
23. Grammar	3.42	3.40	3.53	3.28	1.247	0.289	NS
24. Security Seals	4.27	4.25	4.34	4.18	0.804	0.449	NS
25. Benefits & Drawbacks	3.72	3.64	3.79	3.73	0.614	0.542	NS
26. Friends Opinion	3.31	3.30	3.34	3.30	0.052	0.949	NS

* df = 2/308

What was especially interesting about these results were the higher mean ratings given to the more functional website features by the high *cross-category browse range group*, when compared to the magnitude of the importance ratings given to the other features by that group. As illustrated in Table 12, when looking at the high group *in isolation* and their relative mean site feature ratings, one can see that this group does place importance on features like "reasonable prices", "easy to find", "ordering", "links work", "credit secure", "returns", "product photos", and "security seals". For example, when paired-sample t-tests were run on a filtered dataset containing only members of the high group, the results showed that when compared to the mean for the "interactive" feature, the more functional features of "credit secure" ($t = - 8.903$, $p < .001$), "reasonable prices" ($t = - 7.950$, $p < .001$), and "security seals" ($t = - 6.781$, $p < .001$), were found to have significantly higher mean importance ratings. The same pattern was found when compared to the site feature "unusual", with "credit secure" ($t = - 11.974$, $p < .001$), "reasonable prices" ($t = - 11.557$, $p < .001$), and "security seals" ($t = -8.940$, $p < .001$) (see Appendix M for full pairwise results).

This trend in the data is important for a couple of reasons. First, the importance placed on functional, utilitarian website features by the high *cross-category browse range* group indicates that it is likely that these consumers are purchasing, and not just browsing online. This conclusion is supported by the fact that this group scored significantly higher on the purchase-related "with buy" shopping variable when compared to the medium and low groups. This coupled with the high group's significantly lower importance score for the "reasonable price" feature when compared to the low and medium groups tells us that

although they are both purchasing and browsing online, they may be differentiating between websites, and potentially the products found therein, on factors other than price.

Second, the relative importance of these utilitarian feature may be representative of what is now expected of a website (easy to use, safe, etc.), where the more hedonic, exploratory features may be what is attractive about a website to the high *cross-category browse range* group. In this case the presence of these utilitarian features on a website may be a necessary but not sufficient condition for this group to purchase from or explore a site. This conclusion is supported by the negatively skewed and leptokurtic distributions of the more functional site features like "reasonable price", "credit secure", "security seals", "ordering", and "product photos". Given this, developers may not be able to rely solely on either utilitarian or exploratory features of a website to attract members of the high *cross-category browse range* group, they will require both. This runs parallel to the conclusions posited by Parboteeah et al. (2009) and Richard et al. (2010), in addition to Bäckström (2011), who proposed that a composite set of motives, including both hedonic and utilitarian may best represent a consumer's more "leisure" shopping behavior. This also supports the findings of Demangeot and Broderick (2009) who showed that a website's "sense-making potential" (page clarity and site architecture) drove its "exploratory potential", with created both hedonic and utilitarian value, leading to website commitment.

These results also highlight the necessity to analyze this data utilizing both discriminant analysis and MANOVA. Where focusing on the MANOVA results can provide information about the relative importance of more utilitarian features to online shoppers as a whole, these features have been shown not to differentiate between groups

of shoppers (like those in the low, medium, and high CCBR groups). What was found to differentiate between these groups are the more hedonic, exploratory website features. Therefore, discussing the results from both analyses, though they may seem contradictory at first, ends up providing a more complete picture of online shoppers. Allowing us to see not only how these consumers are similar to each other, but also how they differ.

CHAPTER IV

DISCUSSION

This exploratory study was designed to examine, among other things, the novel variable of *cross-category online browse range* and its relationship to general website feature preferences. For the purpose of analysis, two *cross-category online browse range* variables were created. The first variable of *cross-category online browse range* was a continuous variable that represented the sum total of categories shopped in the specified two week time period. The second variable *cross-category online browse range groups* (low, medium, high) denoted participants' membership in one of three discrete groups scoring either low, medium, or high in *cross-category online browse range*. In addition to select demographic variables, several other variables were examined, including three additional derived shopping measures ("purchase frequency", "cross-category purchase range", and "browse frequency"), online use ("experience" and "hours"), OSP-like purchasing and browsing frequency ("with buy" and "without buy"), online shopping intentions ("intent purchase", "intent browse", and "intent search"), and innovativeness ("DSI total score" and "GSI total score"). To do this a variety of analysis techniques were used. Direct relationships were examined with simple bivariate correlation, while the role of demographics was tested using both regression and chi-square tests. MANOVA and

subsequent ANOVA and Post Hoc tests were used to examine the amount of variance accounted for by *cross-category online browse range groups* (low, medium, high) in the participant's Internet use, purchasing and browsing frequency, online shopping intentions, and innovativeness. Finally, the relationship between *cross-category online browse range groups* (low, medium, high) and general website feature preferences were tested using discriminant analysis, and subsequent MANOVA, ANOVA, and post hoc tests. These analyses have yielded several important insights that have implications for researchers as well as marketers, which will be discussed in the following section.

4.1 Specific Conclusions and Implications

4.1.1 Cross-category Online Browse Range. As this study was exploratory in nature, one research goal was to form a better understanding of the *cross-category online browse range* (CCBR) variable in its continuous form, and compare it to the other three derived shopping variables of purchase frequency, cross-category purchase range, and browse frequency. Results showed that CCBR was the only one of the four variables that followed a normal distribution curve and was the only derived shopping behavior variable that was significantly and positively related to intention to perform every facet of online shopping - purchasing, browsing, or searching for information with the goal of purchasing. Additionally, in both its continuous and discrete forms, none of the variance in CCBR was found to be significantly attributable to any of the seven demographic variables tested. Looking at browsing behavior in particular, out of the two derived browsing variables, "browse frequency" and CCBR, CCBR was more strongly related to both "without buy" and "with buy" variables (showing those high in CCBR are both purchasing and browsing online), and was less strongly related to the variable of "hours"

(neither were related to the variable of "experience"). Overall, these findings not only reaffirm the importance of distinguishing between the frequency and range of online shopping activities (as per Blake et al., 2003; Blake et al., 2007), but provides support for the call to develop strategies for gathering clickstream data that records the content and product categories of webpages visited by consumers (Menon & Kahn, 2002; Moe, 2003; Weinreich et al., 2009). For without this information, large-scale real-time tracking of individual consumer differences in "range" cannot validly occur.

Tests of linearity were also run between the continuous variable of CCBR and selected variables, including "with buy", "without buy", "intent purchase", "intent browse", "intent search", and "DSI total score". The results indicated that where most relationships were linear, possible quadratic, inverted U-shaped relationships existed between CCBR and the variables of "intent purchase" and "intent search". As these two variables are representative of more goal-related, utilitarian shopping activities, these findings provide support for the idea that CCBR is a variable that may be representative of a more exploratory online behavior, behavior that exists beyond any goals associated with actual product acquisition.

4.1.2 Cross-category Online Browse Range Groups and Intention to Shop Online. Research question one pertained to whether those individuals in the low, medium, and high *cross-category browse range groups* differed in their intentions to purchase, search, and browse for information online. As it was posited in Chapter I that those who exhibited greater levels of CCBR would likely be more recreationally oriented and hedonically motivated, and possibly have a greater needs for variety, novelty and/or stimulation, it was anticipated that the high CCBR group would express a greater

intention to browse online when compared to the medium and low groups. MANOVA results showed that significant differences did exist between the three levels of CCBR and the three intent variables. Subsequent ANOVA and Post Hoc tests revealed the significant difference existed between the low group when compared to the medium and high groups, with the low group scoring significantly lower for all three intention variables. Though this supports the anticipated results, the nonsignificant difference between the medium and high group stops the anticipated effect short.

There could be several reasons for this finding, one likely one being that the time period indicated in the intent questions (an entire month) is quite long given the growing prevalence of Internet browsing, searching, and purchasing online (Pew Internet & American Life Project, 2012; PricewaterhouseCoopers LLP, 2012). For example, a report released by the Pew Internet & American Life Project in April, 2012 titled "Digital Differences" notes that online activities like searching and shopping are relatively "ubiquitous" (Zickuhr & Smith, 2012, p. 11), with the majority of adults surveyed performing online search activities on a daily basis. This idea is supported by the relatively high mean variable ratings out of a possible 5, with "intent purchase" at 3.6, "intent browse" at 4.3, and "intent search" at 4. This has important implications for both researchers and practitioners, as it leads one to question if individual differences in general intent to perform shopping activities online may be becoming less of an impactful individual difference. If this is so, the need to find behavioral indicators that highlight individual differences in online patterns of use (like CCBR), and not just likelihood/intent to shop online is becoming exceedingly important. If anything, this result speaks to a

practical need to find a shorter timeframe that may better differentiate individuals from each other.

4.1.3 Cross-category Online Browse Range and Innovativeness. Research question two pertained to whether those individuals in the low, medium, and high *cross-category browse range groups* differed in their level of Domain Specific Innovativeness (DSI) and General Shopping Innovativeness (GSI). The anticipated results that CCBR would be more highly correlated with DSI than GSI (which had a nonsignificant relationship with CCBR) were confirmed, supporting the previous findings from Blake et al. (2003) and Hodges (2009). This finding also provides support for the posited positive relationship between CCBR and DSI, also known as consumer innovativeness (Goldsmith et al., 2003). However, worth noting here is the *difference* between the DSI and GSI correlations was found to be nonsignificant, with a Fisher z-score for difference of |1.93|, which falls just below the |1.96| cutoff for significance at the 0.05 level. Further support for this relationship was found in the results from the MANOVA and subsequent ANOVA and Post Hoc tests, which showed that a significant difference did exist between the high group when compared to the medium and low groups (who did not significantly differ from each other), with the high CCBR group scoring higher in DSI.

This demonstrated, positive relationship between DSI and CCBR is an important one for researchers and practitioners, as locating innovative consumers online is a valuable pursuit and difficult to accomplish outside of administering self-report measures like the DSI. The value of targeting and appealing to these types of online shoppers comes from DSI's association with the earlier adoption of a wide range of products and services (Goldsmith & Hofacker, 1991) in both offline (Goldsmith et al., 2003) and

online (Goldsmith, 2001) environments. In addition to this, consumers high in DSI visit new websites earlier than others and are believed to positively influence adoption rates as they act as opinion leaders/information hubs for their social networks, and are seen as risk-reducing trendsetters (Goldsmith, 2001). Though Goldsmith (2001) noted that the DSI provides a much needed "easy-to-use, cheap, and adaptable method" (p. 149) for identifying online innovators, finding actual measurable behavioral indicators that could, in part, represent manifestations of innovative online behavior, like CCBR, is the next step.

4.1.4 Cross-category Online Browse Range and Site Feature Preference. The third and final research question pertained to whether those individuals in the low, medium, and high *cross-category browse range groups* differed in the importance they assigned to a variety of 26 general website features. Results from the discriminant analysis indicated the existence of a single discriminating function, with the low CCBR group falling on the negative side, the high CCBR group falling on the positive side, and medium CCBR group falling just positive of neutral on the function, in between the low and high groups. As the function was primarily defined by higher importance ratings for the features of "interactive", "unusual", "customer feedback", "animated", "selection & variety", "photos of real people", and "color", and lower ratings for the importance of the feature "reasonable prices", the anticipation that as CCBR increases, so to would the importance on more hedonic website features was confirmed. In addition to this, the negative relationship between higher group membership and the feature of "reasonable prices" provides support for the posited positive relationship between price insensitivity and higher levels of CCBR. These findings coupled with the exclusion of features

representing the Uniquely Entertaining VISA dimension lead to the function being defined as “online exploration”.

These relationships are brought into focus when results from MANOVA and subsequent ANOVA and Post Hoc tests are reviewed. Here we see that the medium and high CCBR groups do not significantly differ on the importance they place on the features of “interactive”, “unusual”, “customer feedback” and “color”, but do differ significantly on the features of “animated”, “photos of real people”, and “reasonable prices”, where the medium group becomes undifferentiated from the low group. Finally, the feature of “selection & variety” differentiates between the low and high CCBR groups only. These findings highlight the importance of dynamic (“interactive”), novel (“unusual”), and visually appealing (“color”) websites in attracting customers with a tendency to browse across more product categories (five plus categories in the last two weeks). In addition to this, these findings reveal that although the medium and high CCBR did not significantly differ regarding the importance they placed on these features, they did differ in the importance they placed on the feature of “reasonable price” (-) and those features in the VISA category Human Touch (“animated” [+], “photos of real people” [+]).

This has three important implications for researchers and practitioners. First, if a marketer’s goal is to design a website that appeals to the vast *majority* of consumers, these results support the need to include both hedonic, exploratory website features and more utilitarian ones like “reasonable prices”. This conclusion was supported by looking at the relative mean feature importance ratings for the high CCBR group in isolation. The results showed that a significantly higher importance was placed on more utilitarian

website features when compared to the hedonic features that differentiated them from the medium and low CCBR groups. This suggests the presence of these utilitarian features on a website may be a necessary but not sufficient condition for this group to purchase from and/or explore a site.

Second, the results indicate that although both medium and high CCBR groups are purchasing and browsing online, members of the more innovative high CCBR group may be especially important to marketers as they may be differentiating between websites, and potentially the products found therein, on factors other than price. Finally, given that those in the high CCBR are also more likely innovative consumers when compared to the low and medium CCBR groups, this price insensitivity and preference for features providing a digital "human touch" may very well represent the next step in online retail. These significantly higher importance ratings for Human Touch features fall in line with the missions of online companies like Panoplaza and DimensionsMall.com, Inc. These companies are developing and utilizing new online e-commerce platforms in an attempt to replicate the real-life feel of shopping in an offline bricks-and-mortar environment. By utilizing panoramic and 3D animation technologies these companies are creating spaces where visitors can move through virtual stores interacting with the products and sales people (see Panoplaza's "Smile Land" site here: http://storage.panoplaza.com/publish/e303744b-1330-4ae1-b945-2ab60446d5fa/index.html, and a YouTube commercial for the DimensionsMall.com virtual mall here http://www.youtube.com/watch?v=DZRsRXYaEPs). Whether this type of technology will successfully fill the gap left by the absence of physical, human touch in an online shopping environment remains to be seen, however, results like the ones

found in this study may indicate that developing technologies like these is worth serious consideration.

4.2 Final Conclusions

In conclusion, the present study sought to analyze the relatively novel behavioral variable of *cross-category online browse range* (CCBR). The demonstrated connection between higher levels of CCBR and higher levels of DSI, as well as a greater preference for more hedonic site features that facilitate online exploration provides strong support for a connection between increased CCBR and customers who are more likely to exhibit hedonic, exploratory, and innovative consumer tendencies. In addition to this, CCBR has proven to be meaningful in its own right. Differing from measures of online purchasing behavior and browsing frequency, CCBR was found to be normally distributed throughout the sample population and was positively related not only to time spent online both purchasing and browsing, but was positively and significantly related to all three online shopping intention measures (purchasing, browsing, and searching). In addition to this, the fact that studying CCBR is possible through the collection of meaningful clickstream data, and is not reliant on the implementation of self-report measures makes it an ideal measure for today's data-rich world. Finally, this study showed that insights regarding website design can be gained through utilizing a variable like *cross-category online browse range*. For practitioners in particular, this study suggests how to structure a new or existing shopping website to appeal to those consumers who are most likely to seek out new sites and those most likely to differentiate between websites on features other than price. Specifically, this study shed light on the necessary incorporation of both hedonic and utilitarian features in a website, and

provided suggestions for which consumers to watch if you want find out what site features will be important for tomorrow's the online consumer.

4.3 Limitations and Future Research

The sample remains one of the primary limitations of this study. While this sample was adequate for testing the discriminating ability of a variable like CCBR, the nature of the sampling frame does limits generalizability. Future studies could attempt to gather a more representative sample from which results could be extrapolated to a larger population. Thankfully, given the nature of a variable like CCBR, it may be possible that large swaths of the online consumer population could be sampled at one time using the collection of clickstream data. Furthermore, as differences have been found in online shopping behaviors across countries (Blake et al., 2007), samples from different nations or cultures should also be examined.

As the CCBR variable is directly dependent on the number and type of categories used, the measure is potentially unstable, and this is a definite limitation. Though the 13 product categories used in this study are representative of the types of categories used in professional and academic literature on the subject of online shopping, variance does exist. An example of this variance can be seen by revisiting the product category lists used by Blake et al. (2007), Levin et al. (2003), Rohm and Swamnathan (2004), and Shim et al. (2001) that were reviewed in Chapter 2. As one will see, though these lists share some overlapping "types" of products (for example all four list share categories like "clothing", "books", and "computer software"), they are also not identical in the number or types of categories included. Some categories occur only once, like Rohm and Swamnathan's (2004) "flowers" category, where other studies contain "catch-all"

categories like Blake et al.'s (2007) "other" category. Complicating matters further are differences in the level of category being analyzed. Where Blake et al. (2007) and Levin et al. (2003) respectively used "health and medical" and "health and grooming products" as single higher-level categories in larger lists, Moe's (2003) study looked at browsing across lower-level product categories *within* the category of health and nutrition. Given these differences, comparing across studies and determining the relative stability of a variable like CCBR could prove challenging.

In addition to this, the real-life use of variable like *cross-category browse range* is dependent on a researcher's ability to record and access usable and meaningful cross-category clickstream data. Although this author's knowledge of the current state of clickstream data collection is admittedly limited, the somewhat recent calls from researchers like Weinreich et al. (2009) to record such cross-site data indicates that it is a practice far from commonplace. One reason for this may be because it often requires cooperation across competing online providers, servers, and clients.

Finally, as this data was secondary in nature and based off results from a survey that was not necessarily designed to examine the variables considered in this study, this topic would benefit greatly from primary, dedicated research, where reconsideration can be given to the time period used in the intent items, for example.

As it stands now this study is based on the examination of CCBR as an individual difference in online shopping behavior at a single point in time. Given this, there has been no opportunity to discuss or examine the temporal stability of CCBR. Therefore, for the continued study of this characteristic to be considered meaningful, the stability of the characteristic and its relationships to the other constructs discussed throughout this paper

must be established through a test-retest scenario. Test-retest reliability is measured by administering the same test at different points in time and would allow the stability of characteristic to be assessed during different "shopping seasons". Lastly, as the relationships between CCBR and many of the constructs discussed in this paper could not be directly tested (specifically exploratory online shopping behavior, hedonic/utilitarian shopping motivation, need for variety, novelty and/or stimulation), including additional measures for these constructs in future assessments of CCBR would be necessary in order to gain an fuller understanding of what CCBR is truly driven by and related to, and if those relationships are consistent through time.

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APPENDICIES

APPENDIX A

Appendix A. Selected Scales in Full

Babin et al. (1994) Personal Shopping Value Scale
Hedonic:
1. This shopping trip was truly a joy. 2. I continued to shop, not because I had to, but because I wanted to. 3. This shopping trip truly felt like an escape. 4. Compared to other things I could have done, the time spent shopping was truly enjoyable. 5. I enjoyed being immersed in exciting new products. 6. I enjoyed this shopping trip for its own sake, not just for the items I may have purchased. 7. I had a good time because I was able to act on the "spur-of-the-moment." 8. During the trip, I felt the excitement of the hunt. 9. While shopping, I was able to forget my problems. 10. While shopping, I felt a sense of adventure. 11. This shopping trip was not a very nice time out.
Utilitarian:
1. I accomplished just what I wanted to on this shopping trip. 2. I couldn't buy what I really needed. 3. While shopping, I found just the item(s) I was looking for. 4. I was disappointed because I had to go to another store(s) to complete my shopping.

Baumgartner & Steenkamp (1996) Exploratory Buying Behavior Tendency (EBBT) Scale
Exploratory Acquisition of Products (EAP):
1. I would rather stick to a brand I usually buy than try something I am not very sure of 2. When I go to "place", I feel it is safer to order dishes I am familiar with 3. If I like a brand, I rarely switch from it just to try something different 4. I enjoy taking chances in buying unfamiliar brands just to get some variety in my purchase 5. When I see a new brand on the shelf, I'm not afraid of giving it a try 6. Even though certain "X" are available in a number of different facets, I tend to buy the same facet 7. I think of myself as a brand loyal consumer 8. I am very cautious in trying new or different products 9. I rarely buy brands about which I am uncertain how they will perform 10. I usually eat the same kinds of food on a regular basis

Exploratory Information Seeking (EIS):

11. Reading mail advertising to find out what's new is a waste of time
12. I like to go window shopping and find out about the latest styles
13. I get very bored listening to others about their purchases
14. I generally read even my junk mail just to know what it is about
15. I don't like to shop around just out of curiosity
16. I like to browse through mail order catalogs even when I don't plan to buy anything
17. I usually through away mail advertisements without reading them
18. I like to shop around and look at displays
19. I don't like to talk to my friends about my purchases
20. I often read advertisements just out of curiosity

Blake et al. (2008) General Shopping Innovativeness Scale

1. I am suspicious of new ways of shopping
2. I am reluctant to adopt new forms of shopping until I see them working for people around me
3. I rarely trust new means of shopping until I can see whether the vast majority of people around me accept them
4. I am generally cautious about accepting new ways of shopping
5. I must see other people using new means of shopping before I will consider them
6. I often find myself skeptical of new types of shopping
7. I am aware that I am usually one of the last people in my group to accept new styles of shopping *
8. I tend to feel that the old way of shopping is the best way *

* Denotes item that was not used in this study

Goldsmith & Hofacker (1991) Domain Specific Innovativeness Scale
Goldsmith, Flynn, & Goldsmith (2003) Consumer Innovativeness Scale

1. In general, I am among the last in my circle of friends to visit a shopping website when it appears
2. If I heard a new website was available for online shopping, I would be interested enough to visit
3. Compared to my friends, I have visited few online shopping sites
4. I will visit an online shopping website even if I know practically nothing about it
5. I know the names of new online shopping sites before other people do
6. In general, I am the last person in my circle of friends to know about new shopping websites

Hausman (2000) Hedonic Consumption Scale
1. I like to shop for the novelty of it 2. Shopping satisfies my sense of curiosity 3. Shopping offers new experiences 4. I feel like I'm exploring new worlds when I shop 5. I go shopping to watch other people 6. I go shopping to be entertained 7. I get a real "high" from shopping

Hirschman (1980) - Innovativeness, Novelty Seeking, And Consumer Creativity Framework
Inherent Novelty Seeking:
• Asks individuals how willing they are to seek information that is new and different. A combination of general (e.g. How willing are you to seek new information) and specific questions (e.g. Do you search for new foods to eat).
Actualized Novelty Seeking:
• Measured by asking individuals what sources they consult with to obtain novel information (e.g. newspaper, magazine, etc.)
Vicarious Innovativeness:
• Measured by asking the individuals what new products and consumption situations they have learned about within a given time frame, but not actually adopted or experienced.
Adoptive Innovativeness:
• Measured by asking individuals what products they have purchased within a certain time frame and to have them report the degree of novelty they perceive the product to have compared to other products currently adopted.
Use Innovativeness:
• Measured by asking individuals if they have encountered any new consumption problems lately that they solved by using a product they already have and to have them describe the new use for the product.

Manning, Bearden, & Madden (1995) Consumer Novelty Seeking Scale
1. I often seek out information about new products and brands. 2. I like to go out places where I will be exposed to information about new products and brands. 3. I like magazines that introduce new brands. 4. I frequently look for new products and services. 5. I seek out situations in which I will be exposed to new and different sources of product information. 6. I am continuously seeking new product experiences.

7. When I go shopping, I find myself spending very little time checking out new products and brands.
8. I take advantage of the first available opportunity to find out about new and difference products.

Manning, Bearden, & Madden (1995) Consumer Independent Judgment Making

1. Prior to purchasing a new brand, I prefer to consult a friend that has experience with the new brand
2. When it comes to deciding whether to purchase a new service, I do not rely on experienced friends or family members for advice.
3. I seldom ask a friend about his or her experience with a new product before I buy the new product.
4. I decide to buy new products and services without relying on the opinions of friends who have already tried them.
5. When I am interested in purchasing a new service, I do not rely on my friends or close acquaintances that have already used the new service to give me information as to whether I should try it.
6. I do not rely on experiences friends for information about new products prior to making up my mind about whether to not to purchase.

Mehrabian & Russell (1974) Arousal Seeking Tendency Instrument Scale

1. I seldom change the pictures on my walls.
2. I am not interested in poetry.
3. It is unpleasant seeing people in strange weird clothes.
4. I am continually seeking new ideas and experiences.
5. I much prefer familiar people and places.
6. When things get boring I like to find some new and unfamiliar experience.
7. I like to touch and feel a sculpture.
8. I don't enjoy doing daring foolhardy things just for fun.
9. I prefer a routine way of life to an unpredictable one full of change.
10. People view me as quite an unpredictable person.
11. I like to run through heaps of fallen leaves.
12. I sometimes like to do things that are a little frightening.
13. I prefer friends who are reliable and predictable to those who are excitingly unpredictable.
14. I prefer an unpredictable life full of change to a more routine one.
15. I wouldn't like to try the new group-therapy techniques involving strange body sensations.
16. Sometimes I really stir up excitement.
17. I never notice textures.
18. I like surprises.
19. My ideal home would be peaceful and quiet.
20. I eat the same kind of food most of the time.
21. As a child, I often imagined leaving home just to explore the world.
22. I like to experience novelty and change in my daily routine.

23. Shops with thousands of exotic herbs and fragrances fascinate me.
24. Designs and patterns should be bold and exciting.
25. I feel best when I am safe and secure.
26. I would like the job of a foreign correspondent of a newspaper.
27. I don't pay much attention to my surroundings.
28. I don't like the feeling of wind in my hair.
29. I like to go somewhere different nearly every day.
30. I seldom change the decor and furniture arrangement at my place.
31. I am interested in new and varied interpretations of different art forms.
32. I wouldn't enjoy dangerous sports such as mountain climbing, airplane flying, or sky diving.
33. I don't like to have lots of activity around me.
34. I am interested only in what I need to know.
35. I like meeting people who give me new ideas.
36. I would be content to live in the same house the rest of my life.
37. I like continually changing activities.
38. I like a job that offers change, variety, and travel even if it involves some danger.
39. I avoid busy, noisy places.
40. I like to look at pictures that are puzzling in some way.

Pessemier and Handelsman (1984) Index of Temporal Variety
(Varied Consumer Behavior)

$$ITV = w_1PRD + w_2PRE + w_3RNB.$$

Percentage of Realized Dissimilarity (PRD):

- The dissimilarity of the chosen products (perceptual distances)

Percentage of Realized Entropy (PRE):

- The degree to which choices are evenly distributed across stimuli

Relative Nonbunching (RNB):

- The relative frequency with which the chosen item changes from one purchase occasion to the next

Raju (1980) Exploratory Tendencies In The Consumer Context

A – Repetitive Behavior Proneness (7 items - 3 unique)

- Even though certain food products are available in a number of different flavors. I always tend to buy the same flavor, (a)
- If I like a brand, I rarely switch from it just to try something different, (a, f)
- I get bored with buying the same brands even if they are good. (a, f)
- I would get tired of flying the same airline every time, (a)

I would prefer to keep using old appliances and gadgets even if It means having

to get them fixed, rather than buying new ones every few years, (a)
- A lot of the time I feel the urge to buy something really different from the brands I usually buy. (a, f)
- If I did a lot of flying. I would probably like to try all the different airlines, instead of flying just one most of the time, (a, f)

B – Innovativeness (10 items – 3 unique)

- When I see a new or different brand on the shelf. I often pick it up just to see what It is like, (b)
- I am the kind of person who would try any new product once, (b, c)
- A new store or restaurant is not something I would be eager to find out about, (b, g)
- I am very cautious in trying new/different products, (b, c)
- Even for an important date or dinner, I wouldn't be wary of trying a new or unfamiliar restaurant, (b, c)
- I would rather wait for others to try a new store or restaurant than try it myself, (b)
- When I see a new brand somewhat different from the usual. I investigate it, (b, d)
- Investigating new brands of grocery and other similar products is generally a waste of time, (b)
- When I hear about a new store or restaurant, I take advantage of the first opportunity to find out more about it. (b, g)
- I enjoy taking chances in buying unfamiliar brands just to get some variety in my purchases, (b, c)

C – Risk Taking (9 items – 4 unique)

- When I eat out, I like to try the most unusual items the restaurant serves, even if I am not sure I would like them, (c)
- I am the kind of person who would try any new product once, (b, c)
- When I go to a restaurant, I feel it is safer to order dishes I am familiar with, (c)
- I am very cautious in trying new/different products, (b, c)
- Even for an important date or dinner, I wouldn't be wary of trying a new or unfamiliar restaurant, (b, c)
- I would rather stick with a brand I usually buy than try something I am not very sure of. (c, f)
- I never buy something I don't know about at the risk of making a mistake, (c)
- If I buy appliances. I will buy only well-established brands, (c)
- I enjoy taking chances in buying unfamiliar brands just to get some variety in my purchases, (b, c)

D – Exploration Through Shopping (7 items – 3 unique)

- I have little interest in fads and fashions, (d)
- I like to shop around and look at displays, (d)
- I like to browse through mail order catalogs even when I don't plan to buy anything, (d, g)
- I shop around a lot for my clothes just to find out more about the latest styles,

(d, g)
- I hate window shopping, (d)
- When I see a new brand somewhat different from the usual. I investigate it, (b, d)
- I enjoy exploring several different alternatives or brands while shopping, (d, f)

E – Interpersonal Communication (3 items – 3 unique)

- I don't like to talk to my friends about my purchases, (e)
- I like introducing new brands and products to my friends, (e)
- My friends and neighbors often come to me for advice, (e)

F – Brand Switching (7 items – 0 unique)

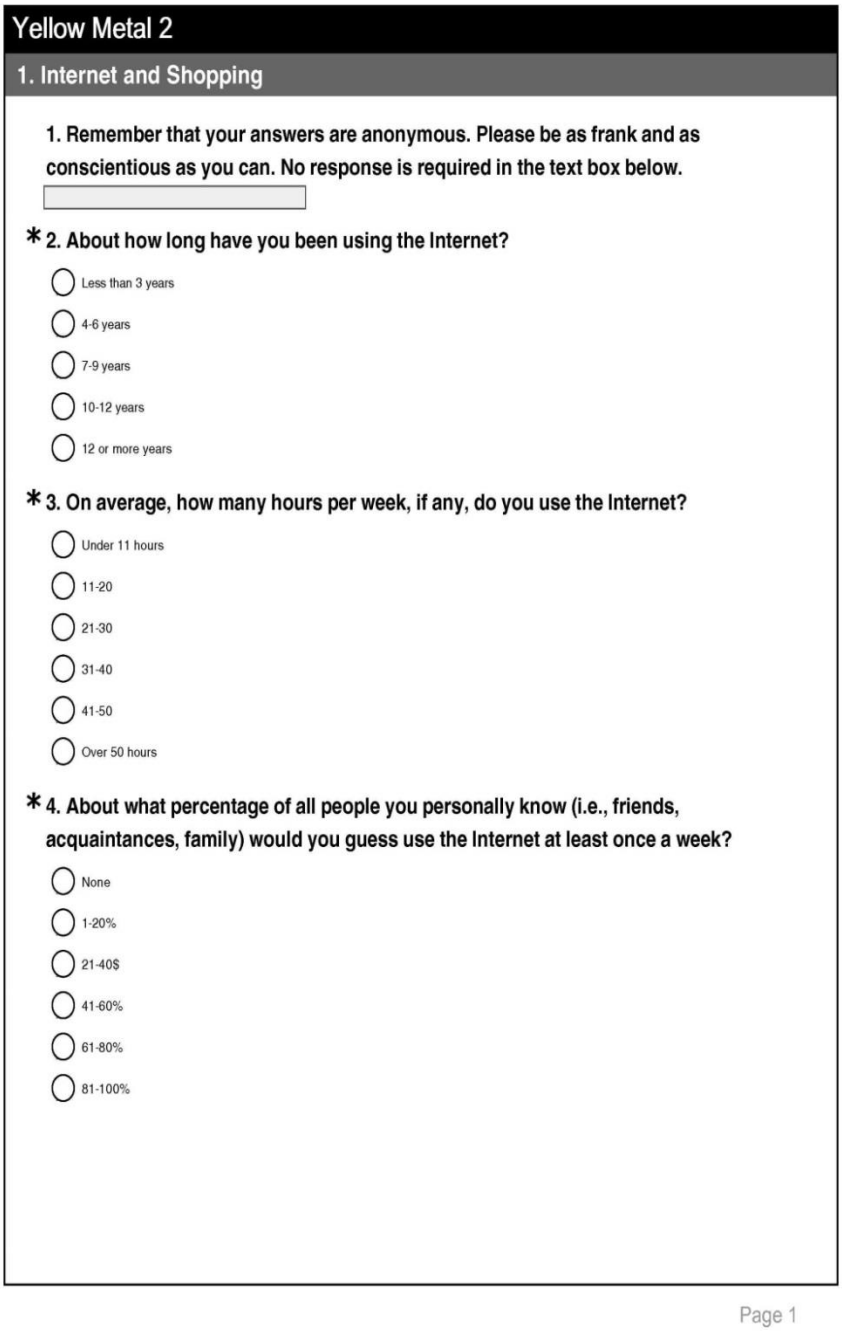
- I enjoy sampling different brands of commonplace products for the sake of comparison, (f. g)
- I would rather stick with a brand I usually buy than try something I am not very sure of. (c, f)
- If I like a brand, I rarely switch from it just to try something different, (a. f)
- I get bored with buying the same brands even if they are good. (a. f)
- A lot of the time I feel the urge to buy something really different from the brands I usually buy. (a, f)
- If I did a lot of flying. I would probably like to try all the different airlines, instead of flying just one most of the time, (a, f)
- I enjoy exploring several different alternatives or brands while shopping, (d, f)

G – Information Seeking (12 items – 7 unique)

- I get very bored listening to others about their purchases, (g)
- I like to browse through mail order catalogs even when I don't plan to buy anything, (d, g)
- I often read the information on the package of products just out of curiosity, (g)
- I shop around a lot for my clothes just to find out more about the latest styles, (d, g)
- A new store or restaurant is not something I would be eager to find out about, (b, g)
- I generally read even my junk mail just to know what it is about, (g)
- I enjoy sampling different brands of commonplace products for the sake of comparison, (f, g)
- I usually throw away mail advertisements without reading them, (g)
- I don't care to find out what types or brand names of appliances and gadgets my friends have, (g)
- I often read advertisements just out of curiosity, (g)
- I rarely read advertisements that just seem to contain a lot of information, (g)
- When I hear about a new store or restaurant, I take advantage of the first opportunity to find out more about it. (b, g)

Note: A "unique" item is a question that is only used once to describe a one construct. For example "I would get tired of flying the same airline every time" is a unique item that is used only once to operationalize "Repetitive Behavior Proneness" and no other constructs. Compare this to the question "I get bored with buying the same brands even if they are good". This is not a unique item because it is used to operationalize both "Repetitive Behavior Proneness" and "Brand Switching".

Appendix B. Parallel Form of Survey



Yellow Metal 2

1. Internet and Shopping

1. Remember that your answers are anonymous. Please be as frank and as conscientious as you can. No response is required in the text box below.

* 2. About how long have you been using the Internet?

- Less than 3 years
- 4-6 years
- 7-9 years
- 10-12 years
- 12 or more years

* 3. On average, how many hours per week, if any, do you use the Internet?

- Under 11 hours
- 11-20
- 21-30
- 31-40
- 41-50
- Over 50 hours

* 4. About what percentage of all people you personally know (i.e., friends, acquaintances, family) would you guess use the Internet at least once a week?

- None
- 1-20%
- 21-40$
- 41-60%
- 61-80%
- 81-100%

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Yellow Metal 2

*** 5. Compared to shopping in traditional stores, how unusual or novel do you prsonally find online shopping to be?**

- ◯ 1 (Not At All Unusual)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very Unusual)

*** 6. How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?**

- ◯ Just about never
- ◯ Less than once a month
- ◯ 1-5 times a month
- ◯ 6-10 times a month
- ◯ 11-15 times a month
- ◯ Over 15 times a month

*** 7. How often, if ever, do you go online and make a purchase online?**

- ◯ Just about never
- ◯ Less than once a month
- ◯ 1-5 times a month
- ◯ 6-10 times a month
- ◯ 11-15 times a month
- ◯ Over 15 times a month

Yellow Metal 2

*** 8. As far as you know, how many years has online shopping been available to people in the United States? (if not sure, make your best guess)**

- ◯ Less than 1 year
- ◯ 1-3 years
- ◯ 4-6 years
- ◯ 7-9 years
- ◯ 10-12 years
- ◯ 13-15 years
- ◯ More than 15 years

*** 9. What was the first year that people in Ohio could find products of interest to them for sale through the Internet?**

- ◯ 1993 or earlier
- ◯ 1994-96
- ◯ 1997-99
- ◯ 2000-02
- ◯ 2003-05
- ◯ 2006
- ◯ 2007

*** 10. On average, about how long ago did your friends,family, or neighbors learn that they could shop for products through the Internet?**

- ◯ 16 years ago or more
- ◯ 13 to 15 years ago
- ◯ 10 to 12 years ago
- ◯ 7 to 9 years ago
- ◯ 4 to 6 years ago
- ◯ 1 to 3 years ago
- ◯ In the last 12 months

Yellow Metal 2

*** 11. About what percentage of your own friends, relatives, and acquaintances buy things online?**

- ◯ None
- ◯ 10-20%
- ◯ 21-40%
- ◯ 41-60%
- ◯ 61-80%
- ◯ 81-100%

Yellow Metal 2

2. Features of Shopping Sites

*** 1. How strongly, if at all do the following aspects of a website encourage you to shop at a particular site? Be sure to scroll down to see all items before you make your choice. Read through the entire list then click on the THREE LEAST ENCOURAGING aspects.**

- [ ] It is free of grammatical and typographical errors
- [ ] I hear about it on the radio, television, or in the newspaper
- [ ] It has photos of products
- [ ] Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)
- [ ] It has one or more animated characters that move or speak
- [ ] it has interactive web design (e.g., design/customize your products/services)
- [ ] The Internet links on the site are working properly
- [ ] It has interesting, attractive color (e.g., in fonts, background, and borders)
- [ ] The things I am looking for are easy to find on the site
- [ ] It has reasonable prices
- [ ] There is a guarantee that my credit card information would be safely and securely protected
- [ ] It has seals of companies stating that my information on the site is secure (e.g., Verisign)
- [ ] My friends and family have been happy when they have shopped there
- [ ] It has a wide selection and variety of products on the site
- [ ] It has interesting, attractive graphics (e.g., not too complicated, not too simple)
- [ ] Products on the website can be easily compared with each other
- [ ] It is quite different from the usual sites for products of the type involved
- [ ] It has entertaining graphics and displays
- [ ] My friends or family let me know their opinions of the site
- [ ] It has a return policy that is easy to understand and use
- [ ] It is enjoyable to use
- [ ] There is a guarantee that my credit card information would be safely and securely protected
- [ ] It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)
- [ ] The site presents both benefits and drawbacks of the products/services
- [ ] It allows instant messaging with the company or company representative
- [ ]

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- [ ] It has photos of real people using products/services
- [ ] The order process is easy to use

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3. Features and Shopping Sites (Continued)

Compared to other features of shopping websites, how strongly, if at all do the following features encourage you to shop at a particular site that has that feature? For example, consider the feature "there is a guarantee that my credit card information would be safely and securely protected." If this is not important to your browsing to shop at a particular site rate it as "1" or "2." Choose one number to answer each item.

*** 1. It is free of grammatical and typographical errors**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 2. I hear about it on the radio, television, or in the newspaper**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 3. It has photos of products**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

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*** 4. Provides customer feedback (i.e., the site provides a place for you to learn abou other customers' evaluations of the product)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 5. It has one or more animated characters that move or speak**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 6. It has interactive web design (e.g., design/customize your products/services**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 7. The Internet links on the site are working properly**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

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*** 8. It has interesting, attractive color (e.g., in fonts, background, and borders)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 9. The things I am looking for are easy to find on the site**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 10. It has reasonable prices**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 11. There is a guarantee that my credit card information would be safely and securely protected**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

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*** 12. It has seals of companies stating that my information on the site is secure (e.g., Verisign)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 13. My friends and family have been happy when they have stopped there**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 14. It has a wide selection and variety of products on the site**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 15. It has interesting, attractive graphics (e.g., not too complicated, not too simple)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

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*** 16. Products on the website can be easily compared with each other**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 17. It is quite different from the usual sites for products of the type involved**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 18. It has entertaining graphics and displays**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 19. My friends or family let me know their opinions of the site**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

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*** 20. It has a return policy that is easy to understand and use**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 21. It is enjoyable to use**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 22. It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 23. Site presents both benefits and drawbacks of the products/services**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

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*** 24. It allows instant messaging with the company or company representative**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 25. It has photos of real people using products/services**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 26. The order process is easy to use**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

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4. Shopping for Products/Services

*** 1. In general, how different is shopping online compared to shopping in traditional stores?**

- ◯ 1 (Not At All Different)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very Different)

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*** 2. On how many days in the last two weeks (including today), have you spent time ONLINE LOOKING FOR INFORMATION to help you make a decision about purchasing each type of product or service? For example, on how many different days in the last two weeks did you go online to get information on some articles of clothing or accessory you were thinking about getting? Suppose you spend 5 minutes one day looking online for a new jacket, 2 hours on another day checking out pairs of boots, and 1 hour of a third day looking some more for boots, your answer would be three days for "Clothing/Accessories."**

	Days
Clothing/Accessories	6
Books/Magazines	6
Travel Transportation (such as airlines, trains, buses, rental cars, highway hotels, etc)	6
Travel Destinations (such as resorts, cruises, cities historical or religious sites)	6
Health/Medical Products (such as vitamins, medicines, or dietary supplements)	6
Financial Securities & Investments (such as stocks, bonds, car or life insurance)	6
Consumer Electronics Equipment (such as TV, DVD player, home theatre, cellular phones, GPS, car stereo, MP3 player)	6
Home Appliances (such as refrigerators, washing machines, coffee makers)	6
Entertainment Events (such as cinema, theatres, concerts, festivals)	6
Music/Movies (such as DVDs and CDs)	6
Computer Hardware or Software	6
Restaurants (such as take-out orders, browsing to eat there)	6
Food/Beverage/Groceries for consumption at home	6

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or elsewhere	

*** 3. On how many days in the last two weeks, have you actually MADE A PURCHASE ONLINE (i.e., paid online) for each type of product or service? For example, if you purchased online concert tickets on one day and football tickets on a second day your answer would be two days for "Entertainment Events."**

	Days
Clothing/Accessories	6
Books/Magazines	6
Travel Transportation (such as airlines, trains, buses, rental cars, highway hotels, etc)	6
Travel Destinations (such as resorts, cruises, cities historical or religious sites)	6
Health/Medical Products (such as vitamins, medicines, or dietary supplements)	6
Financial Securities & Investments (such as stocks, bonds, car or life insurance)	6
Consumer Electronics Equipment (such as TV, DVD player, home theatre, cellular phones, GPS, car stereo, MP3 player)	6
Home Appliances (such as refrigerators, washing machines, coffee makers)	6
Entertainment Events (such as cinema, theatres, concerts, festivals)	6
Music/Movies (such as DVDs and CDs)	6
Computer Hardware or Software	6
Restaurants (such as take-out orders, browsing to eat there)	6
Food/Beverage/Groceries for consumption at home or elsewhere	6

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*** 4. In general, how unique is shopping online compared to shopping in traditional stores?**

- ◯ 1 (Not At All Unique)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very Unique)

*** 5. On how many days in the last two weeks, have you spent time OFFLINE LOOKING FOR INFORMATION to help you make a decision about purchasing each type of product or service? Count times you spent talking to other people, reading articles, thinking about TV ads, visiting a store, etc. Suppose you see a TV advertisement for a coffee maker and look closely at the ad as you thought about possibly buying it. On another day you spoke with friends about purchasing a portable refrigerator. On another day you look at an article in the newspaper about a blender you considered buying. In this case your answer would be three days for "Home Appliances."**

	Days
Clothing/Accessories	6
Books/Magazines	6
Travel Transportation (such as airlines, trains, buses, rental cars, highway hotels, etc)	6
Travel Destinations (such as resorts, cruises, cities historical or religious sites)	6
Health/Medical Products (such as vitamins, medicines, or dietary supplements)	6
Financial Securities & Investments (such as stocks, bonds, car or life insurance)	6
Consumer Electronics Equipment (such as TV, DVD player, home theatre, cellular phones, GPS, car stereo, MP3 player)	6
Home Appliances (such as refrigerators, washing machines, coffee makers)	6

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Entertainment Events (such as cinema, theatres, concerts, festivals)	6
Music/Movies (such as DVDs and CDs)	6
Computer Hardware or Software	6
Restaurants (such as take-out orders, browsing to eat there)	6
Food/Beverage/Groceries for consumption at home or elsewhere	6

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*** 6. On how many days, in the last two weeks, have you actually made a purchase OFFLINE of each type of product or service? Suppose you purchased a DVD from a store on one day and on the second day you bought a CD from a friend. Your answer would be 2 days for "Music/Movies."**

	Days
Clothing/Accessories	6
Books/Magazines	6
Travel Transportation (such as airlines, trains, buses, rental cars, highway hotels, etc)	6
Travel Destinations (such as resorts, cruises, cities historical or religious sites)	6
Health/Medical Products (such as vitamins, medicines, or dietary supplements)	6
Financial Securities & Investments (such as stocks, bonds, car or life insurance)	6
Consumer Electronics Equipment (such as TV, DVD player, home theatre, cellular phones, GPS, car stereo, MP3 player)	6
Home Appliances (such as refrigerators, washing machines, coffee makers)	6
Entertainment Events (such as cinema, theatres, concerts, festivals)	6
Music/Movies (such as DVDs and CDs)	6
Computer Hardware or Software	6
Restaurants (such as take-out orders, browsing to eat there)	6
Food/Beverage/Groceries for consumption at home or elsewhere	6

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5. New Ways of Shopping

Think about the various ways that you can shop for products or services, for example: going online, going to a traditional store, using a catalog, door to door sales people, kiosks, as online auctions like eBay, Craigslist, etc. Please indicate your agreement or disagreement with the following:

*** 1. I am suspicious of new ways of shopping**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 2. I am reluctant to adopt new forms of shopping until I see them working for people around me**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 3. I rarely trust new means of shopping until I can see whether the vast majority of people around me accept them**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

*** 4. I am generally cautious about new ways of shopping**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 5. I must see other people using new means of shopping before I will consider them**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 6. I often find myself skeptical of new ways of shopping**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 7. I am aware that I am usually one of the last people in my group to accept new styles of shopping**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

*** 8. I tend to feel that the old ways of shopping are the best ways**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

6. Thoughts About Online Shopping

Next are some statements about looking for information and purchasing on Internet shopping sites. Please indicate your level of agreement or disagreement with each of the following statements:

*** 1. In general, I am among the last in my circle of friends to visit a shopping website when it appears**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 2. I intend to make one or more purchases online in the next month**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 3. If I heard a new website was available for online shopping, I would be interested enough to visit**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

*** 4. There is a good chance that in the next month I will browse sites to find products I might be interested in**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 5. Compared to my friends, I have visited few online shopping sites**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 6. It is highly likely that I would use my credit card to purchase or service online in the next month**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 7. I will visit an online shopping website even if I know practically nothing about it**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

*** 8. I know the names of new online shopping sites before other people do**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 9. In the next month, I intend to go online to search for information about products or services I am interested in**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 10. In general, I am the last person in my circle of friends to know about new shopping websites**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 11. In general, how innovative is shopping online compared to shopping in traditional stores?**

- ◯ 1 (Not At All Innovative)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very Innovative)

Yellow Metal 2

7. Beyond Online Shopping

Now let's talk about other aspects of your life, not counting Internet shopping. Please indicate your level of agreement or disagreement with the following:

*** 1. I am suspicious of new inventions and new ways of thinking**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 2. I am reluctant about adopting new ways of doing things until I see them working for people around me**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 3. I rarely trust new ideas until I can see whether the vast majority of people around me accept them**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

*** 4. I am generally cautious about accepting new ideas**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 5. I must see other people using new innovations before I will consider them**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 6. I often find myself skeptical of new ideas**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 7. I am aware that I am usually one of the last people in my group to accept something new**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

*** 8. I tend to feel that the old way of living and doing things is the best way**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 9. I consider myself to be creative and original in my thinking and behavior**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 10. I am an inventive kind of person**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 11. I seek out new ways to do things**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

*** 12. I enjoy trying out new ideas**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 13. I find it stimulating to be original in my thinking and behavior**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 14. I am receptive to new ideas**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 15. I frequently improvise methods for solving a problem when an answer is not apparent**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

*** 16. I feel that I am an influential member of my peer group**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 17. My peers often ask me for advice or information**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 18. I enjoy taking part in the leadership responsibilities of the group I belong to**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

*** 19. I am challenged by unanswered questions**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

*** 20. I am challenged by ambiguities and unsolved problems**

- ◯ 1 (Strongly Disagree)
- ◯ 2
- ◯ 3 (Neither Agree Nor Disagree)
- ◯ 4
- ◯ 5 (Strongly Agree)

Yellow Metal 2

8. Background Information

*** 1. What is your gender?**

- ◯ Male
- ◯ Female

*** 2. What is your race/ethnicity?**

- ◯ White
- ◯ Black
- ◯ Hispanic
- ◯ Asian
- ◯ Other

*** 3. How old were you on your last birthday? (type the number such as '16' if you are sixteen)**

*** 4. What is your marital status?**

- ◯ Single, never married
- ◯ Married
- ◯ Separated/Divorced
- ◯ Widowed

*** 5. Location**

	State
In what state is your permanent address at this current time?	6

Yellow Metal 2

*** 6. What is the last year of education you have completed?**

- ◯ Some high school
- ◯ High school
- ◯ Community college/Technical school training (such as mechanic)
- ◯ Some university or 4 year college
- ◯ College/university graduate
- ◯ Graduate or professional school

*** 7. What is your current employment?**

- ◯ Employed full-time
- ◯ Employed part-time
- ◯ Self employed
- ◯ Temporarily unemployed
- ◯ Full time student
- ◯ Homemaker/housewife
- ◯ Retired

*** 8. Please indicate which of the following categories best represents your annual family income before taxes?**

- ◯ $10,000 or less
- ◯ $10,001 to $20,000
- ◯ $20,001 to $30,000
- ◯ $30,001 to $40,000
- ◯ $40,001 to $50,000
- ◯ $50,001 to $75,000
- ◯ $75,001 to $100,000
- ◯ More than $100,000

*** 9. How many people live with you in your household, including yourself (please enter the number)?**

Yellow Metal 2

*** 10. Please indicate whether you own each of the following items (indicate one response for each)**

	Ownership
Blu-Ray Disc Player (high quality movie player)	6
A High-Definition TV (HDTV)	6
Global Positioning System (GPS such as Garmin)	6
Netbook (highly portable laptop)	6
Portable wireless printer	6
E-Book (Kindle)	6

*** 11. Have you ever gone online to an auction style website like eBay where you can sell or buy items from other people?**

- ◯ Yes
- ◯ No
- ◯ Don't Know

*** 12. Frequency of Auction Style Websites**

	Days
How many days in the last month (i.e., 4 weeks) have you gone online to an auction style website like eBay where you can sell or buy items from other people?	6

*** 13. Have you ever gone online to a site like Craigslist.com where you can sell or buy items without the use of auctions?**

- ◯ Yes
- ◯ No
- ◯ Don't Know

Yellow Metal 2

*** 14. Frequency of Non-Auction Style Websites**

	Days
How many days in the last month (i.e., 4 weeks) have you gone to a site like Craigslist.com where you can buy or sell items without the use of auctions?	6

Yellow Metal 2

9. Break Time

Congratulations!

You have completed the first phase of the survey. Feel free to take a five to ten minute break. Raise your hand, and ask the survey administrators about the availability of snacks.

Please continue on to the second phase of the survey after your break.

Yellow Metal 2

10. Introduction

Welcome back!

In this second half of the session, you will be asked about what features you want to find in a commercial website offering consumer electronics. Then you will visit a consumer electronics store and report what you think of that website. Next you will do the same for a bookstore website.

Yellow Metal 2

11. Importance of Features for Consumer Electronics

Previously you indicated how much you wanted each feature in regard to shopping websites in general. Now we are going to focus on CONSUMER ELECTRONICS websites. Suppose you are looking for a netbook you would like to give someone as a gift or for yourself, so you go online to different consumer electronic stores to find a good netbook to get. Think about the kind of CONSUMER ELECTRONICS website you would like to shop at. Then indicate how strongly, if at all, a website having a particular feature encourages you to shop at that CONSUMER ELECTRONICS website rather than going to another CONSUMER ELECTRONICS website.

*** 1. There is a guarantee that my credit card information would be safely and securely protected**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 2. It has seals of companies stating that my information on the site is secure (e.g., Verisign)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 3. It has reasonable prices**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 4. The things I am looking for are easy to find on the site**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 5. It has a wide selection and variety of things on the site**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 6. It has interesting, attractive color (e.g., in fonts, background, and borders)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 7. It has interesting, attractive graphics (e.g., not too complicated, not too simple)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 8. The Internet links on the site are working properly**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 9. It has a return policy that is easy to understand and use**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 10. It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 11. The site presents both benefits and drawbacks of the products/services**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 12. Products on the website can be easily compared with eachother**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 13. It has photos of products**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 14. It is quite different from the usual sites for products of the type involved**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 15. It has an interactive web design (e.g., design/customize your products/services)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 16. It has entertaining graphics and displays**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 17. My friends or family let me know their opinions of the site**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 18. It allows instant messaging with the company or company representative**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 19. It has photos of real people using the products/services**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 20. It has one or more animated characters that move or speak**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 21. The order process is easy to use**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 22. Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 23. I hear it on the radio, television, or in the newspaper**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 24. My friends and family have been happy when they have shopped there**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 25. It is free of grammatical and typographical errors**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 26. It is enjoyable to use**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

12. Browsing for Consumer Electronics

*** 1. Have you ever browsed or made a purchase at an online consumer electronics store?**

- ◯ Yes
- ◯ No

*** 2. Have you ever browsed or made a purchase at the following online consumer electronics stores? Check yes or no for each**

	Yes/No
Best Buy	6
Rockstar Electronics	6
Circuit City	6
Comp USA	6
Radio Shack	6
Fry's Electronics	6

Yellow Metal 2

13. Familiarity with Fry's Electronics

*** 1. How familiar are you with Fry's Electronics?**

- ◯ I have never heard of it
- ◯ I have heard of the name, but know practically nothing about it
- ◯ I know something, but not much about Fry's Electronics
- ◯ I know quite a lot about Fry's Electronics

*** 2. How familiar are you with Fry's Electronics website**

- ◯ I do not think I have ever been there
- ◯ I have been there once or twice
- ◯ I have been there more than once or twice
- ◯ I have been there many times

Yellow Metal 2

14. Performance of Features for Fry's Electronics

Now, please go to www.Frys.com and spend a few minutes getting a feel for the site. Then, choose a netbook as a gift or for yourself. Go through the steps of purchasing that netbook, but stop just short of actually buying it (i.e., abandon your shopping cart at the last chance). Spend a total of about five minutes looking around the site and making a purchase.

Feel free to refer back to www.Frys.com while answering the following questions.

Technology Tip: have two internet windows open. One for this survey and one for the website you are told to visit. You can either minimize one while interacting with the other. Or you can use a split-screen technique whereby each window takes up about half of the computer screen.

If you have any questions, please notify one of the survey administrators

*** 1. Compared to other consumer electronics websites, how much do you like or dislike the Fry's Electronics website as a place to shop?**

- ◯ I like Fry's Electronics much less than other consumer electronics websites
- ◯ I like Fry's Electronics somewhat less than other consumer electronics websites
- ◯ I like Fry's Electronics about as much as most other consumer electronics websites
- ◯ I like Fry's Electronics somewhat more than most other consumer electronics websites
- ◯ I like Fry's Electronics much more than most other bookstore

*** 2. Suppose in the future you are looking online to purchase a netbook as a gift for someone or for yourself. How likely is it that you will go to Fry's Electronics website to browse around or to make a purchase?**

- ◯ 1 (Not Likely At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Highly LIkely I will Go There)

Previously you indcated how much you wanted each of several website features. Now we are asking how good a particular website is on those features.

Now, how good is Fry's Electronics website compared to other consumer electronics websites you know? Rate the following features from 1 (not good at all) to 5 (very, very good). Use only one number for each features.

Remember: feel free to refer back to www.Frys.com while answering these questions

Yellow Metal 2

*** 3. Providing a guarantee that my credit card information would be safely and securely protected**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 4. It has seals of companies stating that my information on the site is secure (e.g., Verisign)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 5. Providing reasonable prices**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 6. Offers a wide selection and variety of things on the site**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 7. The site is set up so that the things I am looking for are easy to find**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 8. Using interesting, attractive colors (e.g., in fonts, background, and borders)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 9. Using interesting, attractive graphics (e.g., not too complicated, not too simple)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 10. How properly the Internet links on the site are working**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 11. 11. Having a return policy that is easy to understand and use**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 12. Providing price incentives (e.g., coupons, future sale items, frequent shopper programs etc.)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 13. How much the site presents both benefits and drawbacks of the products/services**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 14. How much products on the website can be easily compared with each other**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 15. How much it has photos of products**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 16. Being different from the usual sites for products of the type involved**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 17. The degree it is designed to let a shopper interact with the site (e.g., design your products/services)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 18. . How entertaining are its graphics and displays**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 19. How much friends or family let me know their opinions of the site**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 20. Whether it allows instant messaging with the company or company representatives**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 21. How much it has photos of real people using products/services**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 22. Having one or more animated characters that move or speak**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 23. Having an easy to use order process**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 24. How much it provides customer feedback (i.e., the site provides a place for you to learn about the customers' evaluations of the product)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 25. How much I hear about it on the radio, television, or in the newspaper**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 26. How much my friends and family have been happy when they have shopped there**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 27. How free it is of grammatical and typographical errors**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 28. How enjoyable it is to use**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

15. Importance of Features for Bookstore Websites

That's enough about online consumer electronics stores. Now let's talk about online BOOKSTORES. Suppose you are looking for a book you would like to give somoene as a gift or for yourself, so you go online to different bookstores to find a good book to get. Think about the kind of online BOOKSTORE you would like to shop at. Then indicate how strongly if at all, a website having a particular feature encourages you to shop at that BOOKSTORE website rather than going to another online BOOKSTORE website.

*** 1. There is a guarantee that my credit card information would be safely and securely protected**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 2. It has seals of companies stating that my information on the site is secure (e.g. Verisign)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 3. It has reasonable prices**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 4. The things I am looking for are easy to find on the site**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 5. It has a wide selection and variety of things on the site**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 6. It has interesting, attractive color (e.g., in fonts, background, and borders)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 7. It has interesting, attractive graphics (e.g., not too complicated, not too simple)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 8. The Internet links on the site are working properly**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 9. It has a return policy that is easy to understand and use**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 10. It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 11. The site presents both benefits and drawbacks of the products/services**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 12. Products on the website can be easily compared with each other**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 13. It has photos of products**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 14. It is quite different from the usual sites for the products of the type involved**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 15. It has an interactive web design (e.g., design/customize your products/services)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 16. It has entertaining graphics and displays**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 17. My friends and family let me know their opinions of the site**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 18. It allows instant messaging with the company or company representative**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 19. It has photos of real people using products/services**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 20. It has one or more animated characters that move or speak**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 21. The order process is easy to use**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 22. Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 23. I hear it on the radio, television, or in the newspaper**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

*** 24. My friends and family have been happy when they have shopped there**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 25. It is free of grammatical and typographical errors**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

*** 26. It is enjoyable to use**

- ◯ 1 (Does Not At All Encourage Me)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Strongly Encourages Me)

Yellow Metal 2

16. Browsing for Books and Other Reading Materials

*** 1. . Have you ever browsed or made a purchase at an online bookstore?**

- ◯ Yes
- ◯ No

*** 2. Have you ever browsed or made a purchase at the following online bookstores? Check yes or no for each**

	Yes/No
Borders	6
Barnes & Noble	6
Books-A-Million	6
Barnacle Barn Books	6
Powell's Books	6
Books-Off-USA	6

Yellow Metal 2

17. Familiarity with Powell's Books

*** 1. How familiar are you with Powell's Books?**

- ◯ I have never heard of it
- ◯ I have heard the name, but know practically nothing about it
- ◯ I know something, but not much about Powell's Books
- ◯ I know quite a lot about Powell's Books

*** 2. How familiar are you with Powell's Books website?**

- ◯ I do not think I have ever been there
- ◯ I have been there once or twice
- ◯ I have been there more than once or twice
- ◯ I have been there many times

Yellow Metal 2

18. Performance of Features for Powell's Books

Now please go to www.Powells.com and spend a few minutes getting a feel for the site. Then, choose a book to buy as a gift for yourself. Go through the steps of purchasing that book, but stop just short of actually buying it (i.e., abandon your shopping cart at the last chance). Spend a total of about five minutes looking around the site and making a purchase.

Feel free to refer back to www.Powells.com while answering the following questions.

Technology Tip: have two internet windows open. One for this survey and one for the website you are told to visit. You can either minimize one while interacting with the other. Or you can use a split-screen technique whereby each window takes up about half of the computer screen.

If you have any questions, please notify one of the survey administrators.

*** 1. Compared to other online bookstore sites, how much do you like or dislike Powell's Books website as a place to shop?**

- ◯ I like Powell's Books much less than other bookstore websites
- ◯ I like Powell's Books somewhat less than other bookstore websites
- ◯ I like Powell's Books about as much as other bookstore websites
- ◯ I like Powell's Books much more than most other bookstore websites

*** 2. Suppose in the future you are looking online to purchase a book as a gift for someone or for yourself. How likely is it that you will go to Powell's Books website to browse around or make a purchase?**

- ◯ 1 (Not Likely At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Highly Likely I will Go There)

Previously you indicated how much you wanted each of several website features. Now we are asking how good a particular site is on those features.

Now, how good is Powell's Books website compared to other shopping sites you know? Rate the following features from 1 (not good at all) to 5 (very, very good). Use only one number for each feature.

Remember: feel free to refer back to www.Powells.com while answering these questions.

Yellow Metal 2

*** 3. Providing a guarantee that my credit card information would be safely and securely protected**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 4. It has seals of companies stating that my information on the site is secure (e.g., Verisign)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 5. Providing reasonable prices**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 6. Offers a wide selection and variety of things on the site**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 7. The site is set up so that the things I am looking for are easy to find**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 8. Using interesting, attractive colors (e.g., in fonts, background, and borders)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 9. Using interesting, attractive graphics (e.g., not too complicated, not too simple)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 10. How properly the Internet links on the site are working**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 11. Having a return policy that is easy to understand and use**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 12. . Providing price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 13. How much the site presents both benefits and drawbacks of the products/services**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 14. How much products on the website can be easily compared with each other**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 15. How much it has photos of products**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 16. Being different from the usual sites for products of the type involved**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 17. The degree it is designed to let a shopper interact with the site (e.g., design your products/services)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 18. How entertaining are its graphics and displays**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 19. . How much friends or family let me know their opinions of the site**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 20. Whether it allows instant messaging with the company or company representative**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 21. How much it has photos of real people using products/services**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 22. Having one or more animated characters that move or speak**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 23. Having an easy to use order process**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 24. How much it provides customer feedback (i.e., the site provides a place for you to learn about the customers' evaluations of the product)**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 25. How much I hear about it on the radio, television, or in the newspaper**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 26. How much my friends and family have been happy when they have shopped there**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

*** 27. How free it is of grammatical and typographical errors**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

*** 28. How enjoyable it is to use**

- ◯ 1 (Not Good At All)
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 (Very, Very Good)

Yellow Metal 2

19. The End

Congratulations!

You have completed phase two of this survey. With the completion of phase two, you have completed the entire survey.

Thank you so much for your help.

Please notify one of the survey administrators that you have completed the survey.

*** 1. Please leave us some feedback about your survey experience. For instance, are you aware of any aspects of shopping sites that were not considered on this survey. Also, free to discuss your overall feelings about your experience with this survey.**

*** 2. Please fill in the code the administrator has given you. Then submit your survey. Then log off.**

APPENDIX C

Appendix C. Curve Estimations for Shopping Variables and Cross-category Browse Range

BI_withoutBuy How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.263	.069	.066	1.210

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	33.882	1	33.882	23.154	.000
Residual	455.108	311	1.463		
Total	488.990	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.116	.024	.263	4.812	.000
(Constant)	3.052	.158		19.373	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.286	.082	.076	1.203

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

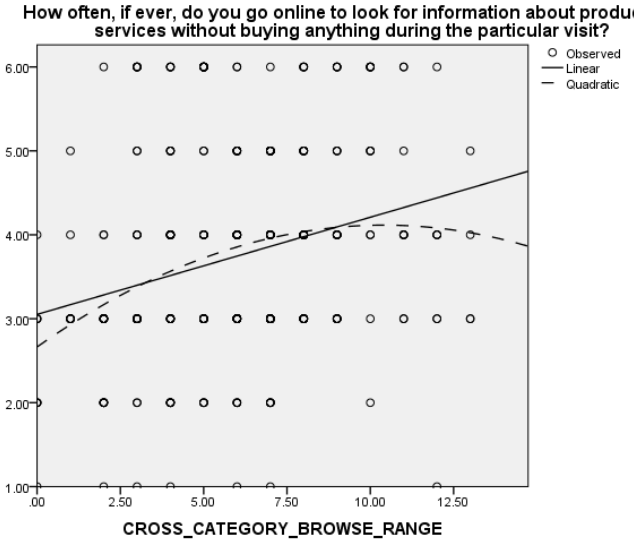
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	40.037	2	20.019	13.823	.000
Residual	448.953	310	1.448		
Total	488.990	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.279	.083	.635	3.372	.001
CROSS_CATEGORY_BROWSE_RANGE ** 2	-.013	.007	-.388	-2.062	.040
(Constant)	2.664	.245		10.875	.000



BI_withBuy How often, if ever, do you go online and make a purchase online?

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.232	.054	.051	.724

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.251	1	9.251	17.653	.000
Residual	162.973	311	.524		
Total	172.224	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.060	.014	.232	4.202	.000
(Constant)	2.030	.094		21.531	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.234	.055	.049	.725

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

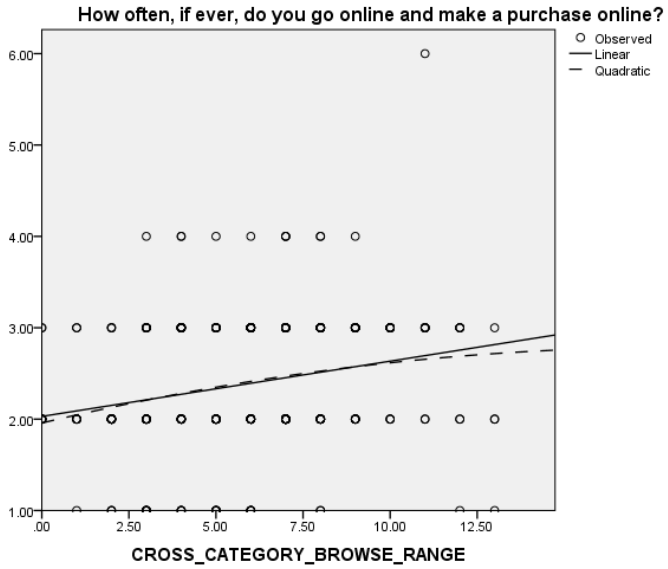
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.463	2	4.732	9.012	.000
Residual	162.760	310	.525		
Total	172.224	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.091	.050	.348	1.823	.069
CROSS_CATEGORY_BROWSE_RANGE ** 2	-.002	.004	-.121	-.636	.525
(Constant)	1.958	.147		13.273	.000



OnlineIntent_Purch I intend to make one or more purchases online in the next month

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.279	.078	.075	1.085

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	31.012	1	31.012	26.328	.000
Residual	366.330	311	1.178		
Total	397.342	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.111	.022	.279	5.131	.000
(Constant)	2.995	.141		21.192	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.336	.113	.107	1.066

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

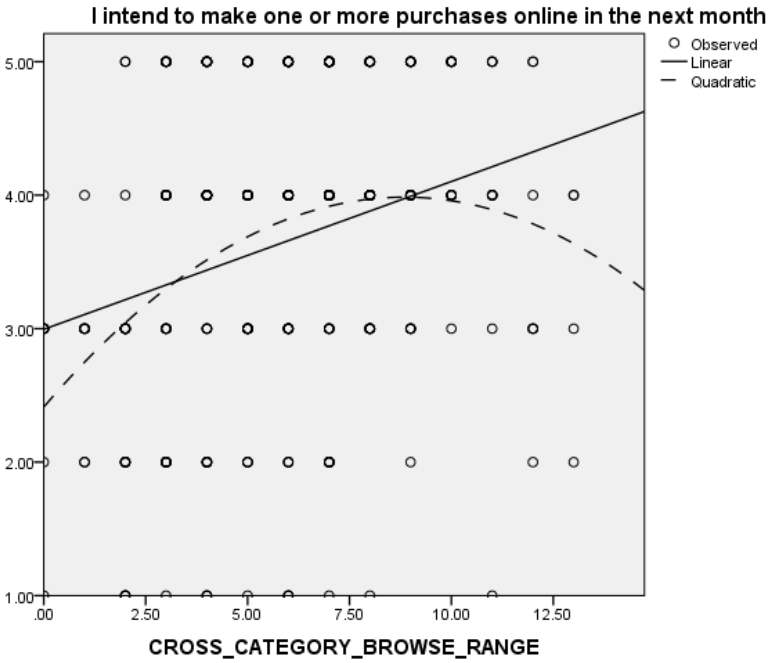
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	44.848	2	22.424	19.721	.000
Residual	352.494	310	1.137		
Total	397.342	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.355	.073	.897	4.850	.000
CROSS_CATEGORY_BROWSE_RANGE ** 2	-.020	.006	-.645	-3.488	.001
(Constant)	2.413	.217		11.119	.000



Intent_Browse There is a good chance that in the next month I will browse sites to find products I might be interested in

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.259	.067	.064	.937

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	19.608	1	19.608	22.341	.000
Residual	272.954	311	.878		
Total	292.562	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.088	.019	.259	4.727	.000
(Constant)	3.730	.122		30.571	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.278	.077	.071	.933

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

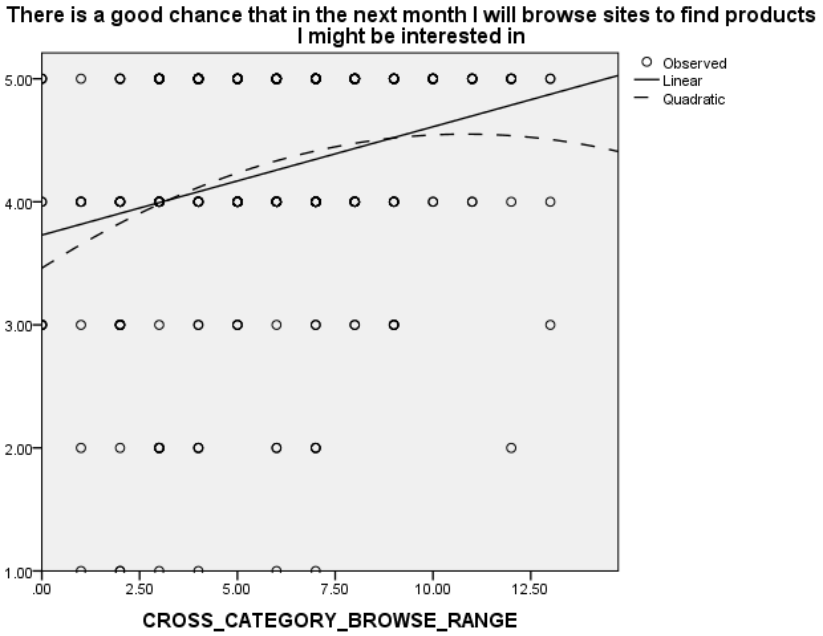
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	22.554	2	11.277	12.947	.000
Residual	270.008	310	.871		
Total	292.562	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.201	.064	.591	3.133	.002
CROSS_CATEGORY_BROWSE_RANGE ** 2	-.009	.005	-.347	-1.839	.067
(Constant)	3.461	.190		18.220	.000



Intent_search In the next month, I intend to go online to search for information about products or services I am interested in

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.219	.048	.045	.891

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	12.437	1	12.437	15.664	.000
Residual	246.936	311	.794		
Total	259.374	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.070	.018	.219	3.958	.000
(Constant)	3.631	.116		31.291	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.293	.086	.080	.875

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

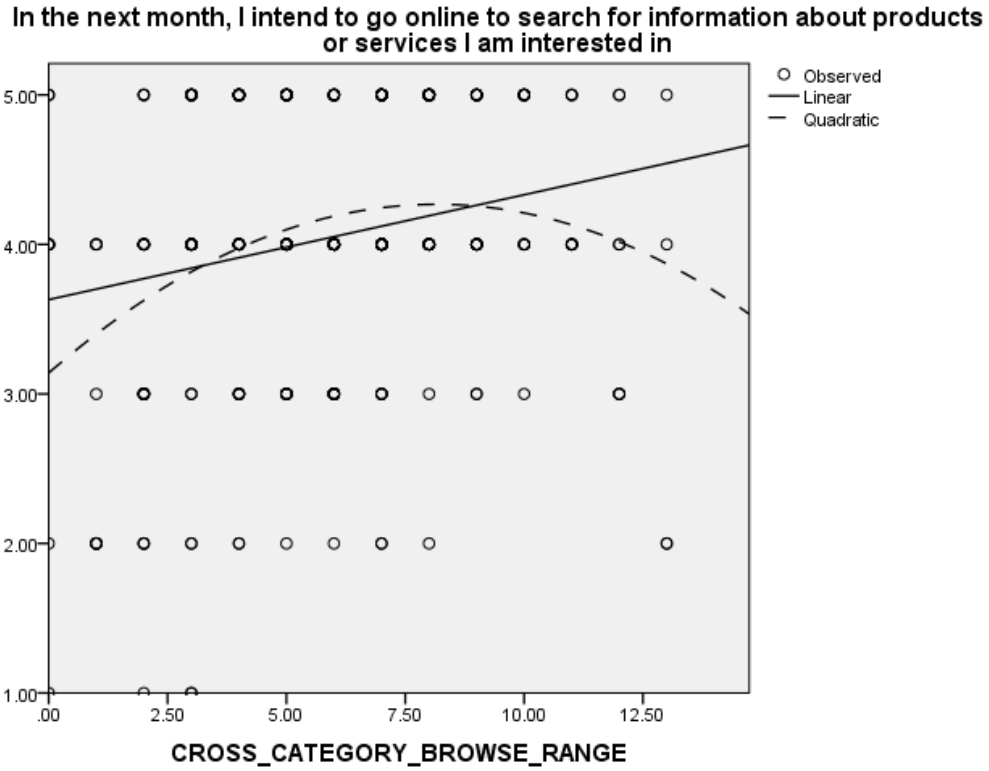
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	22.283	2	11.141	14.568	.000
Residual	237.091	310	.765		
Total	259.374	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.277	.060	.864	4.601	.000
CROSS_CATEGORY_BROWSE_RANGE ** 2	-.017	.005	-.674	-3.588	.000
(Constant)	3.140	.178		17.640	.000



DSI_Total_Score

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.248	.062	.059	4.639

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	439.480	1	439.480	20.419	.000
Residual	6693.760	311	21.523		
Total	7133.240	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.417	.092	.248	4.519	.000
(Constant)	16.394	.604		27.135	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.250	.063	.057	4.644

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

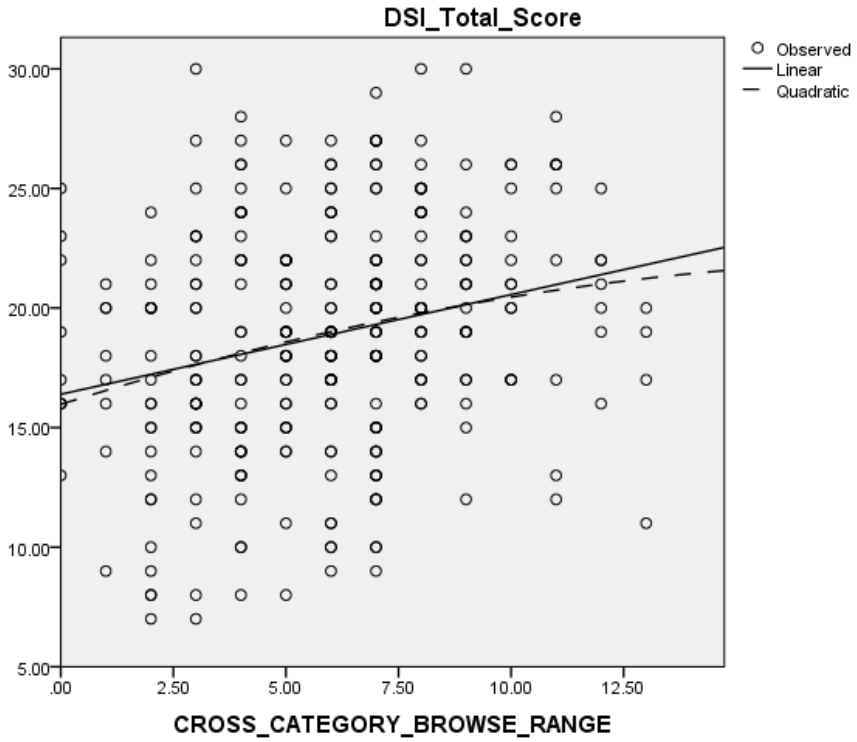
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	446.703	2	223.352	10.355	.000
Residual	6686.537	310	21.569		
Total	7133.240	312			

The independent variable is CROSS_CATEGORY_BROWSE_RANGE.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
CROSS_CATEGORY_BROWSE_RANGE	.594	.319	.354	1.860	.064
CROSS_CATEGORY_BROWSE_RANGE ** 2	-.015	.025	-.110	-.579	.563
(Constant)	15.973	.945		16.897	.000



APPENDIX D

Appendix D. MANOVA Results for Shopping Variables and Cross-category Browse Range Groups.

General Linear Model

Between-Subjects Factors

		Value Label	N
CROSS_CATEGORY_BROWSE_RANGE_GROUPS	1.00	Low Browse Range	102
	2.00	Medium Browse Range	128
	3.00	High Browse Range	83

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.843	180.809[b]	9.000	303.000	.000
	Wilks' Lambda	.157	180.809[b]	9.000	303.000	.000
	Hotelling's Trace	5.371	180.809[b]	9.000	303.000	.000
	Roy's Largest Root	5.371	180.809[b]	9.000	303.000	.000
CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Pillai's Trace	.145	5.700[b]	9.000	303.000	.000
	Wilks' Lambda	.855	5.700[b]	9.000	303.000	.000
	Hotelling's Trace	.169	5.700[b]	9.000	303.000	.000
	Roy's Largest Root	.169	5.700[b]	9.000	303.000	.000

a. Design: Intercept + CROSS_CATEGORY_BROWSE_RANGE_GROUPS

b. Exact statistic

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	BI_Long About how long have you been using the Internet?	2.221[a]	1	2.221	2.165	.142

	BI_Hours On average, how many hours per week, if any, do you use the Internet?	7.480[b]	1	7.480	4.150	.042
	BI_withoutBuy How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?	36.540[c]	1	36.540	25.116	.000
	BI_withBuy How often, if ever, do you go online and make a purchase online?	8.420[d]	1	8.420	15.987	.000
	OnlineIntent_Purch I intend to make one or more purchases online in the next month	27.669[e]	1	27.669	23.278	.000
	Intent_Browse There is a good chance that in the next month I will browse sites to find products I might be interested in	17.508[f]	1	17.508	19.796	.000
	Intent_search In the next month, I intend to go online to search for information about products or services I am interested in	11.939[g]	1	11.939	15.006	.000
	DSI_Total_Score	523.419[h]	1	523.419	24.627	.000
	GSI_6_Total_Score	50.513[i]	1	50.513	1.728	.190
	BI_Long About how long have you been using the Internet?	560.164	1	560.164	546.084	.000
	BI_Hours On average, how many hours per week, if any, do you use the Internet?	233.504	1	233.504	129.549	.000
Intercept	BI_withoutBuy How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?	348.324	1	348.324	239.427	.000

	BI_withBuy How often, if ever, do you go online and make a purchase online?	164.346	1	164.346	312.030	.000
	OnlineIntent_Purch I intend to make one or more purchases online in the next month	354.654	1	354.654	298.365	.000
	Intent_Browse There is a good chance that in the next month I will browse sites to find products I might be interested in	563.512	1	563.512	637.155	.000
	Intent_search In the next month, I intend to go online to search for information about products or services I am interested in	533.003	1	533.003	669.929	.000
	DSI_Total_Score	10264.146	1	10264.146	482.940	.000
	GSI_6_Total_Score	12374.970	1	12374.970	423.314	.000
	BI_Long About how long have you been using the Internet?	2.221	1	2.221	2.165	.142
	BI_Hours On average, how many hours per week, if any, do you use the Internet?	7.480	1	7.480	4.150	.042
	BI_withoutBuy How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?	36.540	1	36.540	25.116	.000
CROSS_CATEGORY_BROWSE_RANGE_GROUPS	BI_withBuy How often, if ever, do you go online and make a purchase online?	8.420	1	8.420	15.987	.000
	OnlineIntent_Purch I intend to make one or more purchases online in the next month	27.669	1	27.669	23.278	.000
	Intent_Browse There is a good chance that in the next month I will browse sites to find products I might be interested in	17.508	1	17.508	19.796	.000

	Intent_search In the next month, I intend to go online to search for information about products or services I am interested in	11.939	1	11.939	15.006	.000
	DSI_Total_Score	523.419	1	523.419	24.627	.000
	GSI_6_Total_Score	50.513	1	50.513	1.728	.190
	BI_Long About how long have you been using the Internet?	319.018	311	1.026		
	BI_Hours On average, how many hours per week, if any, do you use the Internet?	560.558	311	1.802		
	BI_withoutBuy How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?	452.451	311	1.455		
	BI_withBuy How often, if ever, do you go online and make a purchase online?	163.803	311	.527		
Error	OnlineIntent_Purch I intend to make one or more purchases online in the next month	369.672	311	1.189		
	Intent_Browse There is a good chance that in the next month I will browse sites to find products I might be interested in	275.054	311	.884		
	Intent_search In the next month, I intend to go online to search for information about products or services I am interested in	247.435	311	.796		
	DSI_Total_Score	6609.821	311	21.253		
	GSI_6_Total_Score	9091.627	311	29.234		
Total	BI_Long About how long have you been using the Internet?	4968.000	313			

	BI_Hours On average, how many hours per week, if any, do you use the Internet?	2920.000	313			
	BI_withoutBuy How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?	4855.000	313			
	BI_withBuy How often, if ever, do you go online and make a purchase online?	1955.000	313			
	OnlineIntent_Purch I intend to make one or more purchases online in the next month	4564.000	313			
	Intent_Browse There is a good chance that in the next month I will browse sites to find products I might be interested in	5944.000	313			
	Intent_search In the next month, I intend to go online to search for information about products or services I am interested in	5380.000	313			
	DSI_Total_Score	118385.000	313			
	GSI_6_Total_Score	111963.000	313			
	BI_Long About how long have you been using the Internet?	321.240	312			
	BI_Hours On average, how many hours per week, if any, do you use the Internet?	568.038	312			
Corrected Total	BI_withoutBuy How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?	488.990	312			

	BI_withBuy How often, if ever, do you go online and make a purchase online?	172.224	312			
	OnlineIntent_Purch I intend to make one or more purchases online in the next month	397.342	312			
	Intent_Browse There is a good chance that in the next month I will browse sites to find products I might be interested in	292.562	312			
	Intent_search In the next month, I intend to go online to search for information about products or services I am interested in	259.374	312			
	DSI_Total_Score	7133.240	312			
	GSI_6_Total_Score	9142.141	312			

a. R Squared = .007 (Adjusted R Squared = .004)

b. R Squared = .013 (Adjusted R Squared = .010)

c. R Squared = .075 (Adjusted R Squared = .072)

d. R Squared = .049 (Adjusted R Squared = .046)

e. R Squared = .070 (Adjusted R Squared = .067)

f. R Squared = .060 (Adjusted R Squared = .057)

g. R Squared = .046 (Adjusted R Squared = .043)

h. R Squared = .073 (Adjusted R Squared = .070)

i. R Squared = .006 (Adjusted R Squared = .002)

APPENDIX E

Appendix E. ANOVA and Post Hoc Results for Shopping Variables and Cross-category Browse Range Groups.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
BI_Hours On average, how many hours per week, if any, do you use the Internet?	Between Groups	7.567	2	3.783	2.093	.125
	Within Groups	560.472	310	1.808		
	Total	568.038	312			
BI_withoutBuy How often, if ever, do you go online to look for information about products or services without buying anything during the particular visit?	Between Groups	36.571	2	18.285	12.529	.000
	Within Groups	452.420	310	1.459		
	Total	488.990	312			
BI_withBuy How often, if ever, do you go online and make a purchase online?	Between Groups	8.648	2	4.324	8.195	.000
	Within Groups	163.575	310	.528		
	Total	172.224	312			
OnlineIntent_Purch I intend to make one or more purchases online in the next month	Between Groups	31.055	2	15.528	13.141	.000
	Within Groups	366.287	310	1.182		
	Total	397.342	312			
Intent_Browse There is a good chance that in the next month I will browse sites to find products I might be interested in	Between Groups	18.296	2	9.148	10.340	.000
	Within Groups	274.266	310	.885		
	Total	292.562	312			
Intent_search In the next month, I intend to go online to search for	Between Groups	12.184	2	6.092	7.640	.001
	Within Groups	247.190	310	.797		

information about products or services I am interested in	Total	259.374	312			
DSI_Total_Score	Between Groups	546.062	2	273.031	12.849	.000
	Within Groups	6587.178	310	21.249		
	Total	7133.240	312			

Post Hoc Tests

Multiple Comparisons

LSD

Dependent Variable	(I) CROSS_CATEGORY_BROWSE_RANGE_GROUPS	(J) CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
BI_Hours On average, how many hours per week, if any, do you use the Internet?	Low Browse Range	Medium Browse Range	-.23422	.17847	.190	-.5854	.1169
		High Browse Range	-.40054*	.19877	.045	-.7916	-.0094
	Medium Browse Range	Low Browse Range	.23422	.17847	.190	-.1169	.5854
		High Browse Range	-.16632	.18949	.381	-.5392	.2065
	High Browse Range	Low Browse Range	.40054*	.19877	.045	.0094	.7916
		Medium Browse Range	.16632	.18949	.381	-.2065	.5392
BI_withoutBuy How often, if ever, do you go online to look for information about products or services without buying	Low Browse Range	Medium Browse Range	-.42647*	.16034	.008	-.7420	-.1110
		High Browse Range	-.89334*	.17858	.000	-1.2447	-.5420
	Medium Browse Range	Low Browse Range	.42647*	.16034	.008	.1110	.7420
		High Browse Range	-.46687*	.17025	.006	-.8019	-.1319
	High Browse Range	Low Browse Range	.89334*	.17858	.000	.5420	1.2447

anything during the particular visit?	Range	Medium Browse Range	.46687*	.17025	.006	.1319	.8019
	Low Browse Range	Medium Browse Range	-.16131	.09641	.095	-.3510	.0284
BI_withBuy How often, if ever, do you go online and make a purchase online?		High Browse Range	-.43267*	.10738	.000	-.6440	-.2214
	Medium Browse Range	Low Browse Range	.16131	.09641	.095	-.0284	.3510
		High Browse Range	-.27137*	.10237	.008	-.4728	-.0699
	High Browse Range	Low Browse Range	.43267*	.10738	.000	.2214	.6440
		Medium Browse Range	.27137*	.10237	.008	.0699	.4728
OnlineIntent_Purch I intend to make one or more purchases online in the next month	Low Browse Range	Medium Browse Range	-.59099*	.14427	.000	-.8749	-.3071
		High Browse Range	-.75797*	.16069	.000	-1.0741	-.4418
	Medium Browse Range	Low Browse Range	.59099*	.14427	.000	.3071	.8749
		High Browse Range	-.16698	.15319	.277	-.4684	.1344
	High Browse Range	Low Browse Range	.75797*	.16069	.000	.4418	1.0741
		Medium Browse Range	.16698	.15319	.277	-.1344	.4684
Intent_Browse There is a good chance that in the next month I will browse sites to find products I might be interested in	Low Browse Range	Medium Browse Range	-.40656*	.12484	.001	-.6522	-.1609
		High Browse Range	-.60855*	.13904	.000	-.8821	-.3350
	Medium Browse Range	Low Browse Range	.40656*	.12484	.001	.1609	.6522
		High Browse Range	-.20200	.13256	.129	-.4628	.0588
	High Browse Range	Low Browse Range	.60855*	.13904	.000	.3350	.8821
		Medium Browse Range	.20200	.13256	.129	-.0588	.4628
Intent_search In the next month, I intend to go online to search for information about products or services I am	Low Browse Range	Medium Browse Range	-.30944*	.11852	.009	-.5426	-.0762
		High Browse Range	-.50484*	.13200	.000	-.7646	-.2451
	Medium Browse Range	Low Browse Range	.30944*	.11852	.009	.0762	.5426
		High Browse Range	-.19541	.12584	.121	-.4430	.0522

interested in	High Browse Range	Low Browse Range	.50484*	.13200	.000	.2451	.7646
		Medium Browse Range	.19541	.12584	.121	-.0522	.4430
	Low Browse Range	Medium Browse Range	-1.16222	.61183	.058	-2.3661	.0416
		High Browse Range	-3.42098*	.68142	.000	-4.7618	-2.0802
DSI_Total_Score	Medium Browse Range	Low Browse Range	1.16222	.61183	.058	-.0416	2.3661
		High Browse Range	-2.25875*	.64963	.001	-3.5370	-.9805
	High Browse Range	Low Browse Range	3.42098*	.68142	.000	2.0802	4.7618
		Medium Browse Range	2.25875*	.64963	.001	.9805	3.5370

*. The mean difference is significant at the 0.05 level.

APPENDIX F

Appendix F. Descriptive Statistics for General Site Feature Importance Ratings.

Descriptive Statistics

	Min	Max	Mean	SD	Skewness		Kurtosis			
					Stat.	Std. Error	Stat.	Std. Error	z Sk	z Kt
It is enjoyable to use	1	5	3.55	1.08	-.324	.138	-.560	.275	-2.34	-2.02
I hear about it on the radio, television, or in the newspaper	1	5	2.81	1.13	.050	.138	-.760	.275	0.36	-2.74
It has photos of products	1	5	4.47	0.84	-1.783	.138	3.327	.275	-12.88	12.01
Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	1	5	4.01	1.07	-.929	.138	.200	.275	-6.71	0.72
It has one or more animated characters that move or speak	1	4	1.42	0.67	1.432	.138	1.255	.275	10.34	4.53
It has interactive web design (e.g., design/customize your products/services)	1	5	2.86	1.11	-.022	.138	-.722	.275	-0.16	-2.61
The Internet links on the site are working properly	1	5	4.04	1.01	-.967	.138	.402	.275	-6.99	1.45
It has interesting, attractive color (e.g., in fonts, background, and borders)	1	5	2.51	1.09	.173	.138	-.798	.275	1.25	-2.88
It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	1	5	3.93	1.08	-.769	.138	-.076	.275	-5.56	-0.28
The things I am looking for are easy to find on the site	1	5	4.34	0.82	-1.091	.138	.615	.275	-7.88	2.22
It has reasonable prices	1	5	4.55	0.74	-1.703	.138	2.721	.275	-12.30	9.83
It is free of grammatical and typographical errors	1	5	3.43	1.22	-.485	.138	-.636	.275	-3.51	-2.30
There is a guarantee that my credit card information would be safely and securely protected	1	5	4.63	0.75	-2.562	.138	7.476	.275	-18.50	27.00

It has seals of companies stating that my information on the site is secure (e.g., Verisign)	1	5	4.27	0.97	-1.389	.138	1.440	.275	-10.04	5.20
My friends and family have been happy when they have shopped there	1	5	3.75	1.09	-.590	.138	-.302	.275	-4.26	-1.09
It has a wide selection and variety of products on the site	1	5	3.87	0.98	-.620	.138	-.066	.275	-4.48	-0.24
It has interesting, attractive graphics (e.g., not too complicated, not too simple)	1	5	3.01	1.17	-.037	.138	-.750	.275	-0.27	-2.71
Products on the website can be easily compared with each other	1	5	3.64	1.12	-.632	.138	-.185	.275	-4.56	-0.67
It is quite different from the usual sites for products of the type involved	1	5	2.75	1.05	.169	.138	-.336	.275	1.22	-1.21
My friends or family let me know their opinions of the site	1	5	3.32	1.10	-.241	.138	-.588	.275	-1.74	-2.12
It has a return policy that is easy to understand and use	1	5	4.10	1.03	-1.125	.138	.781	.275	-8.13	2.82
The site presents both benefits and drawbacks of the products/services	1	5	3.73	1.02	-.488	.138	-.265	.275	-3.52	-0.96
It allows instant messaging with the company or company representative	1	5	2.82	1.33	.151	.138	-1.093	.275	1.09	-3.95
It has photos of real people using products/services	1	5	2.36	1.23	.568	.138	-.658	.275	4.10	-2.38
The order process is easy to use	1	5	4.19	0.96	-1.232	.138	1.255	.275	-8.90	4.53
It has entertaining graphics and displays	1	5	2.25	1.04	.505	.138	-.446	.275	3.65	-1.61

Valid N (listwise) 311

APPENDIX G

Appendix G. Tolerance and VIF Results for General Site Feature Importance Ratings.

All variables have an acceptable tolerance (above .1), and acceptable VIF (below 10)

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	164.365	47.294		3.475	0.001		
It is enjoyable to use	5.921	5.187	0.069	1.142	0.255	0.763	1.31
I hear about it on the radio, television, or in the newspaper	10.839	4.8	0.132	2.258	0.025	0.81	1.235
It has photos of products	6.985	6.884	0.063	1.015	0.311	0.716	1.397
Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	-0.357	5.499	-0.004	-0.065	0.948	0.681	1.468
It has one or more animated characters that move or speak	7.7	8.394	0.056	0.917	0.36	0.758	1.318
It has interactive web design (e.g., design/customize your products/services)	-1.712	5.258	-0.021	-0.326	0.745	0.692	1.445
The Internet links on the site are working properly	-0.13	6.224	-0.001	-0.021	0.983	0.598	1.673
It has interesting, attractive color (e.g., in fonts, background, and borders)	3.082	6.664	0.036	0.462	0.644	0.454	2.203

It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	6.07	5.266	0.07	1.153	0.25	0.756	1.323
The things I am looking for are easy to find on the site	-8.279	8.536	-0.073	-0.97	0.333	0.486	2.057
It has reasonable prices	-5.472	7.842	-0.044	-0.698	0.486	0.701	1.427
It is free of grammatical and typographical errors	14.12	4.573	0.186	3.088	0.002	0.766	1.305
There is a guarantee that my credit card information would be safely and securely protected	-24.153	9.025	-0.196	-2.676	0.008	0.519	1.928
It has seals of companies stating that my information on the site is secure (e.g., Verisign)	14.306	7.159	0.151	1.998	0.047	0.486	2.056
My friends and family have been happy when they have shopped there	-15.368	6.669	-0.182	-2.304	0.022	0.445	2.247
It has a wide selection and variety of products on the site	-20.803	6.12	-0.221	-3.399	0.001	0.657	1.522
It has interesting, attractive graphics (e.g., not too complicated, not too simple)	13.6	5.57	0.171	2.442	0.015	0.567	1.763
Products on the website can be easily compared with each other	10.977	5.502	0.133	1.995	0.047	0.628	1.593
It is quite different from the usual sites for products of the type involved	10.028	5.777	0.114	1.736	0.084	0.649	1.541
My friends or family let me know their opinions of the site	3.438	6.324	0.041	0.544	0.587	0.486	2.058

It has a return policy that is easy to understand and use	6.256	6.291	0.07	0.994	0.321	0.568	1.76
The site presents both benefits and drawbacks of the products/services	-4.678	5.848	-0.052	-0.8	0.424	0.667	1.5
It allows instant messaging with the company or company representative	-0.162	4.215	-0.002	-0.039	0.969	0.756	1.323
It has photos of real people using products/services	-16.046	4.534	-0.213	-3.539	0	0.766	1.305
The order process is easy to use	4.637	6.416	0.048	0.723	0.47	0.618	1.618
It has entertaining graphics and displays	-14.225	7.174	-0.16	-1.983	0.048	0.428	2.334

a. Dependent Variable: Survey_Quest_ID

APPENDIX H

Appendix H. Non-linear Curve Estimations for General Site Feature Importance Ratings with Cross-category Browse Range.

Feature "Interactive"

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.215	.046	.043	1.089

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	17.422	1	17.422	14.695	.000
Residual	358.048	302	1.186		
Total	375.470	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.089	.023	.215	3.833	.000
(Constant)	2.325	.154		15.096	.000

Logarithmic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.197	.039	.035	1.093

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	14.499	1	14.499	12.130	.001
Residual	360.971	302	1.195		
Total	375.470	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
ln(Range_Online_Browse)	.405	.116	.197	3.483	.001
(Constant)	2.185	.205		10.648	.000

Quadratic

Model Summary

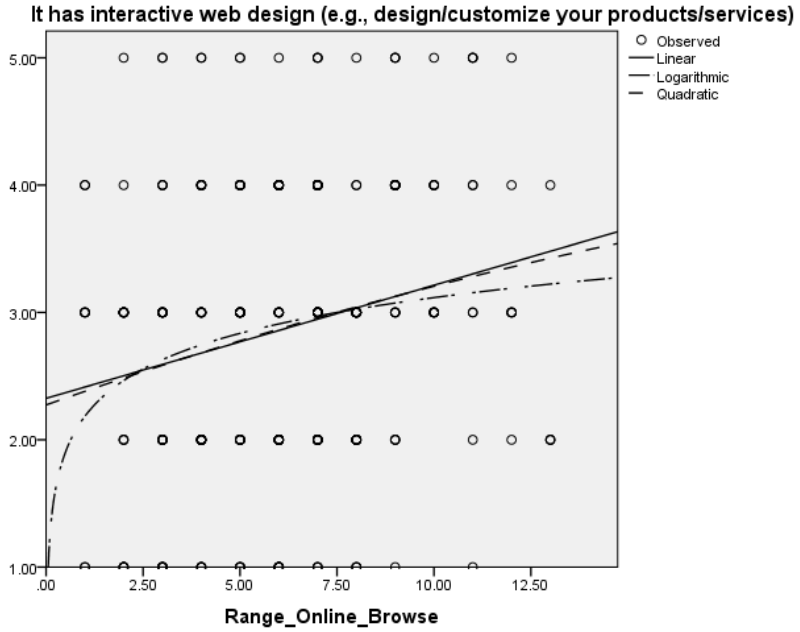
R	R Square	Adjusted R Square	Std. Error of the Estimate
.216	.047	.040	1.091

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	17.481	2	8.740	7.349	.001
Residual	357.990	301	1.189		
Total	375.470	303			

The independent variable is Range_Online_Browse.



Feature "Unusual"

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.139	.019	.016	1.023

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.241	1	6.241	5.961	.015
Residual	316.176	302	1.047		
Total	322.418	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.053	.022	.139	2.442	.015
(Constant)	2.443	.145		16.880	.000

Logarithmic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.116	.013	.010	1.026

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.321	1	4.321	4.102	.044
Residual	318.097	302	1.053		
Total	322.418	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
ln(Range_Online_Browse)	.221	.109	.116	2.025	.044
(Constant)	2.395	.193		12.435	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.145	.021	.015	1.024

The independent variable is Range_Online_Browse.

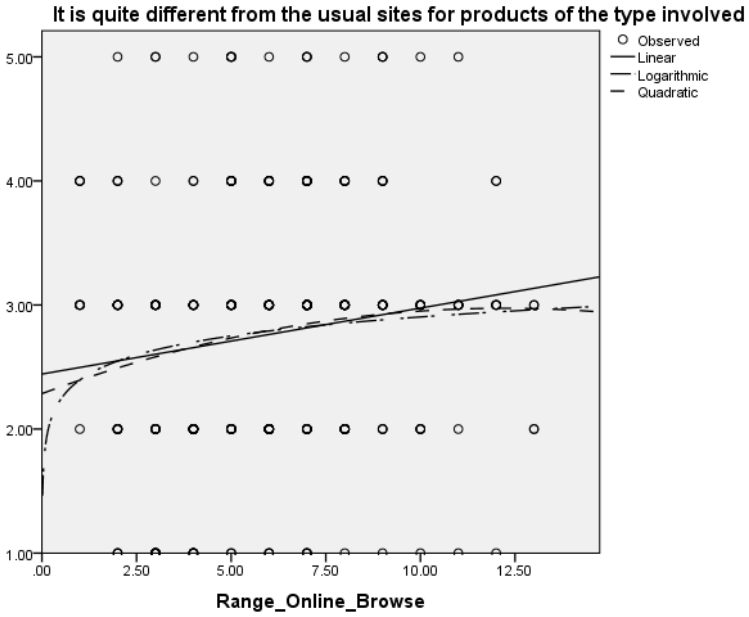
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.782	2	3.391	3.234	.041
Residual	315.636	301	1.049		
Total	322.418	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.113	.086	.295	1.314	.190
Range_Online_Browse ** 2	-.005	.006	-.161	-.718	.473
(Constant)	2.286	.263		8.684	.000



Feature "Color"

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.137	.019	.016	1.081

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.773	1	6.773	5.792	.017
Residual	353.197	302	1.170		
Total	359.970	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.055	.023	.137	2.407	.017
(Constant)	2.173	.153		14.206	.000

Logarithmic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.125	.016	.012	1.083

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.582	1	5.582	4.757	.030
Residual	354.389	302	1.173		
Total	359.970	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
ln(Range_Online_Browse)	.251	.115	.125	2.181	.030
(Constant)	2.088	.203		10.269	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.138	.019	.013	1.083

The independent variable is Range_Online_Browse.

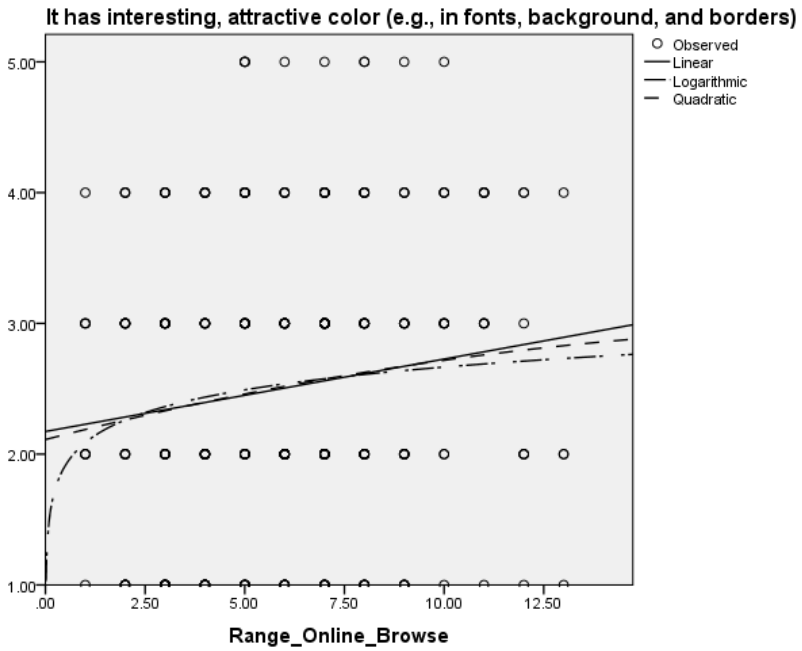
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.856	2	3.428	2.922	.055
Residual	353.115	301	1.173		
Total	359.970	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.079	.091	.195	.867	.387
Range_Online_Browse ** 2	-.002	.007	-.059	-.265	.791
(Constant)	2.112	.278		7.585	.000



Feature "Ads"

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.113	.013	.010	1.113

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.864	1	4.864	3.929	.048
Residual	373.896	302	1.238		
Total	378.760	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.047	.024	.113	1.982	.048
(Constant)	2.514	.157		15.972	.000

Logarithmic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.122	.015	.012	1.112

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.601	1	5.601	4.533	.034
Residual	373.159	302	1.236		

Total	378.760	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
ln(Range_Online_Browse)	.252	.118	.122	2.129	.034
(Constant)	2.376	.209		11.392	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.134	.018	.012	1.112

The independent variable is Range_Online_Browse.

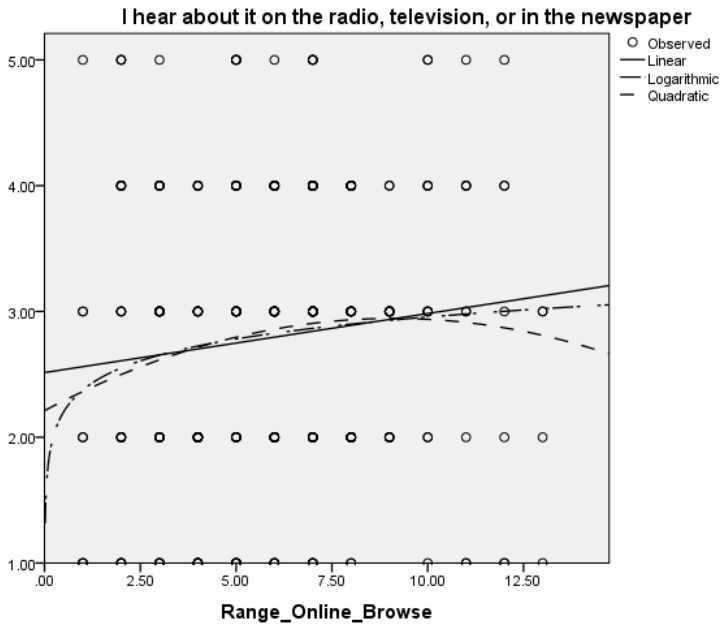
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.851	2	3.425	2.772	.064
Residual	371.909	301	1.236		
Total	378.760	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.161	.093	.389	1.731	.085
Range_Online_Browse ** 2	-.009	.007	-.285	-1.268	.206
(Constant)	2.212	.286		7.741	.000



Feature "Animated"

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.165	.027	.024	.653

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.579	1	3.579	8.394	.004
Residual	128.348	301	.426		
Total	131.927	302			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.040	.014	.165	2.897	.004
(Constant)	1.178	.092		12.735	.000

Logarithmic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.068	.005	.001	.661

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.607	1	.607	1.390	.239
Residual	131.321	301	.436		
Total	131.927	302			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
ln(Range_Online_Browse)	.083	.070	.068	1.179	.239
(Constant)	1.283	.124		10.349	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.254	.064	.058	.641

The independent variable is Range_Online_Browse.

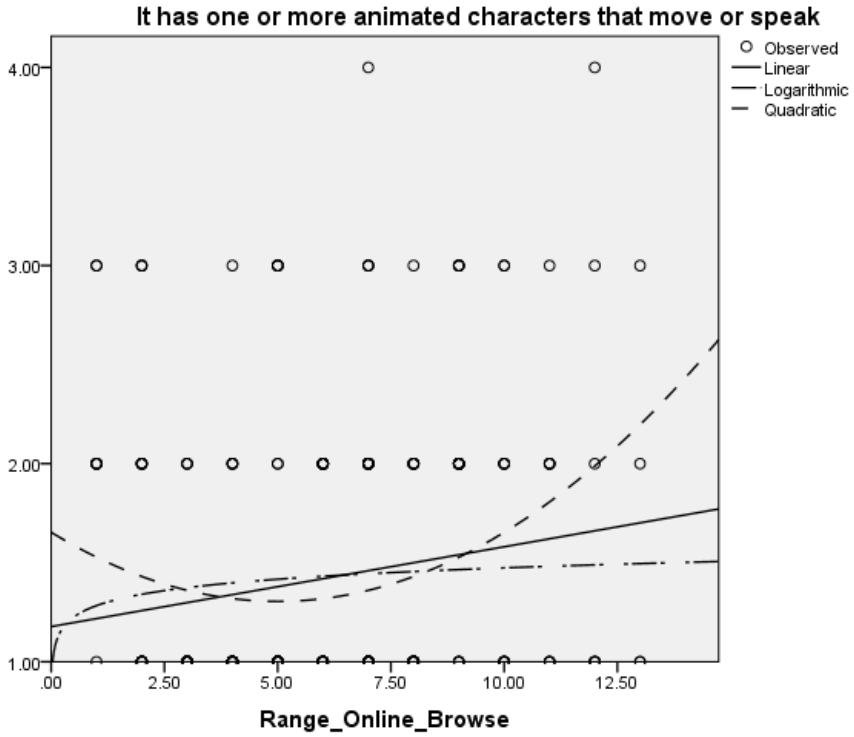
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	8.501	2	4.251	10.331	.000
Residual	123.426	300	.411		
Total	131.927	302			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	-.139	.054	-.570	-2.595	.010
Range_Online_Browse ** 2	.014	.004	.760	3.459	.001
(Constant)	1.653	.165		10.029	.000



"Customer Feedback"

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.172	.030	.026	1.050

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.

Regression	10.163	1	10.163	9.222	.003
Residual	332.808	302	1.102		
Total	342.970	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.068	.022	.172	3.037	.003
(Constant)	3.598	.149		24.225	.000

Logarithmic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.196	.039	.035	1.045

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	13.242	1	13.242	12.128	.001
Residual	329.729	302	1.092		
Total	342.970	303			

The independent variable is Range_Online_Browse.

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.222	.049	.043	1.041

The independent variable is Range_Online_Browse.

ANOVA

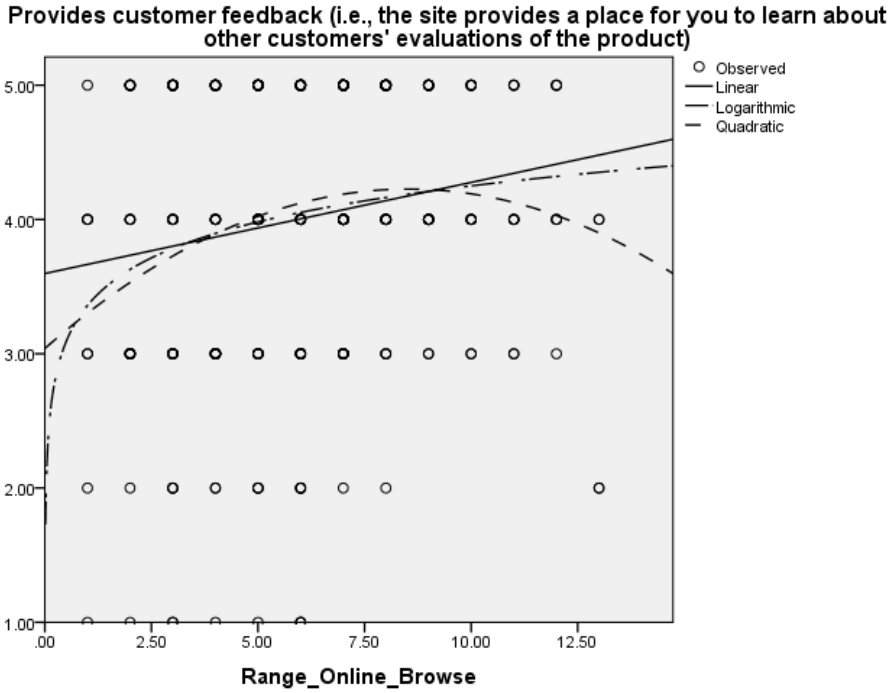
	Sum of Squares	df	Mean Square	F	Sig.
Regression	16.916	2	8.458	7.808	.000

Residual	326.055	301	1.083		
Total	342.970	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.278	.087	.706	3.193	.002
Range_Online_Browse ** 2	-.016	.007	-.552	-2.497	.013
(Constant)	3.040	.268		11.363	.000



"Product Photos"

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.046	.002	-.001	.817

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.436	1	.436	.654	.419
Residual	201.403	302	.667		
Total	201.839	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.014	.017	.046	.809	.419
(Constant)	4.392	.116		38.013	.000

Logarithmic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.101	.010	.007	.813

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.073	1	2.073	3.134	.078
Residual	199.766	302	.661		
Total	201.839	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
ln(Range_Online_Browse)	.153	.086	.101	1.770	.078

(Constant)	4.220	.153		27.646	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.167	.028	.022	.807

The independent variable is Range_Online_Browse.

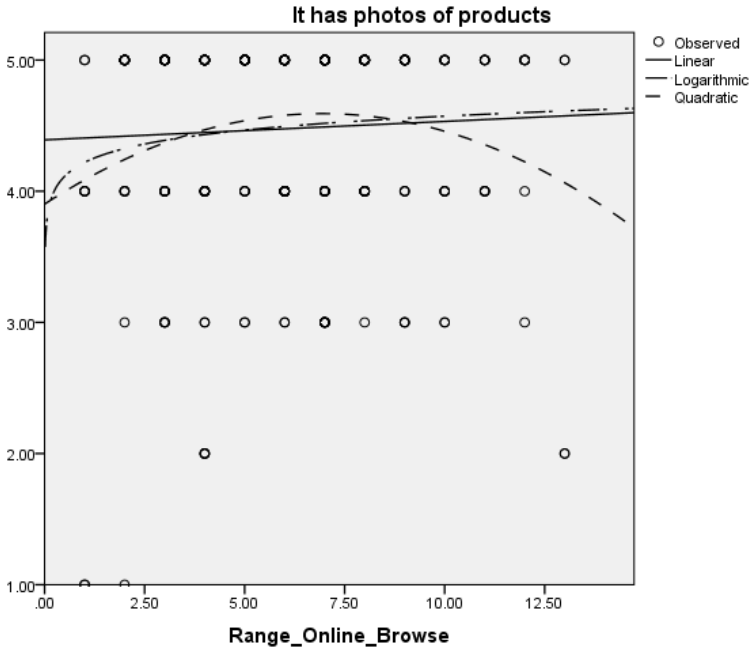
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.646	2	2.823	4.331	.014
Residual	196.193	301	.652		
Total	201.839	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	.199	.068	.658	2.942	.004
Range_Online_Browse ** 2	-.014	.005	-.632	-2.827	.005
(Constant)	3.902	.208		18.802	.000



"Interesting Graphics"

Linear

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.106	.011	.008	1.147

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.517	1	4.517	3.432	.065
Residual	397.470	302	1.316		
Total	401.987	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.

Range_Online_Browse	.045	.024	.106	1.853	.065
(Constant)	2.732	.162		16.832	.000

Logarithmic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.061	.004	.000	1.152

The independent variable is Range_Online_Browse.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.494	1	1.494	1.127	.289
Residual	400.493	302	1.326		
Total	401.987	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
ln(Range_Online_Browse)	.130	.122	.061	1.061	.289
(Constant)	2.788	.216		12.901	.000

Quadratic

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.142	.020	.014	1.144

The independent variable is Range_Online_Browse.

ANOVA

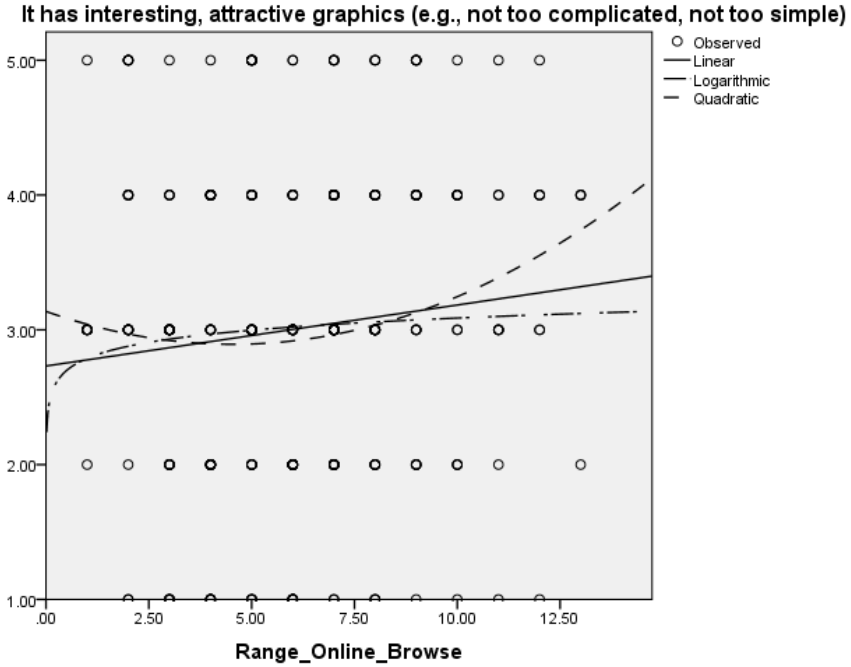
	Sum of Squares	df	Mean Square	F	Sig.
Regression	8.072	2	4.036	3.084	.047

Residual	393.915	301	1.309		
Total	401.987	303			

The independent variable is Range_Online_Browse.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Range_Online_Browse	-.107	.096	-.252	-1.122	.263
Range_Online_Browse ** 2	.012	.007	.370	1.648	.100
(Constant)	3.136	.294		10.666	.000



APPENDIX I

Appendix I. Discriminant Analysis Results (Enter) for Cross-category Browse Range Groups and General Site Feature Importance Ratings.

Box's Test of Equality of Covariance Matrices

Log Determinants

CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Rank	Log Determinant
Low Browse Range	26	-7.952
Medium Browse Range	26	-10.714
High Browse Range	26	-12.447
Pooled within-groups	26	-7.013

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

Test Results

Box's M		1003.134
F	Approx.	1.255
	df1	702
	df2	201767.766
	Sig.	.000

Tests null hypothesis of equal population covariance matrices.

Summary of Canonical Discriminant Functions

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.228[a]	70.3	70.3	.431
2	.097[a]	29.7	100.0	.297

a. First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.742	88.031	52	.001
2	.912	27.269	25	.343

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	.212	.028
GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.296	.659
GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	.375	-.098
GenSFPref_animated It has one or more animated characters that move or speak	.215	-.414
GenSFPref_selection It has a wide selection and variety of products on the site	.153	-.190
GenSFPref_realPeople It has photos of real people using products/services	.156	-.367
GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	.147	.222
GenSFPref_reasPrices It has reasonable prices	-.502	-.186
GenSFPref_compare Products on the website can be easily compared with each other	.211	-.232
GenSFPref_find The things I am looking for are easy to find on the site	.269	.177

GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	-.009	-.431
GenSFPref_graphics It has entertaining graphics and displays	-.245	.094
GenSFPref_ordering The order process is easy to use	.191	.092
GenSFPref_links The Internet links on the site are working properly	.257	-.124
GenSFPref_enjoyable It is enjoyable to use	-.085	.059
GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	-.256	.088
GenSFPref_friends My friends and family have been happy when they have shopped there	-.011	-.249
GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	.138	-.222
GenSFPref_instantMessaging It allows instant messaging with the company or company representative	-.022	.005
GenSFPref_returns It has a return policy that is easy to understand and use	-.190	.456
GenSFPref_ads I hear about it on the radio, television, or in the newspaper	.158	.367
GenSFPref_photos It has photos of products	.054	.242

GenSFPref_grammar It is free of grammatical and typographical errors	-.198	.070
GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	-.032	.141
GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	-.111	-.070
GenSFPref_friendsOpin My friends or family let me know their opinions of the site	-.217	.204

Structure Matrix

	Function	
	1	2
GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	.426*	.070
GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.414*	.386
GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	.381*	.110
GenSFPref_animated It has one or more animated characters that move or speak	.355*	-.257
GenSFPref_selection It has a wide selection and variety of products on the site	.348*	-.003
GenSFPref_realPeople It has photos of real people using products/services	.333*	-.308

GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	.313*	.111
GenSFPref_reasPrices It has reasonable prices	-.297*	.132
GenSFPref_compare Products on the website can be easily compared with each other	.287*	-.055
GenSFPref_find The things I am looking for are easy to find on the site	.270*	.265
GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	.270*	-.151
GenSFPref_graphics It has entertaining graphics and displays	.260*	-.011
GenSFPref_ordering The order process is easy to use	.249*	.145
GenSFPref_links The Internet links on the site are working properly	.248*	.151
GenSFPref_enjoyable It is enjoyable to use	.230*	.130
GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	-.192*	.139
GenSFPref_friends My friends and family have been happy when they have shopped there	.137*	.063
GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	.132*	-.052

GenSFPref_instantMessaging It allows instant messaging with the company or company representative	.115*	.003
GenSFPref_returns It has a return policy that is easy to understand and use	.059	.379*
GenSFPref_ads I hear about it on the radio, television, or in the newspaper	.239	.305*
GenSFPref_photos It has photos of products	.213	.287*
GenSFPref_grammar It is free of grammatical and typographical errors	-.070	.238*
GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	-.057	.210*
GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	.073	.163*
GenSFPref_friendsOpin My friends or family let me know their opinions of the site	-.001	.055*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

Canonical Discriminant Function Coefficients

	Function	
	1	2
GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	.193	.025
GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.289	.644
GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	.354	-.093
GenSFPref_animated It has one or more animated characters that move or speak	.327	-.629
GenSFPref_selection It has a wide selection and variety of products on the site	.157	-.195
GenSFPref_realPeople It has photos of real people using products/services	.129	-.303
GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	.136	.206
GenSFPref_reasPrices It has reasonable prices	-.681	-.253
GenSFPref_compare Products on the website can be easily compared with each other	.190	-.209
GenSFPref_find The things I am looking for are easy to find on the site	.331	.218
GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	-.008	-.373

GenSFPref_graphics It has entertaining graphics and displays	-.237	.091
GenSFPref_ordering The order process is easy to use	.199	.096
GenSFPref_links The Internet links on the site are working properly	.255	-.123
GenSFPref_enjoyable It is enjoyable to use	-.079	.055
GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	-.342	.118
GenSFPref_friends My friends and family have been happy when they have shopped there	-.010	-.227
GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	.129	-.208
GenSFPref_instantMessaging It allows instant messaging with the company or company representative	-.016	.004
GenSFPref_returns It has a return policy that is easy to understand and use	-.186	.445
GenSFPref_ads I hear about it on the radio, television, or in the newspaper	.141	.327
GenSFPref_photos It has photos of products	.065	.291
GenSFPref_grammar It is free of grammatical and typographical errors	-.162	.058

GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	-.033	.144
GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	-.109	-.069
GenSFPref_friendsOpin My friends or family let me know their opinions of the site	-.195	.184
(Constant)	-1.558	-1.933

Unstandardized coefficients

Functions at Group Centroids

CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Function	
	1	2
Low Browse Range	-.568	-.245
Medium Browse Range	.017	.375
High Browse Range	.671	-.268

Unstandardized canonical discriminant functions evaluated at group means

Classification Statistics

Classification Processing Summary

Processed		313
Excluded	Missing or out-of-range group codes	0
	At least one missing discriminating variable	2
Used in Output		311

Prior Probabilities for Groups

CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Prior	Cases Used in Analysis	
		Unweighted	Weighted
Low Browse Range	.328	102	102.000
Medium Browse Range	.405	126	126.000
High Browse Range	.267	83	83.000
Total	1.000	311	311.000

Classification Function Coefficients

	CROSS_CATEGORY_BROWSE_RANGE_GROUPS		
	Low Browse Range	Medium Browse Range	High Browse Range
GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	.289	.418	.528
GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.175	.743	.517
GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	1.694	1.844	2.135
GenSFPref_animated It has one or more animated characters that move or speak	2.036	1.838	2.457
GenSFPref_selection It has a wide selection and variety of products on the site	.828	.799	1.028
GenSFPref_realPeople It has photos of real people using products/services	-.050	-.163	.116
GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	-.780	-.573	-.616

GenSFPref_reasPrices It has reasonable prices	5.462	4.908	4.625
GenSFPref_compare Products on the website can be easily compared with each other	-.233	-.252	.007
GenSFPref_find The things I am looking for are easy to find on the site	1.627	1.956	2.032
GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	.165	-.070	.164
GenSFPref_graphics It has entertaining graphics and displays	2.013	1.931	1.717
GenSFPref_ordering The order process is easy to use	.131	.307	.375
GenSFPref_links The Internet links on the site are working properly	-1.317	-1.244	-.998
GenSFPref_enjoyable It is enjoyable to use	.262	.250	.162
GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	6.484	6.357	6.058
GenSFPref_friends My friends and family have been happy when they have shopped there	.821	.675	.815
GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	1.629	1.576	1.794
GenSFPref_instantMessaging It allows instant messaging with the company or company representative	.253	.246	.233

GenSFPref_returns It has a return policy that is easy to understand and use	-.606	-.439	-.847
GenSFPref_ads I hear about it on the radio, television, or in the newspaper	.672	.957	.839
GenSFPref_photos It has photos of products	2.952	3.170	3.025
GenSFPref_grammar It is free of grammatical and typographical errors	.086	.026	-.117
GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	-1.071	-1.001	-1.115
GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	-.056	-.162	-.189
GenSFPref_friendsOpin My friends or family let me know their opinions of the site	-.237	-.237	-.484
(Constant)	-46.563	-48.339	-48.724

Fisher's linear discriminant functions

Classification Results[a,c]

		CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Predicted Group Membership			Total
			Low Browse Range	Medium Browse Range	High Browse Range	
Original	Count	Low Browse Range	55	36	11	102
		Medium Browse Range	25	83	18	126
		High Browse Range	11	35	37	83
	%	Low Browse Range	53.9	35.3	10.8	100.0

		Medium Browse Range	19.8	65.9	14.3	100.0
		High Browse Range	13.3	42.2	44.6	100.0
	Count	Low Browse Range	46	42	14	102
		Medium Browse Range	32	71	23	126
		High Browse Range	13	39	31	83
Cross-validated[b]		Low Browse Range	45.1	41.2	13.7	100.0
	%	Medium Browse Range	25.4	56.3	18.3	100.0
		High Browse Range	15.7	47.0	37.3	100.0

a. 56.3% of original grouped cases correctly classified.

b. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

c. 47.6% of cross-validated grouped cases correctly classified.

APPENDIX J

Appendix J. Discriminant Analysis Results (Stepwise) for Cross-category Browse Range Groups and General Site Feature Importance Ratings.

Box's Test of Equality of Covariance Matrices

Log Determinants

CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Rank	Log Determinant
Low Browse Range	4	-.513
Medium Browse Range	4	-1.304
High Browse Range	4	-.885
Pooled within-groups	4	-.812

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

Test Results

Box's M		37.364
F	Approx.	1.832
	df1	20
	df2	274801.885
	Sig.	.013

Tests null hypothesis of equal population covariance matrices.

Stepwise Statistics

Variables Entered/Removed[a,b,c,d]

Step	Entered	Wilks' Lambda							
		Statistic	df1	df2	df3	Exact F			
						Statistic	df1	df2	Sig.
1	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.949	1	2	308.000	8.249	2	308.000	.000

2	GenSFPref_realPeople It has photos of real people using products/services	.922	2	2	308.000	6.404	4	614.000	.000
3	GenSFPref_reasPrices It has reasonable prices	.898	3	2	308.000	5.650	6	612.000	.000
4	GenSFPref_find The things I am looking for are easy to find on the site	.865	4	2	308.000	5.755	8	610.000	.000

At each step, the variable that minimizes the overall Wilks' Lambda is entered.

a. Maximum number of steps is 52.

b. Minimum partial F to enter is 3.84.

c. Maximum partial F to remove is 2.71.

d. F level, tolerance, or VIN insufficient for further computation.

Variables in the Analysis

Step		Tolerance	F to Remove	Wilks' Lambda
1	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	1.000	8.249	
2	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.969	7.509	.967
	GenSFPref_realPeople It has photos of real people using products/services	.969	4.606	.949
3	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.952	8.359	.947
	GenSFPref_realPeople It has photos of real people using products/services	.968	4.305	.923
	GenSFPref_reasPrices It has reasonable prices	.983	4.043	.922
4	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.952	8.244	.911

GenSFPref_realPeople It has photos of real people using products/services	.955	3.910	.887
GenSFPref_reasPrices It has reasonable prices	.839	7.130	.905
GenSFPref_find The things I am looking for are easy to find on the site	.844	5.859	.898

Wilks' Lambda

Step	Number of Variables	Lambda	df1	df2	df3	Exact F			
						Statistic	df1	df2	Sig.
1	1	.949	1	2	308	8.249	2	308.000	.000
2	2	.922	2	2	308	6.404	4	614.000	.000
3	3	.898	3	2	308	5.650	6	612.000	.000
4	4	.865	4	2	308	5.755	8	610.000	.000

Summary of Canonical Discriminant Functions

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.121[a]	79.5	79.5	.329
2	.031[a]	20.5	100.0	.174

a. First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.865	44.602	8	.000
2	.970	9.462	3	.024

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2

GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.654	.498
GenSFPref_realPeople It has photos of real people using products/services	.194	-.852
GenSFPref_reasPrices It has reasonable prices	-.688	.255
GenSFPref_find The things I am looking for are easy to find on the site	.623	.242

Structure Matrix

	Function	
	1	2
GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.633*	.393
GenSFPref_find The things I am looking for are easy to find on the site	.416*	.278
GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)[b]	.346*	.043
GenSFPref_graphics It has entertaining graphics and displays[b]	.297*	-.100
GenSFPref_selection It has a wide selection and variety of products on the site[b]	.278*	.213
GenSFPref_enjoyable It is enjoyable to use[b]	.244*	.053
GenSFPref_ordering The order process is easy to use[b]	.237*	.106

GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)[b]	.216*	.012
GenSFPref_animated It has one or more animated characters that move or speak[b]	.209*	-.108
GenSFPref_compare Products on the website can be easily compared with each other[b]	.203*	.162
GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)[b]	.197*	-.007
GenSFPref_friends My friends and family have been happy when they have shopped there[b]	.189*	.111
GenSFPref_friendsOpin My friends or family let me know their opinions of the site[b]	.160*	.060
GenSFPref_photos It has photos of products[b]	.154*	.079
GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services[b]	.151*	.136
GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)[b]	.134*	.023
GenSFPref_grammar It is free of grammatical and typographical errors[b]	.120*	.099
GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)[b]	.067*	.066

GenSFPref_realPeople It has photos of real people using products/services	.378	-.740*
GenSFPref_reasPrices It has reasonable prices	-.367	.416*
GenSFPref_returns It has a return policy that is easy to understand and use[b]	.160	.203*
GenSFPref_links The Internet links on the site are working properly[b]	.137	.171*
GenSFPref_instantMessaging It allows instant messaging with the company or company representative[b]	.104	-.138*
GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)[b]	.011	.110*
GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected[b]	-.040	.105*
GenSFPref_ads I hear about it on the radio, television, or in the newspaper[b]	.057	.057*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

b. This variable not used in the analysis.

Canonical Discriminant Function Coefficients

	Function	
	1	2
GenSFPref_unusual It is quite different from the usual sites for products of the type involved	.639	.486
GenSFPref_realPeople It has photos of real people using products/services	.160	-.703
GenSFPref_reasPrices It has reasonable prices	-.933	.346
GenSFPref_find The things I am looking for are easy to find on the site	.767	.298
(Constant)	-1.224	-2.542

Unstandardized coefficients

Functions at Group Centroids

CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Function	
	1	2
Low Browse Range	-.467	-.085
Medium Browse Range	.112	.206
High Browse Range	.404	-.208

Unstandardized canonical discriminant functions evaluated at group means

Classification Statistics

Classification Processing Summary

Processed		313
Excluded	Missing or out-of-range group codes	0
	At least one missing discriminating variable	0
Used in Output		313

Prior Probabilities for Groups

CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Prior	Cases Used in Analysis	
		Unweighted	Weighted
Low Browse Range	.328	102	102.000
Medium Browse Range	.405	126	126.000
High Browse Range	.267	83	83.000
Total	1.000	311	311.000

Classification Function Coefficients

	CROSS_CATEGORY_BROWSE_RANGE_GROUPS		
	Low Browse Range	Medium Browse Range	High Browse Range
GenSFPref_unusual It is quite different from the usual sites for products of the type involved	1.284	1.796	1.781
GenSFPref_realPeople It has photos of real people using products/services	1.088	.977	1.314
GenSFPref_reasPrices It has reasonable prices	6.768	6.328	5.913
GenSFPref_find The things I am looking for are easy to find on the site	3.717	4.248	4.348
(Constant)	-27.344	-28.496	-28.295

Fisher's linear discriminant functions

Classification Results[a,c]

		CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Predicted Group Membership			Total
			Low Browse Range	Medium Browse Range	High Browse Range	
Original	Count	Low Browse Range	54	40	8	102
		Medium Browse Range	35	78	15	128
		High Browse Range	18	44	21	83
	%	Low Browse Range	52.9	39.2	7.8	100.0
		Medium Browse Range	27.3	60.9	11.7	100.0
		High Browse Range	21.7	53.0	25.3	100.0
Cross-validated[b]	Count	Low Browse Range	48	45	9	102
		Medium Browse Range	36	75	17	128
		High Browse Range	20	46	17	83
	%	Low Browse Range	47.1	44.1	8.8	100.0
		Medium Browse Range	28.1	58.6	13.3	100.0
		High Browse Range	24.1	55.4	20.5	100.0

a. 48.9% of original grouped cases correctly classified.

b. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

c. 44.7% of cross-validated grouped cases correctly classified.

APPENDIX K

Appendix K. MANOVA Results for General Site Feature Importance Ratings and Cross-Category Browse Range Groups.

General Linear Model

Between-Subjects Factors

		Value Label	N
CROSS_CATEGORY_BROWSE_RANGE_GROUPS	1.00	Low Browse Range	102
	2.00	Medium Browse Range	126
	3.00	High Browse Range	83

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.989	994.897[b]	26.000	283.000	.000
	Wilks' Lambda	.011	994.897[b]	26.000	283.000	.000
	Hotelling's Trace	91.404	994.897[b]	26.000	283.000	.000
	Roy's Largest Root	91.404	994.897[b]	26.000	283.000	.000
CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Pillai's Trace	.274	1.734	52.000	568.000	.002
	Wilks' Lambda	.742	1.748[b]	52.000	566.000	.001
	Hotelling's Trace	.325	1.762	52.000	564.000	.001
	Roy's Largest Root	.228	2.494[c]	26.000	284.000	.000

a. Design: Intercept + CROSS_CATEGORY_BROWSE_RANGE_GROUPS

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	GenSFPref_enjoyable It is enjoyable to use	4.855[a]	2	2.428	2.111	.123
	GenSFPref_ads I hear about it on the radio, television, or in the newspaper	8.500[b]	2	4.250	3.386	.035
	GenSFPref_photos It has photos of products	3.912[c]	2	1.956	2.823	.061
	GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	11.897[d]	2	5.949	5.294	.005
	GenSFPref_animated It has one or more animated characters that move or speak	4.680[e]	2	2.340	5.406	.005
	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	15.467[f]	2	7.734	6.442	.002
	GenSFPref_links The Internet links on the site are working properly	5.081[g]	2	2.540	2.497	.084
	GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	8.407[h]	2	4.203	3.623	.028
	GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	1.483[i]	2	.741	.652	.522

	GenSFPref_find The things I am looking for are easy to find on the site	4.777[j]	2	2.389	3.617	.028
	GenSFPref_reasPrices It has reasonable prices	3.652[k]	2	1.826	3.359	.036
	GenSFPref_grammar It is free of grammatical and typographical errors	3.021[l]	2	1.511	1.018	.362
	GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	1.768[m]	2	.884	1.577	.208
	GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	1.472[n]	2	.736	.770	.464
	GenSFPref_friends My friends and family have been happy when they have shopped there	1.727[o]	2	.863	.717	.489
	GenSFPref_selection It has a wide selection and variety of products on the site	8.074[p]	2	4.037	4.265	.015
	GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	7.740[q]	2	3.870	2.898	.057
	GenSFPref_compare Products on the website can be easily compared with each other	7.274[r]	2	3.637	2.943	.054
	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	17.308[s]	2	8.654	8.249	.000
	GenSFPref_friendsOpin My friends or family let me know their opinions of the site	.112[t]	2	.056	.045	.956

Intercept	GenSFPref_returns It has a return policy that is easy to understand and use	4.734[u]	2	2.367	2.256	.107
	GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	1.214[v]	2	.607	.581	.560
	GenSFPref_instantMessaging It allows instant messaging with the company or company representative	1.658[w]	2	.829	.466	.628
	GenSFPref_realPeople It has photos of real people using products/services	15.634[x]	2	7.817	5.323	.005
	GenSFPref_ordering The order process is easy to use	4.618[y]	2	2.309	2.494	.084
	GenSFPref_graphics It has entertaining graphics and displays	5.088[z]	2	2.544	2.380	.094
	GenSFPref_enjoyable It is enjoyable to use	3807.880	1	3807.880	3311.025	.000
	GenSFPref_ads I hear about it on the radio, television, or in the newspaper	2366.830	1	2366.830	1885.941	.000
	GenSFPref_photos It has photos of products	6007.624	1	6007.624	8670.292	.000
	GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	4891.762	1	4891.762	4353.870	.000
	GenSFPref_animated It has one or more animated characters that move or speak	627.922	1	627.922	1450.919	.000
	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	2484.037	1	2484.037	2069.308	.000

GenSFPref_links The Internet links on the site are working properly	4943.108	1	4943.108	4858.313	.000
GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	1907.824	1	1907.824	1644.419	.000
GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	4707.106	1	4707.106	4138.036	.000
GenSFPref_find The things I am looking for are easy to find on the site	5698.623	1	5698.623	8628.787	.000
GenSFPref_reasPrices It has reasonable prices	6209.007	1	6209.007	11422.468	.000
GenSFPref_grammar It is free of grammatical and typographical errors	3508.284	1	3508.284	2364.689	.000
GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	6447.795	1	6447.795	11498.734	.000
GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	5487.058	1	5487.058	5742.553	.000
GenSFPref_friends My friends and family have been happy when they have shopped there	4253.341	1	4253.341	3533.834	.000
GenSFPref_selection It has a wide selection and variety of products on the site	4552.958	1	4552.958	4810.331	.000
GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	2750.832	1	2750.832	2060.161	.000

	GenSFPref_compare Products on the website can be easily compared with each other	4030.336	1	4030.336	3260.959	.000
	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	2281.658	1	2281.658	2174.828	.000
	GenSFPref_friendsOpin My friends or family let me know their opinions of the site	3321.093	1	3321.093	2696.277	.000
	GenSFPref_returns It has a return policy that is easy to understand and use	5039.852	1	5039.852	4803.181	.000
	GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	4192.713	1	4192.713	4009.204	.000
	GenSFPref_instantMessaging It allows instant messaging with the company or company representative	2401.861	1	2401.861	1351.122	.000
	GenSFPref_realPeople It has photos of real people using products/services	1735.715	1	1735.715	1181.939	.000
	GenSFPref_ordering The order process is easy to use	5311.711	1	5311.711	5736.566	.000
	GenSFPref_graphics It has entertaining graphics and displays	1528.629	1	1528.629	1429.735	.000
	GenSFPref_enjoyable It is enjoyable to use	4.855	2	2.428	2.111	.123
CROSS_CATEGORY_BROWSE_RANGE_GROUPS	GenSFPref_ads I hear about it on the radio, television, or in the newspaper	8.500	2	4.250	3.386	.035
	GenSFPref_photos It has photos of products	3.912	2	1.956	2.823	.061

GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	11.897	2	5.949	5.294	.005
GenSFPref_animated It has one or more animated characters that move or speak	4.680	2	2.340	5.406	.005
GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	15.467	2	7.734	6.442	.002
GenSFPref_links The Internet links on the site are working properly	5.081	2	2.540	2.497	.084
GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	8.407	2	4.203	3.623	.028
GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	1.483	2	.741	.652	.522
GenSFPref_find The things I am looking for are easy to find on the site	4.777	2	2.389	3.617	.028
GenSFPref_reasPrices It has reasonable prices	3.652	2	1.826	3.359	.036
GenSFPref_grammar It is free of grammatical and typographical errors	3.021	2	1.511	1.018	.362
GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	1.768	2	.884	1.577	.208

GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	1.472	2	.736	.770	.464
GenSFPref_friends My friends and family have been happy when they have shopped there	1.727	2	.863	.717	.489
GenSFPref_selection It has a wide selection and variety of products on the site	8.074	2	4.037	4.265	.015
GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	7.740	2	3.870	2.898	.057
GenSFPref_compare Products on the website can be easily compared with each other	7.274	2	3.637	2.943	.054
GenSFPref_unusual It is quite different from the usual sites for products of the type involved	17.308	2	8.654	8.249	.000
GenSFPref_friendsOpin My friends or family let me know their opinions of the site	.112	2	.056	.045	.956
GenSFPref_returns It has a return policy that is easy to understand and use	4.734	2	2.367	2.256	.107
GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	1.214	2	.607	.581	.560
GenSFPref_instantMessaging It allows instant messaging with the company or company representative	1.658	2	.829	.466	.628
GenSFPref_realPeople It has photos of real people using products/services	15.634	2	7.817	5.323	.005
GenSFPref_ordering The order process is easy to use	4.618	2	2.309	2.494	.084

		GenSFPref_graphics It has entertaining graphics and displays	5.088	2	2.544	2.380	.094
		GenSFPref_enjoyable It is enjoyable to use	354.219	308	1.150		
		GenSFPref_ads I hear about it on the radio, television, or in the newspaper	386.536	308	1.255		
		GenSFPref_photos It has photos of products	213.412	308	.693		
		GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	346.051	308	1.124		
		GenSFPref_animated It has one or more animated characters that move or speak	133.295	308	.433		
		GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	369.729	308	1.200		
Error		GenSFPref_links The Internet links on the site are working properly	313.376	308	1.017		
		GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	357.336	308	1.160		
		GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	350.357	308	1.138		
		GenSFPref_find The things I am looking for are easy to find on the site	203.409	308	.660		
		GenSFPref_reasPrices It has reasonable prices	167.422	308	.544		

	GenSFPref_grammar It is free of grammatical and typographical errors	456.953	308	1.484		
	GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	172.708	308	.561		
	GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	294.297	308	.956		
	GenSFPref_friends My friends and family have been happy when they have shopped there	370.710	308	1.204		
	GenSFPref_selection It has a wide selection and variety of products on the site	291.521	308	.946		
	GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	411.257	308	1.335		
	GenSFPref_compare Products on the website can be easily compared with each other	380.668	308	1.236		
	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	323.129	308	1.049		
	GenSFPref_friendsOpin My friends or family let me know their opinions of the site	379.374	308	1.232		
	GenSFPref_returns It has a return policy that is easy to understand and use	323.176	308	1.049		
	GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	322.098	308	1.046		

	GenSFPref_instantMessaging It allows instant messaging with the company or company representative	547.525	308	1.778			
	GenSFPref_realPeople It has photos of real people using products/services	452.308	308	1.469			
	GenSFPref_ordering The order process is easy to use	285.189	308	.926			
	GenSFPref_graphics It has entertaining graphics and displays	329.304	308	1.069			
	GenSFPref_enjoyable It is enjoyable to use	4271.000	311				
	GenSFPref_ads I hear about it on the radio, television, or in the newspaper	2840.000	311				
	GenSFPref_photos It has photos of products	6412.000	311				
	GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	5366.000	311				
Total	GenSFPref_animated It has one or more animated characters that move or speak	769.000	311				
	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	2915.000	311				
	GenSFPref_links The Internet links on the site are working properly	5399.000	311				
	GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	2317.000	311				

	GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	5177.000	311			
	GenSFPref_find The things I am looking for are easy to find on the site	6077.000	311			
	GenSFPref_reasPrices It has reasonable prices	6600.000	311			
	GenSFPref_grammar It is free of grammatical and typographical errors	4107.000	311			
	GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	6842.000	311			
	GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	5975.000	311			
	GenSFPref_friends My friends and family have been happy when they have shopped there	4744.000	311			
	GenSFPref_selection It has a wide selection and variety of products on the site	4953.000	311			
	GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	3212.000	311			
	GenSFPref_compare Products on the website can be easily compared with each other	4501.000	311			
	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	2691.000	311			

	GenSFPref_friendsOpin My friends or family let me know their opinions of the site	3804.000	311			
	GenSFPref_returns It has a return policy that is easy to understand and use	5555.000	311			
	GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	4650.000	311			
	GenSFPref_instantMessaging It allows instant messaging with the company or company representative	3011.000	311			
	GenSFPref_realPeople It has photos of real people using products/services	2205.000	311			
	GenSFPref_ordering The order process is easy to use	5749.000	311			
	GenSFPref_graphics It has entertaining graphics and displays	1892.000	311			
	GenSFPref_enjoyable It is enjoyable to use	359.074	310			
	GenSFPref_ads I hear about it on the radio, television, or in the newspaper	395.035	310			
	GenSFPref_photos It has photos of products	217.325	310			
Corrected Total	GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	357.949	310			
	GenSFPref_animated It has one or more animated characters that move or speak	137.974	310			

	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	385.196	310			
	GenSFPref_links The Internet links on the site are working properly	318.457	310			
	GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	365.743	310			
	GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	351.839	310			
	GenSFPref_find The things I am looking for are easy to find on the site	208.186	310			
	GenSFPref_reasPrices It has reasonable prices	171.074	310			
	GenSFPref_grammar It is free of grammatical and typographical errors	459.974	310			
	GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	174.476	310			
	GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	295.768	310			
	GenSFPref_friends My friends and family have been happy when they have shopped there	372.437	310			
	GenSFPref_selection It has a wide selection and variety of products on the site	299.595	310			

	GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	418.997	310			
	GenSFPref_compare Products on the website can be easily compared with each other	387.942	310			
	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	340.437	310			
	GenSFPref_friendsOpin My friends or family let me know their opinions of the site	379.486	310			
	GenSFPref_returns It has a return policy that is easy to understand and use	327.910	310			
	GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	323.312	310			
	GenSFPref_instantMessaging It allows instant messaging with the company or company representative	549.183	310			
	GenSFPref_realPeople It has photos of real people using products/services	467.942	310			
	GenSFPref_ordering The order process is easy to use	289.807	310			
	GenSFPref_graphics It has entertaining graphics and displays	334.392	310			

a. R Squared = .014 (Adjusted R Squared = .007)

b. R Squared = .022 (Adjusted R Squared = .015)

c. R Squared = .018 (Adjusted R Squared = .012)

d. R Squared = .033 (Adjusted R Squared = .027)

e. R Squared = .034 (Adjusted R Squared = .028)

f. R Squared = .040 (Adjusted R Squared = .034)

g. R Squared = .016 (Adjusted R Squared = .010)

h. R Squared = .023 (Adjusted R Squared = .017)

i. R Squared = .004 (Adjusted R Squared = -.002)

j. R Squared = .023 (Adjusted R Squared = .017)

k. R Squared = .021 (Adjusted R Squared = .015)

l. R Squared = .007 (Adjusted R Squared = .000)

m. R Squared = .010 (Adjusted R Squared = .004)

n. R Squared = .005 (Adjusted R Squared = -.001)

o. R Squared = .005 (Adjusted R Squared = -.002)

p. R Squared = .027 (Adjusted R Squared = .021)

q. R Squared = .018 (Adjusted R Squared = .012)

r. R Squared = .019 (Adjusted R Squared = .012)

s. R Squared = .051 (Adjusted R Squared = .045)

t. R Squared = .000 (Adjusted R Squared = -.006)

u. R Squared = .014 (Adjusted R Squared = .008)

v. R Squared = .004 (Adjusted R Squared = -.003)

w. R Squared = .003 (Adjusted R Squared = -.003)

x. R Squared = .033 (Adjusted R Squared = .027)

y. R Squared = .016 (Adjusted R Squared = .010)

z. R Squared = .015 (Adjusted R Squared = .009)

APPENDIX L

Appendix L. ANOVA and Post Hoc Results for General Site Feature Importance Ratings and Cross-category Browse Range Groups.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GenSFPref_enjoyable It is enjoyable to use	Between Groups	5.078	2	2.539	2.209	.112
	Within Groups	356.302	310	1.149		
	Total	361.380	312			
GenSFPref_ads I hear about it on the radio, television, or in the newspaper	Between Groups	8.838	2	4.419	3.497	.031
	Within Groups	391.661	310	1.263		
	Total	400.498	312			
GenSFPref_photos It has photos of products	Between Groups	4.096	2	2.048	2.970	.053
	Within Groups	213.801	310	.690		
	Total	217.898	312			
GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	Between Groups	11.795	2	5.897	5.266	.006
	Within Groups	347.176	310	1.120		
	Total	358.971	312			
GenSFPref_animated It has one or more animated characters that move or speak	Between Groups	4.727	2	2.363	5.473	.005
	Within Groups	133.427	309	.432		
	Total	138.154	311			
GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	Between Groups	15.566	2	7.783	6.504	.002
	Within Groups	370.964	310	1.197		
	Total	386.530	312			
GenSFPref_links The Internet links on the site are working properly	Between Groups	5.198	2	2.599	2.556	.079
	Within Groups	314.174	309	1.017		
	Total	319.372	311			

GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	Between Groups	8.742	2	4.371	3.749	.025
	Within Groups	361.444	310	1.166		
	Total	370.185	312			
GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	Between Groups	1.691	2	.845	.729	.483
	Within Groups	359.619	310	1.160		
	Total	361.310	312			
GenSFPref_find The things I am looking for are easy to find on the site	Between Groups	4.651	2	2.325	3.503	.031
	Within Groups	205.771	310	.664		
	Total	210.422	312			
GenSFPref_reasPrices It has reasonable prices	Between Groups	3.644	2	1.822	3.363	.036
	Within Groups	167.935	310	.542		
	Total	171.578	312			
GenSFPref_grammar It is free of grammatical and typographical errors	Between Groups	3.710	2	1.855	1.247	.289
	Within Groups	461.197	310	1.488		
	Total	464.907	312			
GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	Between Groups	1.821	2	.911	1.632	.197
	Within Groups	172.927	310	.558		
	Total	174.748	312			
GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	Between Groups	1.529	2	.765	.804	.449
	Within Groups	294.841	310	.951		
	Total	296.371	312			
GenSFPref_friends My friends and family have been happy when they have shopped there	Between Groups	1.755	2	.877	.733	.481
	Within Groups	370.808	310	1.196		
	Total	372.562	312			
GenSFPref_selection It has a wide selection and variety of products on the site	Between Groups	8.094	2	4.047	4.285	.015
	Within Groups	292.795	310	.944		
	Total	300.888	312			
GenSFPref_intGraphics It has interesting, attractive graphics	Between Groups	7.417	2	3.709	2.760	.065

(e.g., not too complicated, not too simple)	Within Groups	416.570	310	1.344		
	Total	423.987	312			
GenSFPref_compare Products on the website can be easily compared with each other	Between Groups	7.251	2	3.625	2.950	.054
	Within Groups	380.954	310	1.229		
	Total	388.204	312			
GenSFPref_unusual It is quite different from the usual sites for products of the type involved	Between Groups	17.731	2	8.865	8.474	.000
	Within Groups	324.327	310	1.046		
	Total	342.058	312			
GenSFPref_friendsOpin My friends or family let me know their opinions of the site	Between Groups	.128	2	.064	.052	.949
	Within Groups	379.923	310	1.226		
	Total	380.051	312			
GenSFPref_returns It has a return policy that is easy to understand and use	Between Groups	4.634	2	2.317	2.208	.112
	Within Groups	325.296	310	1.049		
	Total	329.930	312			
GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	Between Groups	1.275	2	.638	.614	.542
	Within Groups	322.182	310	1.039		
	Total	323.457	312			
GenSFPref_instantMessaging It allows instant messaging with the company or company representative	Between Groups	1.703	2	.851	.480	.619
	Within Groups	550.278	310	1.775		
	Total	551.981	312			
GenSFPref_realPeople It has photos of real people using products/services	Between Groups	16.066	2	8.033	5.487	.005
	Within Groups	453.857	310	1.464		
	Total	469.923	312			
GenSFPref_ordering The order process is easy to use	Between Groups	4.682	2	2.341	2.539	.081
	Within Groups	285.816	310	.922		
	Total	290.498	312			
GenSFPref_graphics It has entertaining graphics and displays	Between Groups	5.147	2	2.573	2.378	.094
	Within Groups	335.416	310	1.082		
	Total	340.562	312			

Post Hoc Tests

Multiple Comparisons

LSD

Dependent Variable	(I) CROSS_CATEGORY_BROWSE_RANGE_GROUPS	(J) CROSS_CATEGORY_BROWSE_RANGE_GROUPS	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
GenSFPref_enjoyable It is enjoyable to use	Low Browse Range	Medium Browse Range	-.24464	.14229	.087	-.5246	.0353
		High Browse Range	-.30215	.15848	.058	-.6140	.0097
	Medium Browse Range	Low Browse Range	.24464	.14229	.087	-.0353	.5246
		High Browse Range	-.05751	.15109	.704	-.3548	.2398
	High Browse Range	Low Browse Range	.30215	.15848	.058	-.0097	.6140
		Medium Browse Range	.05751	.15109	.704	-.2398	.3548
GenSFPref_ads I hear about it on the radio, television, or in the newspaper	Low Browse Range	Medium Browse Range	-.37669*	.14919	.012	-.6702	-.0831
		High Browse Range	-.32294	.16616	.053	-.6499	.0040
	Medium Browse Range	Low Browse Range	.37669*	.14919	.012	.0831	.6702
		High Browse Range	.05375	.15841	.735	-.2579	.3654
	High Browse Range	Low Browse Range	.32294	.16616	.053	-.0040	.6499
		Medium Browse Range	-.05375	.15841	.735	-.3654	.2579
GenSFPref_photos It has photos of products	Low Browse Range	Medium Browse Range	-.25858*	.11023	.020	-.4755	-.0417
		High Browse Range	-.21415	.12276	.082	-.4557	.0274
	Medium Browse Range	Low Browse Range	.25858*	.11023	.020	.0417	.4755

		High Browse Range	.04443	.11704	.704	-.1859	.2747
	High Browse Range	Low Browse Range	.21415	.12276	.082	-.0274	.4557
		Medium Browse Range	-.04443	.11704	.704	-.2747	.1859
		Medium Browse Range	-.29979*	.14046	.034	-.5762	-.0234
GenSFPref_feedback Provides customer feedback (i.e., the site provides a place for you to learn about other customers' evaluations of the product)	Low Browse Range	High Browse Range	-.49811*	.15644	.002	-.8059	-.1903
	Medium Browse Range	Low Browse Range	.29979*	.14046	.034	.0234	.5762
		High Browse Range	-.19832	.14914	.185	-.4918	.0951
	High Browse Range	Low Browse Range	.49811*	.15644	.002	.1903	.8059
		Medium Browse Range	.19832	.14914	.185	-.0951	.4918
		Medium Browse Range	-.02887	.08737	.741	-.2008	.1430
	Low Browse Range	High Browse Range	-.29317*	.09714	.003	-.4843	-.1020
GenSFPref_animated It has one or more animated characters that move or speak		Low Browse Range	.02887	.08737	.741	-.1430	.2008
	Medium Browse Range	High Browse Range	-.26430*	.09275	.005	-.4468	-.0818
		Low Browse Range	.29317*	.09714	.003	.1020	.4843
	High Browse Range	Medium Browse Range	.26430*	.09275	.005	.0818	.4468
		Medium Browse Range	-.32981*	.14519	.024	-.6155	-.0441
GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	Low Browse Range	High Browse Range	-.57595*	.16171	.000	-.8941	-.2578
	Medium Browse Range	Low Browse Range	.32981*	.14519	.024	.0441	.6155
		High Browse Range	-.24614	.15416	.111	-.5495	.0572
	High Browse Range	Low Browse Range	.57595*	.16171	.000	.2578	.8941

		Medium Browse Range	.24614	.15416	.111	-.0572	.5495
	Low Browse Range	Medium Browse Range	-.24749	.13407	.066	-.5113	.0163
		High Browse Range	-.30593*	.14906	.041	-.5992	-.0126
GenSFPref_links The Internet links on the site are working properly	Medium Browse Range	Low Browse Range	.24749	.13407	.066	-.0163	.5113
		High Browse Range	-.05844	.14232	.682	-.3385	.2216
	High Browse Range	Low Browse Range	.30593*	.14906	.041	.0126	.5992
		Medium Browse Range	.05844	.14232	.682	-.2216	.3385
	Low Browse Range	Medium Browse Range	-.29381*	.14332	.041	-.5758	-.0118
		High Browse Range	-.41448*	.15962	.010	-.7286	-.1004
GenSFPref_color It has interesting, attractive color (e.g., in fonts, background, and borders)	Medium Browse Range	Low Browse Range	.29381*	.14332	.041	.0118	.5758
		High Browse Range	-.12067	.15217	.428	-.4201	.1788
	High Browse Range	Low Browse Range	.41448*	.15962	.010	.1004	.7286
		Medium Browse Range	.12067	.15217	.428	-.1788	.4201
	Low Browse Range	Medium Browse Range	-.01808	.14296	.899	-.2994	.2632
		High Browse Range	-.17564	.15922	.271	-.4889	.1376
GenSFPref_priceIncent It provides price incentives (e.g., coupons, future sale items, frequent shopper programs, etc.)	Medium Browse Range	Low Browse Range	.01808	.14296	.899	-.2632	.2994
		High Browse Range	-.15757	.15179	.300	-.4562	.1411
	High Browse Range	Low Browse Range	.17564	.15922	.271	-.1376	.4889
		Medium Browse Range	.15757	.15179	.300	-.1411	.4562
GenSFPref_findThe things I am	Low Browse Range	Medium Browse Range	-.25521*	.10814	.019	-.4680	-.0424

looking for are easy to find on the site		High Browse Range	-.26707*	.12044	.027	-.5040	-.0301
		Low Browse Range	.25521*	.10814	.019	.0424	.4680
	Medium Browse Range	High Browse Range	-.01186	.11482	.918	-.2378	.2141
		Low Browse Range	.26707*	.12044	.027	.0301	.5040
	High Browse Range	Medium Browse Range	.01186	.11482	.918	-.2141	.2378
		Medium Browse Range	.06893	.09769	.481	-.1233	.2612
	Low Browse Range	High Browse Range	.27356*	.10880	.012	.0595	.4876
GenSFPref_reasPrices It has reasonable prices		Low Browse Range	-.06893	.09769	.481	-.2612	.1233
	Medium Browse Range	High Browse Range	.20463*	.10373	.049	.0005	.4087
		Low Browse Range	-.27356*	.10880	.012	-.4876	-.0595
	High Browse Range	Medium Browse Range	-.20463*	.10373	.049	-.4087	-.0005
		Medium Browse Range	-.15273	.16189	.346	-.4713	.1658
	Low Browse Range	High Browse Range	.11280	.18031	.532	-.2420	.4676
GenSFPref_grammar It is free of grammatical and typographical errors		Low Browse Range	.15273	.16189	.346	-.1658	.4713
	Medium Browse Range	High Browse Range	.26553	.17189	.123	-.0727	.6038
		Low Browse Range	-.11280	.18031	.532	-.4676	.2420
	High Browse Range	Medium Browse Range	-.26553	.17189	.123	-.6038	.0727
GenSFPref_creditSecure There is a guarantee that my credit card information would be safely		Medium Browse Range	.01440	.09913	.885	-.1807	.2095
	Low Browse Range	High Browse Range	.18025	.11041	.104	-.0370	.3975
	Medium Browse Range	Low Browse Range	-.01440	.09913	.885	-.2095	.1807

and securely protected		High Browse Range	.16585	.10526	.116	-.0413	.3730
	High Browse Range	Low Browse Range	-.18025	.11041	.104	-.3975	.0370
		Medium Browse Range	-.16585	.10526	.116	-.3730	.0413
	Low Browse Range	Medium Browse Range	-.09666	.12944	.456	-.3514	.1580
GenSFPref_sec Seals It has seals of companies stating that my information on the site is secure (e.g., Verisign)		High Browse Range	.07418	.14417	.607	-.2095	.3578
	Medium Browse Range	Low Browse Range	.09666	.12944	.456	-.1580	.3514
		High Browse Range	.17084	.13744	.215	-.0996	.4413
	High Browse Range	Low Browse Range	-.07418	.14417	.607	-.3578	.2095
		Medium Browse Range	-.17084	.13744	.215	-.4413	.0996
GenSFPref_friends My friends and family have been happy when they have shopped there	Low Browse Range	Medium Browse Range	-.13419	.14516	.356	-.4198	.1514
		High Browse Range	-.18427	.16167	.255	-.5024	.1339
	Medium Browse Range	Low Browse Range	.13419	.14516	.356	-.1514	.4198
		High Browse Range	-.05008	.15413	.745	-.3534	.2532
	High Browse Range	Low Browse Range	.18427	.16167	.255	-.1339	.5024
		Medium Browse Range	.05008	.15413	.745	-.2532	.3534
GenSFPref_selection It has a wide selection and variety of products on the site	Low Browse Range	Medium Browse Range	-.20634	.12899	.111	-.4602	.0475
		High Browse Range	-.41991*	.14366	.004	-.7026	-.1372
	Medium Browse Range	Low Browse Range	.20634	.12899	.111	-.0475	.4602
		High Browse Range	-.21357	.13696	.120	-.4831	.0559
	High Browse Range	Low Browse Range	.41991*	.14366	.004	.1372	.7026

		Medium Browse Range	.21357	.13696	.120	-.0559	.4831
		Medium Browse Range	-.09819	.15386	.524	-.4009	.2045
GenSFPref_intGraphics It has interesting, attractive graphics (e.g., not too complicated, not too simple)	Low Browse Range	High Browse Range	-.39027*	.17136	.023	-.7274	-.0531
	Medium Browse Range	Low Browse Range	.09819	.15386	.524	-.2045	.4009
		High Browse Range	-.29207	.16337	.075	-.6135	.0294
	High Browse Range	Low Browse Range	.39027*	.17136	.023	.0531	.7274
		Medium Browse Range	.29207	.16337	.075	-.0294	.6135
	Low Browse Range	Medium Browse Range	-.15441	.14713	.295	-.4439	.1351
		High Browse Range	-.39688*	.16387	.016	-.7193	-.0744
GenSFPref_compare Products on the website can be easily compared with each other	Medium Browse Range	Low Browse Range	.15441	.14713	.295	-.1351	.4439
		High Browse Range	-.24247	.15623	.122	-.5499	.0649
	High Browse Range	Low Browse Range	.39688*	.16387	.016	.0744	.7193
		Medium Browse Range	.24247	.15623	.122	-.0649	.5499
GenSFPref_unusual It is quite different from the usual sites for products of the type involved	Low Browse Range	Medium Browse Range	-.50230*	.13576	.000	-.7694	-.2352
		High Browse Range	-.51595*	.15120	.001	-.8135	-.2184
	Medium Browse Range	Low Browse Range	.50230*	.13576	.000	.2352	.7694
		High Browse Range	-.01365	.14415	.925	-.2973	.2700
	High Browse Range	Low Browse Range	.51595*	.15120	.001	.2184	.8135
		Medium Browse Range	.01365	.14415	.925	-.2700	.2973
GenSFPref_friendsOpin My	Low Browse Range	Medium Browse Range	-.03983	.14694	.787	-.3289	.2493

friends or family let me know their opinions of the site	Medium Browse Range	High Browse Range	.00272	.16365	.987	-.3193	.3247
		Low Browse Range	.03983	.14694	.787	-.2493	.3289
		High Browse Range	.04255	.15601	.785	-.2644	.3495
	High Browse Range	Low Browse Range	-.00272	.16365	.987	-.3247	.3193
		Medium Browse Range	-.04255	.15601	.785	-.3495	.2644
	Low Browse Range	Medium Browse Range	-.27160*	.13596	.047	-.5391	-.0041
		High Browse Range	-.06556	.15143	.665	-.3635	.2324
GenSFPref_returns It has a return policy that is easy to understand and use	Medium Browse Range	Low Browse Range	.27160*	.13596	.047	.0041	.5391
		High Browse Range	.20604	.14436	.155	-.0780	.4901
	High Browse Range	Low Browse Range	.06556	.15143	.665	-.2324	.3635
		Medium Browse Range	-.20604	.14436	.155	-.4901	.0780
	Low Browse Range	Medium Browse Range	-.14982	.13531	.269	-.4161	.1164
		High Browse Range	-.08788	.15070	.560	-.3844	.2086
GenSFPref_benefitsDraws The site presents both benefits and drawbacks of the products/services	Medium Browse Range	Low Browse Range	.14982	.13531	.269	-.1164	.4161
		High Browse Range	.06194	.14367	.667	-.2208	.3446
	High Browse Range	Low Browse Range	.08788	.15070	.560	-.2086	.3844
		Medium Browse Range	-.06194	.14367	.667	-.3446	.2208
GenSFPref_instantMessaging It allows instant messaging with the company or company	Low Browse Range	Medium Browse Range	-.11045	.17684	.533	-.4584	.2375
		High Browse Range	-.19017	.19695	.335	-.5777	.1974
	Medium Browse Range	Low Browse Range	.11045	.17684	.533	-.2375	.4584

representative		High Browse Range	-.07973	.18776	.671	-.4492	.2897
		Low Browse Range	.19017	.19695	.335	-.1974	.5777
	High Browse Range	Medium Browse Range	.07973	.18776	.671	-.2897	.4492
		Medium Browse Range	.00674	.16060	.967	-.3093	.3227
	Low Browse Range	High Browse Range	-.50945*	.17887	.005	-.8614	-.1575
GenSFPref_real People It has photos of real people using products/services		Low Browse Range	-.00674	.16060	.967	-.3227	.3093
	Medium Browse Range	High Browse Range	-.51619*	.17052	.003	-.8517	-.1807
		Low Browse Range	.50945*	.17887	.005	.1575	.8614
	High Browse Range	Medium Browse Range	.51619*	.17052	.003	.1807	.8517
		Medium Browse Range	-.23039	.12744	.072	-.4812	.0204
	Low Browse Range	High Browse Range	-.29365*	.14194	.039	-.5729	-.0144
GenSFPref_ordering The order process is easy to use		Low Browse Range	.23039	.12744	.072	-.0204	.4812
	Medium Browse Range	High Browse Range	-.06325	.13532	.641	-.3295	.2030
		Low Browse Range	.29365*	.14194	.039	.0144	.5729
	High Browse Range	Medium Browse Range	.06325	.13532	.641	-.2030	.3295
		Medium Browse Range	-.17739	.13806	.200	-.4490	.0943
GenSFPref_graphics It has entertaining graphics and displays	Low Browse Range	High Browse Range	-.33345*	.15377	.031	-.6360	-.0309
		Low Browse Range	.17739	.13806	.200	-.0943	.4490
	Medium Browse Range	High Browse Range	-.15606	.14659	.288	-.4445	.1324

High Browse Range	Low Browse Range	.33345*	.15377	.031	.0309	.6360
	Medium Browse Range	.15606	.14659	.288	-.1324	.4445

*. The mean difference is significant at the 0.05 level.

APPENDIX M

Appendix M. Paired-sample T-tests Results for Selected Site Feature Importance Ratings for the High Cross-category Browse Range Group.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	3.1446	83	1.04919	.11516
	GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	4.5060	83	.75504	.08288
Pair 2	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	3.1446	83	1.04919	.11516
	GenSFPref_reasPrices It has reasonable prices	4.3735	83	.89321	.09804
Pair 3	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services)	3.1446	83	1.04919	.11516
	GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	4.1807	83	.97711	.10725

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services) & GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	83	-.170	.123
Pair 2	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services) & GenSFPref_reasPrices It has reasonable prices	83	-.045	.684
Pair 3	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services) & GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	83	.057	.606

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services) - GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	-1.36145	1.39317	.15292	-1.66565	-1.05724	-8.903	82	.000
Pair 2	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services) - GenSFPref_reasPrices It has reasonable prices	-1.22892	1.40838	.15459	-1.53644	-.92139	-7.950	82	.000
Pair 3	GenSFPref_interactive It has interactive web design (e.g., design/customize your products/services) - GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	-1.03614	1.39201	.15279	-1.34010	-.73219	-6.781	82	.000

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	2.9277	83	.94718	.10397
	GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	4.5060	83	.75504	.08288

Pair 2	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	2.9277	83	.94718	.10397
	GenSFPref_reasPrices It has reasonable prices	4.3735	83	.89321	.09804
Pair 3	GenSFPref_unusual It is quite different from the usual sites for products of the type involved	2.9277	83	.94718	.10397
	GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	4.1807	83	.97711	.10725

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	GenSFPref_unusual It is quite different from the usual sites for products of the type involved & GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	83	.018	.874
Pair 2	GenSFPref_unusual It is quite different from the usual sites for products of the type involved & GenSFPref_reasPrices It has reasonable prices	83	.234	.033
Pair 3	GenSFPref_unusual It is quite different from the usual sites for products of the type involved & GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	83	.120	.281

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	GenSFPref_unusual It is quite different from the usual sites for products of the type involved - GenSFPref_creditSecure There is a guarantee that my credit card information would be safely and securely protected	-1.57831	1.20082	.13181	-1.84052	-1.31611	-11.974	82	.000

Pair 2	GenSFPref_unusual It is quite different from the usual sites for products of the type involved - GenSFPref_reasPrices It has reasonable prices	-1.44578	1.13967	.12510	-1.69464	-1.19693	-11.557	82	.000
Pair 3	GenSFPref_unusual It is quite different from the usual sites for products of the type involved - GenSFPref_secSeals It has seals of companies stating that my information on the site is secure (e.g., Verisign)	-1.25301	1.27684	.14015	-1.53182	-.97421	-8.940	82	.000