INFLUENCE OF CONSUMERS' ONLINE DECISION-MAKING STYLE ON COMPARISON SHOPPING PRONENESS AND PERCEIVED USEFULNESS OF COMPARISON SHOPPING TOOLS

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ABSTRACT

Applications to support online comparison shopping are expected to become increasingly available to consumers. However, not all consumers equally engage in online comparison shopping and, thus, would not necessarily benefit from such tools. The study proposes that the perceived usefulness of comparison shopping tools depends on consumers' comparison shopping proneness, which in turn is influenced by consumers' online decision-making styles. An online survey using a consumer research panel was conducted to test the hypotheses in the context of travel comparison shopping tools. The results suggest that some consumer decision-making style dimensions influence comparison shopping proneness while others have no influence. Perceived usefulness of comparison shopping tools is influenced by comparison shopping proneness as well as directly by some of the online decision-making style dimensions. Implications for online marketing and directions for future research are provided.

Keywords: Online decision-making style, comparison shopping proneness; online shopping; comparison shopping tools

1. Introduction

The Internet promises to increase the efficiency of online shopping by improving the availability of product information and reducing buyer search costs [Alba et al., 1997; Bakos, 1997; Johnson et al., 2004]. Searching for product information and buying goods online have indeed become popular activities [Farag et al., 2007]. However, with the availability of more Web sites featuring more product options, comparing choice alternatives and selecting the most preferred option can become a daunting task for consumers [Wan, Menon & Ramaprasad, 2007]. Emerging technologies such as comparison shopping tools, which display product alternatives side-by-side, or comparison shopping agents, which gather information about choice alternatives for the consumer, have been identified as important applications which will increasingly support consumers in their e-shopping, specifically their comparison shopping [Moukas et al. 2000]. Marmorstein, Grewal and Fishe [1992] found that the perceived value of time spent shopping and enjoyment of shopping play a big role in explaining why consumers engage in comparison-shopping. In addition, consumers differ considerably in their motivations to shop [Tauber, 1972], in terms of their perceived or actual search costs and their loyalty to brands or stores [Chen, Narasimhan & Zhang, 2001], their familiarity with comparison shopping tools [Kocas, 2002], as well as in terms of how they make decisions when they shop [Sproles & Kendall, 1986]. Thus, it can be assumed that consumers will differ in their propensity to engage in comparison shopping and that not all consumers will readily adopt comparison shopping tools.

Comparison shopping is usually associated with finding the desired product for the best price. Time spent comparison shopping might serve as an important factor influencing a consumer's perception of decision quality [Kruger et al., 2004]. Whether great emphasis is placed on decision quality or not and whether decisions are mostly driven by price considerations depends on a consumer's decision-making style. As one of the factors that influence

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consumer purchasing behavior, decision-making styles have received significant attention from consumer behavior researchers. Decision-making style research suggests that consumers approach shopping with certain decision-making traits that combine to form a consumer's decision-making style [Walsh, Mitchell & Hennig-Thurau, 2001]. Whereas many studies have tested decision-making styles for traditional offline shopping [Hafstrom, Chae & Chung, 1992; Durvasula, Lysonski & Andrew, 1993; Bakewell & Mitchell, 2003; Mitchell & Walsh, 2004; Tai, 2005], decision-making styles have not been widely researched in the online context [Yang & Wu, 2006; Cowart & Goldsmith, 2007; Park, 2007]. In particular, whether consumers' online decision-making styles influence their online comparison shopping proneness has not been investigated. It is the goal of this study to examine whether online consumer decision-making styles influence a consumer's likelihood to engage in comparison shopping and if such comparison shopping proneness in turn influences the perceptions of comparison shopping tools.

2. Perceptions of Comparison Shopping Tools

While sophisticated comparison shopping agents are currently being developed but are not yet widely available [Fasli, 2006; Fischer, Zinnikus & Leon-Soto, 2010; Yuan & Liu, 2000], comparison shopping tools which provide side-by-side product comparison opportunities have been implemented on many e-Commerce Web sites. An example is the cruise comparison tool offered by Princess Cruises. Another member of the comparison shopping tool family are comparison shopping Web sites that compile information from a variety of different online merchants, thus providing the consumer with a "one-stop" comparison shopping opportunity. A popular example is mySimon.com, which provides comparison shopping for a wide array of products. Tan [2003] describes these comparison shopping Web sites as acting "as intelligent agents to automatically interrogate a large number of merchants' databases" (p. 1). They are especially prominent in the context of travel, where they are usually referred to as meta-search engines [Granados, Kauffman, & King, 2008]. Examples of such travel comparison shopping engines are Sidestep, Cheapflights, Kayak and Mobissimo. Based on alliances with airlines, hotel chains, rental car agencies as well as online travel agencies, these meta-search engines are able to search a great number of databases and provide consumers with a consolidated list of results that can be further sorted based on selected criteria.

While there is evidence that such comparison shopping tools can greatly influence online shopping behavior [Häubl & Trifts, 2000; Kamis, 2006], little is known about which consumers are more likely to use and benefit from comparison shopping tools. Park and Gretzel [2006] found that perceived usefulness, perceived ease of use, and trust are key determinants of travel meta-search engine adoption. Since perceived usefulness has been found to be consistently the strongest direct predictor of intentions to adopt a technology [Lee, Kozar & Larson, 2003], this study selected perceived usefulness of comparison shopping Web sites as its central focus. Individual differences, including demographics, personality traits and cognitive styles, have been found to influence perceptions of usefulness of new technologies [Agarwal & Prasad, 1999]. Surprisingly, consumer shopping tendencies have not been included in research on the adoption of e-Commerce technologies. It is argued that whether one sees a comparison shopping tool as useful depends largely on how one shops. Thus, this study introduces comparison shopping proneness as an important online shopping tendency that will likely influence the perceived usefulness of comparison shopping tools.

2.1. Influence of Online Comparison Shopping Proneness

Comparison shopping is generally conceptualized as a type of information search strategy [Anglin, Stuenkel & Lepisto, 1994]. The Business Dictionary [Allbusiness.com, 2010] defines comparison-shopping as a "process whereby a consumer gathers as much information as possible about particular products and services for comparison before purchasing them." The low cost of online search provides consumers with great opportunities for comparison shopping; however, not all consumers seem to take advantage of this ability to engage in extensive product comparisons online [Klassen, Gupta & Bunker, 2009]. Research has found that consumers differ in their motivations to shop and the value they derive from comparison-shopping due to varying perceptions of the value of time spent shopping [Marmorstein et al., 1992; Torkzadeh & Dhillon, 2002; Johnson et al., 2004]. Additionally, Rohm and Swaminathan [2004] suggest that online shoppers differ in their likelihood to seek out alternatives across retail venues, product types and brands based on their need for variety. Klassen et al. [2009] found that online comparison shoppers have a more positive attitude towards the Internet and find comparison shopping online convenient and easy. Similarly, Iyer and Eastman [2006] report a positive influence of favorable Internet attitudes and of Internet use skills and confidence on online comparison shopping in elderly Internet users.

Comparison shopping tools help consumers in their comparison shopping efforts. Therefore, one can expect that their use and perceived usefulness directly depends on the comparison shopping proneness of online shoppers, i.e. their tendency to engage in extensive product searches across several Web sites. Although comparison shopping is often looked at specifically with respect to price comparison, we adopt a broader notion of comparison shopping as an information search strategy to include comparisons of other product features in accordance with Anglin et al.'s

[1994] definition. Adapting it to the context of online shopping, comparison shopping was defined as feeling the need to compare product offerings across different Web sites. Importantly, shopping tendencies have been found to be product category-dependent and, thus, should be studied within a specific product context [Bauer, Sauer & Becker, 2006]. Consequently, for the purpose of this study, comparison shopping proneness was conceptualized as a rather stable shopping tendency within a specific product category, in our case travel products such as airline tickets, hotel bookings and rental car reservations. It is assumed that highly comparison-shopping prone individuals will likely seek out and appreciate tools which can assist them in making such comparisons. Whether one is comparison-shopping prone is assumed to be dependent on how one tends to make decisions in the context of online shopping.

2.2. Online Decision-Making Style

Decision-making styles are mainly viewed as a mental, cognitive orientation towards shopping and purchasing [Sproles & Kendall, 1986] or a learned habitual pattern [Scott & Bruce, 1995], which dominates the consumer's choice and constitutes a relatively-enduring consumer personality. They basically describe how individuals shop. Sproles and Kendall [1986] combined related traits described in the literature to develop a consumer decision-making styles list, the so-called consumer styles inventory (CSI), consisting of the following eight dimensions: 1) perfectionism; 2) brand consciousness; 3) novelty/fashion consciousness; 4) price/value consciousness; 5) recreational shopping; 6) impulsive/careless shopping, 7) confusion by over-choice; and, 8) habitual/brand loyal shopping. Although there are some issues regarding the validity of the CSI (mostly with respect to its applicability in different cultures, see Bauer et al., 2006], it is the most tested instrument representing the first systematic attempt to create a robust methodology for measuring shopping orientations and behavior [Hafstrom et al., 1992; Lysonski, Durvasula & Zotos, 1996; Mitchell & Bates, 1998; Wickliffe, 2004]. It has also been tested in the context of online shopping [Yang & Wu, 2006; Cowart & Goldsmith, 2007]. The applicability of the CSI dimensions to travel-related shopping has been established by Park [2007]. Only one study currently exists that has linked decision-making styles with comparison shopping, but it only included one decision-making style dimension, namely price consciousness, and involved offline comparison shopping [Anić, Marković & Vouk, 2008].

This study suggests that linkages between all decision-making style dimensions and comparison shopping proneness should be tested. Consumers high in perfectionism can be expected to shop more carefully and more systemically. Often, they are not satisfied with good enough products and, thus, need to engage in rather elaborate search. High perfectionism has also been linked to high planned expenditure levels in mall shopping contexts, stressing the emphasis on product quality rather than price [Wesley, LeHew, & Woodside, 2006]. It is assumed that consumers high in perfectionism will likely engage in extensive comparison shopping to find products that satisfy their need. In an online context, when more information about product attributes is available, brand names generally become less valuable for shoppers and brands can have less impact online than offline [Degeratu, Rangaswamy, & Wu, 2000]. However, brand conscious consumers tend to buy expensive, well-known, widely advertised brands and can be assumed to do so also when shopping online. The importance of brand consciousness in the context of online shopping has been established in a number of studies [Klassen et al., 2009; Cowart & Goldsmith, 2007; Chan, Kadiyali, & Park, 2007]. If the focus is on well-known brands, comparisons across various products based on product attributes become less meaningful. Also, brand consciousness has been linked to lower price sensitivity [Warrington & Shim, 2000; Ailawadi, Neslin & Gedenk, 2001]. Thus, brand conscious consumers are assumed to be less comparison shopping prone. Novelty/fashion conscious consumers want to be in style by purchasing the latest fashion. Research on online auctions has found that, as an individual shopping characteristic, the need to find novel products influences perceived shopping value and behaviors related to online shopping [Vishwanath & Barnett, 2005; Peters & Bodkin, 2007; Lee, Kim & Fairhurst, 2009]. Cowart and Goldsmith [2007] found a positive influence of novelty/fashion consciousness on online apparel shopping. Comparison shopping tools allow novelty/fashion seekers to acquire rare and unusual items in a quick and efficient manner resulting from easy access, handy searching, and instantaneous information updates [Zhang, 2006]. It is expected that this decision-making style has a positive influence on comparison-shopping proneness as greater amounts of information are needed to find unusual items and judge their novelty. Price/value conscious consumers look for the best value for their money and, thus, need to engage in comparison shopping to fulfill their need. Erdem, Mayhew, & Sun [2001] found in their study that price-sensitive consumers are especially prone to react to displays that highlight sales offers. Consequently, one can assume that price/value conscious consumers are not only more prone to engage in comparison shopping to make sure they find a good price/value, they are also more likely to find comparison shopping tools useful due to their ability to highlight product features and prices. Recreational shoppers perceive shopping as a pleasant activity and shop just for the fun of it. Recreational shoppers derive hedonic value and entertainment benefits from shopping [Babin, Darden, & Griffen, 1994]. It has been identified as an important shopping motivation and an influential factor in shopping channel patronage that can create high levels of pleasure, which can ultimately lead to addiction to online shopping [Peters & Bodkin, 2007]. Comparison shopping provides

thrill, excitement, and stimulation to shoppers. Thus, it can be assumed that recreational shoppers engage in extensive comparison shopping as it will increase their time spent shopping and the pleasure derived from it. On the other hand, impulsive/careless shoppers tend to buy in the spur of the moment and appear unconcerned about getting best buys. Comparison shopping involves extensive searches with or without the help of comparison shopping tools. In contrast, impulsive buying refers to unplanned, hasty purchasing behavior [Bellenger & Korgaonkar, 1980; To, Liao, & Lin, 2007]. It is thus expected that impulse shopping is negatively related with comparison shopping proneness. Further, specific shopping activities such as comparison shopping can be seen as a series of choices [Wesley et al., 2006]. Confused by over-choice shoppers likely experience information overload when shopping due to the choices they have to make regarding their information search process [Sproles & Kendall, 1986] and are, consequently, not expected to engage in extensive comparison shopping, as comparison shopping by definition expands the number of choice alternatives. Habitual/brand loyal consumers have favorite brands and stores or Web sites from which they buy. Habits are potent influencers of consumer behavior [Wood & Neal, 2009]. Habitual consumers normally do not switch and rely on specific products and familiar shopping channels. Their information search and decision-making processes are usually based on previous experience and the shoppers know the value of the alternatives as well as the consequences [Bettman & Sujan, 1987]. One can assume that this decision-making style dimension has a negative relationship with comparison shopping behavior.

Previous research has shown that consumer shopping value derived from online shopping can be explained by consumer characteristics [Chan et al., 2007; Lee et al., 2009; Zhou, Dai & Zhang, 2007]. Johnson et al. [2004] suggested that consumer characteristics generally play an important role in driving information search dynamics. For example, more active online shoppers tend to search across more sites. Cowart and Goldsmith [2007] found significant positive influences of quality consciousness, brand consciousness, fashion consciousness, hedonistic shopping, impulsiveness and brand loyalty and a negative influence of price sensitivity on the extent of online apparel shopping. Klassen et al. [2009] found a significant influence of deal-proneness on the extent of online shopping spending. This suggests that consumer decision-making styles are important determinants of online shopping behaviors.

Since the CSI was developed in the mid-1980s for an offline shopping context, additional factors were identified as potential dimensions which influence comparison shopping proneness. One factor often discussed in the context of online shopping is consumer empowerment. Gibson [1991, p. 359] refers to empowerment as "enhancing people's abilities to meet their own needs, solve their own problems and mobilize the necessary resources in order to control their lives". Empowerment implies switching suppliers in search of better value propositions [Pires, Stanton & Rita, 2006]. It is expected that empowered shoppers are more prone to engage in comparison shopping because they feel empowered to do so and are always searching for better values. Additionally, the Internet makes it possible to search for coupons and take advantage of a variety of sales offers and makes it easy to take part in sweepstakes [Degeratu et al., 2000]; thus, it constitutes a very attractive shopping environment for consumers who like bargains. Klassen et al. [2009] identified deal-proneness as an important characteristic to consider in the context of comparison shopping. Incentive/bargain consciousness is thus proposed as another consumer style that should be taken into account when studying online consumer behaviors. It is assumed that consumers who are incentive or bargain conscious are likely to engage in comparison shopping.

2.3. Conceptual Model and Hypotheses

Based on the review of literature related to consumer decision-making styles, online shopping and comparison shopping, a conceptual model was developed. The conceptual model presented in Figure 1 shows that perceived usefulness of comparison shopping tools is influenced by comparison shopping proneness which, in turn, is determined by online decision-making styles. While these decision-making styles could potentially directly influence the perceived usefulness of comparison shopping tools, it is assumed that comparison shopping proneness mediates this relationship as it was defined as a higher-order shopping tendency. To summarize the proposed relationships, the following hypotheses were developed:

H1: Consumers' comparison-shopping proneness influences their perceived usefulness of comparison shopping tools.

H2: Consumers' comparison shopping proneness is determined by their online decision-making style. Specifically, while perfectionism, price/value consciousness, recreational shopping, novelty/fashion consciousness, incentive/bargain consciousness and empowered shopping are expected to positively influence comparison shopping proneness, brand consciousness, impulsive/careless shopping, habitual/brand loyal shopping and confusion by over-choice will have a negative influence.

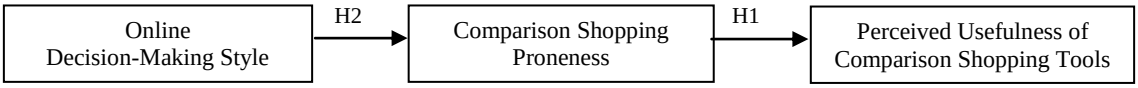


Figure 1: Conceptual Model

3. Methodology

Data to test the hypotheses was obtained through a commercial online consumer panel survey. Online survey panels are subject pools obtained and maintained by commercial companies who sell access to subjects to interested researchers. Online panel surveys have been commonly used in marketing research [Duffy et al., 2005; Deutskens et al., 2006] and specifically to study consumer purchase patterns [Lohse, Bellman & Johnson, 2000; Levin, Levin & Weller, 2005] because of key advantages such as access to research participants, targeted sampling for low-incidence groups, rapid data collection, and previously collected background data on participants [Dennis, 2001]. Some researchers have compared data collected from online, face-to-face, and mailed surveys and concluded that the results are similar [Duffy et al., 2005; Deutskens et al., 2006]. Online panel studies typically raise concerns in terms of whether the sample is representative of a general population [Duffy et al., 2005]; however, for the purpose of this study having access to the Internet and engaging in online activities was a necessary and thus desirable condition. In addition, the American Association for Public Opinion Research [2010] has found that online survey panels are valuable tools for research that does not require precise population estimates. Also, student samples have great limitations in decision-making style research due to students' restricted finances and higher education [Bakewell & Mitchell, 2006].

Subjects received an email from Survey Sampling International with a link to an online survey. When clicking on the link, subjects saw a consent form and had to indicate consent by clicking on a hyperlinked button that opened the survey. First, the subjects completed a questionnaire which asked questions about their general pleasure travel experience and specifically their online travel shopping experience. These questions served as filter questions. Only if subjects indicated online travel shopping experience within 36 months prior to completing the survey were they allowed to move on to the second stage of the survey. In the second phase, subjects were asked to browse through two tourism shopping websites. They were randomly assigned to one of ten conditions that included either two travel comparison shopping engines [Sidestep, Kayak] or a combination of a travel comparison shopping engine and an online travel agency [Expedia, Travelocity]. The order of appearance of the sites was randomized. Conditions with only online travel agency websites were excluded as the goal was to expose subjects to comparison shopping sites. The task involved finding a hotel room in Las Vegas for a specified travel date. The subjects had as much time as they needed to explore the sites and find a hotel option. Third, after completing this task, a second survey was presented to them. The post-task survey instrument included among other questions a total of 35 items to measure the online consumer shopping styles and the two dependent constructs (comparison shopping proneness, perceived usefulness of comparison shopping tools). However, perceived usefulness was not asked with respect to the specific travel comparison shopping engine(s) seen; rather, respondents were asked to report perceived usefulness of travel comparison shopping tools in general. Comparison shopping tools were described as tools on Web sites which allow for comparison of offers side-by-side.

3.1. Subjects

The online survey was conducted in April 2006 with U.S. adults who had purchased tourism products online for a pleasure trip during the previous 36 months. An email invitation with a link to the online survey was sent to 7,600 subjects from the U.S., ages 18-65, and balanced by gender. The survey was closed after 355 qualified responses were received (a number determined based on the statistical analyses to be conducted as well as cost). Specifying a desired number of qualified responses is the usual practice when collecting data using an online panel company. Given that only qualified responses were recorded, the actual response rate to the survey was a lot higher than suggested by the number of qualified responses in relation to the overall sample. A total of $ 275 was used for monetary prizes on a random basis by Survey Sampling International.

3.2. Survey Instrument

The online survey instrument included questions related to Internet use, online purchasing behaviors, decision-making styles when shopping online, online comparison shopping and perceptions of comparison shopping tools. The final section addressed respondents' socio-demographic information such as age, gender, income, and level of Internet use skills. The decision-making style questions were based on Sproles and Kendall's [1986] CSI. Novelty/Fashion consciousness was not adopted as its items were deemed to be too specific to fashion and not relevant in the context of online travel comparison shopping. The remaining seven styles were measured with three

items each. Scales were developed for incentive consciousness (3 items) and empowered shopping (3 items) as well as for comparison shopping proneness (3 items) and perceived usefulness of comparison shopping tools (5 items). Face and content validity of the developed items was assessed by experts using criteria of clarity, conciseness and lack of ambiguity. All items were measured using 7-point Likert scales ranging from 1-Strongly Disagree to 7-Strongly Agree.

The data was analyzed using descriptive and multivariate statistics. The reliability of the scales was examined using Cronbach Alpha. The uni-dimensionality of the constructs was tested using factor analyses with principal components as the extraction method and Varimax rotation. Discriminant validity of the decision-making style scales was then assessed using the criterion suggested by Fornell and Larcker [1981], who contend that for discriminant validity to exist between two constructs, the average variance extracted of both constructs must be greater than the variance shared by the two. Multiple regression analyses were conducted to test the hypotheses. Testing of the mediation hypothesis followed the principles outlined by Baron and Kenny [1986].

4. Results

4.1. Profile of Subjects

A total of 355 responses were collected. Only 32% of the respondents were male and 68% were female. The respondents represent different age groups, 28% are 34 years or younger, 40% are between 35 and 54, and 32% are 55 or older. Approximately 10% of the respondents had a high school degree or less, and 65% of the respondents had at least some college education. The remaining 25% had post graduate work started or completed. The majority of respondents (65%) had household incomes of $50,000 or higher. Only 19% indicated they had expert Internet user skills, 48% described themselves as advanced users, 30% as intermediate users, and only 3% as beginners. A large majority (97%) had made online purchases. Only those with online purchasing experience were included in the subsequent analyses (n=343). Interestingly, no significant relationships were found between any of these demographic variables and perceptions of the usefulness of travel comparison shopping tools.

4.2. Scale Development

Cronbach Alpha scores were computed to assess the reliability of the constructs. The Alpha scores ranged from 0.66 to 0.97 (Table 1 and Table 2). Most scales exhibited high reliability except for the impulsive/careless shopping and habitual/brand loyal shopping. Although 0.66 and 0.70, respectively, are not great scores, it was decided to keep the scales in their form as they were directly adapted from the literature. Factor analyses using principal components and Varimax rotation were used to evaluate the dimensionality of the factors. The factor loadings were all higher than 0.50 and the variance explained was greater than 50% for each of the factors, indicating that the constructs were uni-dimensional.

The results also suggest a high discriminant validity for the decision-making style constructs (Table 3). In all instances, the average extracted variance for each factor was higher than the shared variance between factors, indicating a robust and reliable instrument with distinct constructs. Additive scales were created for all constructs.

Table 1: Measurement Properties of Dependent Constructs

Factor Name	Mean	SD	Factor Load.	Eigen Value	Variance Expl.	Alpha
Comparison Shopping Proneness	**5.24**	**1.60**		**2.43**	**80.84**	**0.87**
I visit more than one website to compare.	5.50	1.52	.93			
I prefer comparison-shopping when shopping online.	5.40	1.52	.94			
I don't feel confident about a choice unless have compared different options.	4.80	1.76	.83			
Perceived Usefulness of Comparison Shopping Tools	**5.44**	**1.32**		**4.53**	**90.63**	**0.97**
Would improve my online shopping experience.	5.33	1.44	.96			
Would make online shopping more efficient.	5.52	1.34	.96			
Would enable me to accomplish my online shopping goals more quickly.	5.37	1.41	.96			
Would be something I find useful.	5.55	1.36	.95			
Would help me with my decision-making.	5.47	1.38	.93			

Table 2: Measurement Properties of Online Decision-Making Style Scales

Factor Name	Mean	SD	Factor Load.	Eigen Value	Variance Expl.	Alpha
Perfectionism	**5.52**	**1.27**		**2.50**	**83.25%**	**0.90**
Getting very good quality is very important to me.	5.67	1.20	.90			
In general, I try to buy the best overall quality.	5.73	1.31	.91			
I make a special effort to choose the very best quality products.	5.18	1.30	.93			
Brand Consciousness	**3.85**	**1.29**		**2.24**	**74.76%**	**0.83**
The most advertised brands are usually very good choices.	3.43	1.30	.90			
I prefer buying best selling brands.	3.96	1.39	.90			
Well-known national brands are best for me.	4.15	1.20	.80			
Price-Value Consciousness	**5.83**	**1.12**		**2.26**	**75.01%**	**0.81**
I carefully look at prices before buying items.	6.26	1.05	.92			
I pay a lot of attention to prices.	6.22	1.06	.94			
I value advantageous prices more than other aspects.	5.00	1.26	.71			
Recreational Shopping Consciousness	**4.37**	**1.49**		**2.44**	**81.22**	**0.88**
Online shopping is one of the enjoyable activities in my life.	5.07	1.46	.90			
Online Shopping is a pleasant activity for me.	4.08	1.56	.93			
I enjoy online shopping just for the fun of it.	3.91	1.47	.88			
Impulsive/Careless Shopping	**2.61**	**1.42**		**1.80**	**59.97%**	**0.66**
I am impulsive when purchasing online.	3.23	1.45	.77			
Often I make careless purchases I later wish I had not.	2.52	1.54	.89			
I usually buy without hesitation.	2.10	1.29	.71			
Confused by Over-Choice Shopping	**3.00**	**1.47**		**2.49**	**82.83%**	**0.89**
There are so many brands to choose from that I often feel confused.	2.99	1.56	.88			
All the information I get on different products confuses me.	2.67	1.45	.94			
The more I learn about products, the harder it is to choose the best.	2.99	1.40	.91			
Habitual and Brand Loyal Shopping	**4.60**	**1.39**		**1.88**	**62.81%**	**0.70**
I have favorite Web sites from which I buy over and over.	5.01	1.50	.80			
I go to the same Web site each time I shop.	4.83	1.28	.80			
Once I find a product or brand I like, I stick with it.	3.94	1.41	.78			
Incentive/Bargain Consciousness	**5.10**	**1.37**		**2.18**	**72.74%**	**0.81**
I look for special offers on Websites.	5.30	1.27	.80			
I look for incentives such as discounts, coupons, sweepstakes, cash rebates, etc.	5.10	1.45	.90			
I am more attracted to stores that offer incentives.	4.81	1.41	.86			
Empowered Shopping	**3.84**	1.24		**2.64**	**88.05%**	**0.93**
Purchasing online makes me feel creative.	3.63	1.25	.91			
Purchasing online makes me feel empowered.	3.83	1.32	.96			
Purchasing online gives me a feeling of accomplishment.	4.05	1.15	.95			

Table 3: Discriminant Validity Assessment of Online Decision-Making Styles

	AVE*	Perfect	Brand	Price	Recreat	Impulsive	Confused	Habitual	Incentive
Perfectionism	.833	-	-	-	-	-	-	-	-
Brand	.748	.476	-	-	-	-	-	-	-
Price	.750	.212	.148	-	-	-	-	-	-
Recreational	.812	.133	.130	.055	-	-	-	-	-
Impulsive	.600	-.004	.233	-.116	.294	-	-	-	-
Confused	.828	.236	.072	.056	-.140	.106	-	-	-
Habitual	.628	.135	.240	.107	.208	.199	.148	-	-
Incentive	.727	.155	.105	.171	.493	.125	.-015	.204	-
Empowered	.881	.236	.310	.107	.480	.378	.046	.199	.298

* The statistics in the second column are the average variance extracted values (AVE) for each factor. The remaining statistics represent the correlation coefficients between two factors. Discriminant validity exists between two constructs if the average variance extracted of both constructs is greater than the variance shared by the two (i.e., the correlation coefficient).

4.3. Hypotheses Testing

A linear regression model was run to test the influence of online comparison shopping proneness on the perceived usefulness of comparison shopping tools. The overall model was found to be significant ($p < .000$) with an adjusted R^2 of 0.283, and the results suggest that comparison shopping prone consumers are more likely to perceive comparison shopping tools as useful (Table 4). A linear regression model was also run to examine the influence of online decision-making styles on subjects' comparison shopping proneness. The overall model was found to be significant ($p < .000$) with an adjusted R^2 of 0.301. Specific results are provided in Table 4. Perfectionism, Price/value consciousness, and incentive consciousness were found to have a positive relationship with comparison shopping proneness while impulsive/careless shopping is negatively related to comparison shopping proneness. The strongest relationship exists for incentive consciousness, suggesting that consumers who look for incentives and special offers are especially likely to engage in online comparison shopping.

Additional regression analyses were conducted to test if comparison shopping proneness fully mediates the relationships or whether decision-making styles directly influence perceived usefulness of comparison shopping tools. The regression model with decision-making styles as independent variables and perceived usefulness of comparison shopping tools as the dependent variable was significant ($p < .000$) with an adjusted R^2 of 0.273. Significant relationships were found for perfectionism, recreational shopping, impulsive shopping, confused by over-choice shopping, incentive consciousness and empowered shopping (Table 4). When comparison shopping proneness was added as an independent variable, the overall model was again significant ($p < .000$) with an adjusted R^2 of 0.386; however, the coefficients for impulsive shopping and incentive consciousness were no longer significant while the one for perfectionism still was. The results suggest that comparison shopping proneness only partially mediates the relationship between decision-making styles and perceived usefulness of comparison shopping tools and that some styles influence perceived usefulness without influencing comparison shopping proneness. Also, no significant relationships were found for brand consciousness and habitual/loyal shopping. The results are summarized in Figure 2.

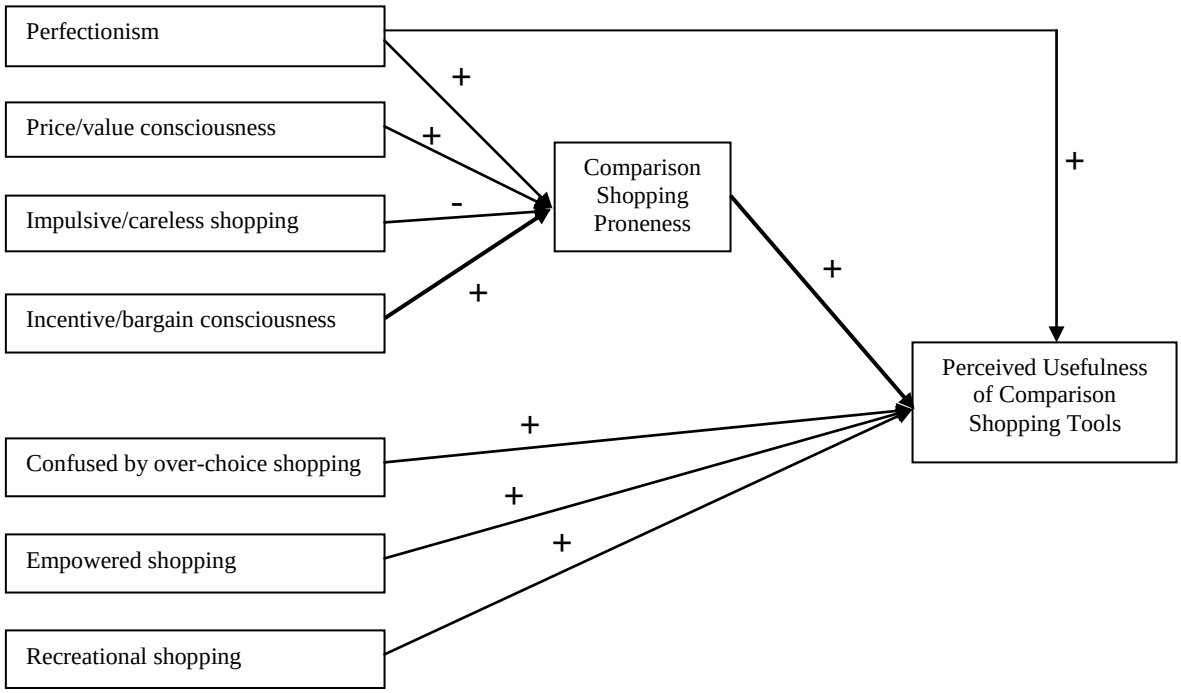
5. Conclusions

The findings of this study show that a significant relationship exists between consumers' online decision-making styles and comparison shopping proneness. Not surprisingly, consumers with a style characterized by perfectionism need to comparison shop in order to reach "perfect" choices. They also think that comparison shopping tools would help them in this endeavor. Similarly, consumers looking for good value for money are prone to shop across Web sites to find suitable alternatives. Incentive conscious consumers search for special offers and need to engage in comparison shopping to satisfy their needs. Impulsive shopping, however, keeps consumers from comparison shopping. Comparison shopping proneness influences perceived usefulness of comparison shopping tools, suggesting that consumers who are prone to engage in comparison shopping see these tools as supporting their shopping goals. Interestingly, while consumers who are confused by over-choice do not like comparison shopping as it would create even more information overload, they perceive comparison shopping tools as useful. This indicates that they see these tools as helpful in organizing alternatives and supporting choice processes. Also, consumers who feel empowered when shopping online perceive such tools as useful although these individuals are

not prone to engage in comparison shopping. Since they are interactive tools who put the user in control one can assume that they make consumers feel even more empowered. Somewhat surprisingly, recreational shopping has no direct influence on comparison shopping proneness but impacts perceived usefulness of comparison shopping tools. It seems that comparison shopping tools are seen as fun to use by these consumers. Overall, the findings show that comparison shopping tools are perceived as useful by consumers with a variety of online decision-making styles. Also, they seem to satisfy additional needs other than efficiency in comparing alternatives. However, impulsive, brand conscious and habitual/brand loyal shopping are not supported by the tools, suggesting that they should not be generally offered on a Web site; rather, consumers should be given a choice when it comes to using comparison shopping tools. Sidestep provides a solution to this problem in that it allows users to download a toolbar. The toolbar appears on the left side of the screen when travel products are searched, allowing users to focus on the main Web site they are using while giving them the option to engage in comparison shopping if they desire.

Table 4: Results of Regression Analyses

Dependent Variable	Independent Variables	R^2	Stand. Beta	t	Sig.
Comparison Shopping Proneness		.301			
	Constant			**2.272**	**.024**
	Perfectionism		**.156**	**2.821**	**.005**
	Brand C.		-.034	-.595	.552
	Price/Value C.		**.111**	**2.237**	**.026**
	Recreational S.		.070	1.127	.261
	Impulsive S.		**-.129**	**-2.401**	**.017**
	Confused by over-choice S.		.010	.200	.842
	Habitual/brand loyal S.		-.064	-1.249	.213
	Incentive C.		**.422**	**7.525**	**.000**
	Empowered S.		.104	1.782	.076
Perceived Usefulness of Comparison Shopping Tools		.283			
	Constant			**12.603**	**.000**
	Comparison Shopping Proneness		**.532**	**11.488**	**.000**
Perceived Usefulness of Comparison Shopping Tools		.273			
	Constant			**3.201**	**.002**
	Perfectionism		**.206**	**3.557**	**.000**
	Brand C.		-.083	-1.398	.163
	Price/Value C.		.076	1.468	.143
	Recreational S.		**.264**	**4.086**	**.000**
	Impulsive S.		**-.144**	**-2.595**	**.010**
	Confused by over-choice S.		**.117**	**2.300**	**.022**
	Habitual/brand loyal S.		.021	.399	.690
	Incentive C.		**.116**	**2.001**	**.046**
	Empowered S.		**.185**	**3.052**	**.002**
Perceived Usefulness of Comparison Shopping Tools		.386			
	Constant			**2.534**	**.012**
	Comparison Shopping Proneness		**.408**	**7.464**	**.000**
	Perfectionism		**.143**	**2.646**	**.009**
	Brand C.		-.073	-1.331	.184
	Price/Value C.		.030	.614	.539
	Recreational S.		**.234**	**3.926**	**.000**
	Impulsive S.		-.092	-1.776	.077
	Confused by over-choice S.		**.116**	**2.473**	**.014**
	Habitual/brand loyal S.		.048	.988	.324
	Incentive C.		-.060	-1.032	.303
	Empowered S.		**.146**	**2.588**	**.010**



Note: Only significant relationships are reported. Thickness of arrow indicates strength of the relationship. Plus indicates a positive relationship and minus a negative influence.

Figure 2: Significant relationships between online decision-making styles, comparison shopping proneness and perceived usefulness of comparison shopping tools

In sum, this study supports that consumer decision-making style plays an important role in understanding consumers' purchase behavior and adds to the existing research in this area [Hafstrom et al., 1992; Durvasula et al., 1993; Lysonski et al., 1996; Mitchell & Walsh, 2004; Bauer et al., 2006]. The current study also provides additional insights regarding consumer decision-making styles. First, the empirical findings suggest that the CSI, as previously established, is a reliable and valid measure of consumer decision-making styles in the United States with relevance in an online shopping context. Second, the newly proposed decision-making style dimensions (i.e. incentive consciousness and empowered shopping) were found to be valid additions to the instrument to reflect new aspects of consumer decision-making that seem to be especially important in an online context. Additionally, these results demonstrate the need to continuously observe consumers' decision-making styles and capture emerging styles. This study showed that macro environmental changes in shopping environments might require conceptual changes in instruments related to measuring consumers' shopping behaviors. Instruments to measure shopping tendencies need to capture the specific characteristics of shopping in specific environments, e.g. online. Further, the study introduced comparison shopping proneness as a concept, thus contributing to a better understanding of online shopping related behavior.

This study has some limitations that should be addressed by future research. First, this study is limited by its data collection approach. Panels are made up of individuals who are pre-recruited to participate in surveys. Inducing these people to take a survey often requires the use of an incentive. This may imply that such individuals have very specific online decision-making styles and that the strong influence of incentive consciousness is an artifact of the sample. The descriptive results show that the range for each decision-making style's score measured in this study reflects an appropriate amount of variation; yet, future studies should consider recruiting a different sample to verify results. In addition, the majority of respondents were female. While this is appropriate in the context of travel shopping, where females play a dominant role [Mottiar & Quinn, 2004], it limits the generalizability of the findings. Indeed, several existing studies have found gender differences in online shopping styles and suggest that gender contexts have to be considered when studying online shopping behaviors [Yang & Wu, 2006; Bakewell & Mitchell, 2006]. Also, the regression analyses suggest that much of the variance of comparison shopping proneness and perceived usefulness of comparison shopping tools remains unexplained. It is important to test other variables which could potentially explain these concepts. Further, the model was tested in the context of online travel shopping. It has yet to be tested in other online shopping contexts. Finally, comparison shopping tools were defined as providing side-by-side comparisons of results from different Web sites. Future research should investigate the proposed relationships in the context of other types of comparison shopping tools.

The study results clearly have practical implications in that they underline the importance of supporting consumers in their online shopping through electronic decision aids and the need to consider shopping patterns and individual styles when designing Web sites [Hossain et al., 2009]. Given the overall positive attitude towards comparison shopping tools and the perceived usefulness of the tools not only by those who are comparison shopping prone, marketers should consider integrating them on their Web sites. In addition, as comparison shopping tools become more sophisticated and better able to adapt to the preferences of consumers, it becomes ever more important to understand consumer motivations and styles when shopping online. Thus, the findings presented in this paper form the basis for comparison shopping tools which take personal online shopping preferences into account.

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REFERENCES

Agarwal, R. and J. Prasad. "Are Individual Differences Germane to the Acceptance of New Information Technology?," *Decision Sciences*, Vol.30, No.2:361-391, 1999.

Ailawadi, K. L., S. A. Neslin, and K. Gedenk. "Pursuing the Value-Conscious Consumer: Store Brands versus National Brand Promotions", *The Journal of Marketing*, Vol. 65, No. 1: 71-89, 2001.

Alba, J., J. Lynch, B. Weitz, C. Janiszewski, R. Lutz, A. Sawyer, and S. Wood. "Interactive home shopping: consumer, retailer, and manufacturer incentives to participate in electronic marketplaces," *Journal of Marketing*, Vol. 61, No. 3:38-53, 1997.

Allbusiness.com. "Comparison shopping," http://www.allbusiness.com/glossaries/comparison-shopping/4959910-1.html, accessed online, April 10, 2010.

Anglin, L.K. J.K. Stuenkel, and L.R. Lepisto. "The Effects of Stress on Price Sensitivity and Comparison Shopping," *Advances in Consumer Research*, 21:126-131, 1994.

Anić, I.-D., M. Marković, and R. Vouk. "Understanding Comparison Behavior of Grocery Shoppers in Croatia," *Economic Research*, Vol. 21, No.3:1-11, 2008.

American Association for Public Opinion Research. "AAPOR Report on Online Panels", http://www.aapor.org/AM/Template.cfm?Section=AAPOR_Committee_and_Task_Force_Reports&Template=/CM/ContentDisplay.cfm&ContentID=2223, accessed online, August 10, 2010.

Babin B.J., W.R. Darden, and M. Griffen. "Work and/or fun: measuring hedonic and utilitarian shopping value", *Journal of Consumer Research*, Vol. 20:644–656, 1994.

Bakewell, C. and V. Mitchell. "Generation Y female consumer decision-making styles," *International Journal of Retail & Distribution Management*, Vol. 31, No. 2:95-106, 2003.

Bakewell, C. and V. Mitchell. "Male versus female consumer decision making styles," *Journal of Business Research*, Vol. 59: 1297-1300, 2006.

Bakos, J.Y. "Reducing buyer search costs: implications for electronic marketplaces," *Management Science*, Vol. 43:1676-1692, 1997.

Baron, R.M. and D.A. Kenny. "The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations," *Journal of Personality and Social Psychology*, Vol. 51:1173-1182, 1986.

Bauer, H.H., N.E. Sauer, and C. Becker. "Investigating the relationship between product involvement and consumer decision-making styles," *Journal of Consumer Behavior*, Vol. 5:342-354, 2006.

Bellenger, D.N. and P.K. Korgaonkar. "Profiling the recreational shopper", *Journal of Retailing*, Vol. 56: 77– 92, 1980.

Bettman, J.R. and M. Sujan. "Research in consumer information processing," In: Houston, MJ (Ed.), *Review in Marketing*, American Marketing Association, Chicago, pp. 197–235, 1987.

Chan, T.Y., V. Kadiyali, and Y.H. Park. "Willingness to pay and competition in online auctions", *Journal of Marketing Research*, Vol. 44:324–333, 2007.

Chen, Y., C. Narasimhan, and Z. J. Zhang. "Consumer Heterogeneity and Competitive Price-Matching Guarantees", *Marketing Science*, Vol. 20, No. 3: 300-314, 2001.

Cowart, K.O. and R.E. Goldsmith."The influence of consumer decision-making styles on online apparel consumption by college students," *International Journal of Consumer Studies*, Vol. 31, No. 6: 639-647, 2007.

Degeratu, A.M., A. Rangaswamy, and J. Wu. "Consumer choice behavior in online and traditional supermarkets: The effects of brand name, price, and other search attributes", *International Journal of Research in Marketing*, Vol.17, No.1: 55-78, 2000.

Dennis, M. "Are Internet panels creating professional respondents?", *Marketing Research,* Vol.41, (Summer):34-38, 2001.

Deutskens, E.C., A. de Jong, K. de Ruyter, and M.G.M. Wetzels. "An assessment of equivalence between online and mail surveys in service research," *Journal of Service Research*, Vol.*8, No.*4:1-11, 2006.

Duffy, B., K. Smith, G. Terhanian, and J. Bremer. "Comparing data from online and face-to-face surveys," *International Journal of Market Research*, Vol. 47, No.6: 615-639, 2005.

Durvasula, S., S. Lysonski, and J.C. Andrew. "Cross-cultural generalizability of a scale for profiling consumers' decision-making styles," *Journal of Consumer Affairs*, Vol. 27, No. 1:55-65, 1993.

Erdem, T., G. Mayhew, and B. Sun. "Understanding reference-price shoppers: a within-and cross-category analysis", *Journal of Marketing Research*, Vol. 38, Nov: 445-457, 2001.

Farag, S., T. Schwanen, M. Dijst, and J. Faber. "Shopping online and/or in-store? A structural equation model of the relationships between e-shopping and in-store shopping", *Transportation Research, Part A*, Vol. 41:125-141, 2007.

Fasli, M. "Shopbots: A Syntactic Present, A Semantic Future", *IEEE Internet Computing*, Vol. 10, No. 6:69-75, 2006.

Fischer, K., I. Zinnikus, and E. Leon-Soto. "Agent Technologies in the Future Internet", In A. D'Atri and D. Sacca (Eds.), *Information Systems: People, Organizations, Institutions, and Technologies*, Berlin, Springer Physica-Verlag, pp. 381-389, 2010.

Fornell, C. and D.F. Larcker. "Evaluating structural equation models with unobservable variables and measurement error," *Journal of Marketing Research*, Vol.18, No.1:39-50, 1981.

Gibson, C.H. "A concept analysis of patient empowerment," *Journal of Advanced Nursing*, Vol.16:354-361, 1991.

Granados, N.F., R.J. Kauffman, and B. King. "How has electronic travel distribution been transformed? A test of the theory of newly vulnerable markets", *Journal of Management Information Systems*, Vol.25, No.2: 73-95, 2008.

Hafstrom, J.L., J.S. Chae, and Y.S. Chang. "Consumer decision-making styles: Comparison between United States and Korean young consumers," *The Journal of Consumer Affairs*, Vol. 26, No.1:146-158, 1992.

Häubl, G. and V. Trifts. 'Consumer Decision Making in Online Shopping Environments: The Effects of Interactive Decision Aids," *Marketing Science*, Vol.19, No.1:4-21, 2000.

Hossain, M. M., A.B.M. Abdullah, V. R. Prybutok, and M. Talukder. "The Impact of Learning Style on Web Shopper Electronic Catalog Feature Preference", *Journal of Electronic Commerce Research*, Vol. 10, No. 1:1-12, 2009.

Iyer, R. and J.K. Eastman. "The Elderly and Their Attitudes Toward the Internet: The Impact on Internet use, purchase and comparison shopping," *Journal of Marketing Theory & Practice*, Vol. 14, No. 1: 57-67, 2006.

Johnson, E.J., W.W. Moe, P.S. Fader, S. Bellman, and G.L. Lohse. "On the depth and dynamics of online search behavior", *Management Science*, Vol.50, No.3: 299-308, 2004.

Kamis, A. "Search strategies in shopping engines: An experimental investigation", *International Journal of Electronic Commerce*, Vol.11, No.1: 63-84, 2006.

Klassen, M., P. Gupta, and M.P. Bunker. "Comparison shopping on the Internet", *International Journal of Business Information Systems*, Vol. 4, No.5: 564-580, 2009.

Kocas, C. "Evolution of Prices in Electronic Markets Under Diffusion of Price-Comparison Shopping", *Journal of Management Information Systems*, Vol. 19, No. 3:99-119, 2002.

Kruger, J., D. Wirtz, L. Van Boven, and T.W. Altermatt. "The effort heuristic," *Journal of Experimental Social Psychology*, Vol.40:91-98, 2004.

Lee, M., K. Kim, and A. Fairhurst. "Shopping value in online auctions: Their antecedents and outcomes", *Journal of Retailing and Consumer Services*, Vol.16, No.1:75-82, 2009.

Lee, Y., K.A. Kozar, and K.R.T. Larson. "The Technology Acceptance Model: Past, Present and Future," *Communications of the Association for Information Systems*, Vol. 12: 752-780, 2003.

Levin, A. M., I. P. Levin, and J. A. Weller. "A Multi-Attribute Analysis of Preferences for Online and Offline Shopping: Differences Across Products, Consumers, and Shopping Stages", *Journal of Electronic Commerce Research*, Vol. 6, No. 4:281-290, 2005.

Lhose, G.L., S. Bellman, and E.J. Johnson. "Consumer Buying Behavior on the Internet: Findings from Panel Data,", *Journal of Interactive Marketing*, Vol. 14, No. 1: 15-29, 2000.

Lysonski S., S. Durvasula, and Y. Zotos. "Consumer decision-making styles: a multi-country investigation," *European Journal of Marketing*, Vol.30, No.12:10-21, 1996.

Marmorstein, H., D.Grewal, and R.P.H. Fishe. "The Value of Time Spent in Price-Comparison Shopping: Survey and Experimental Evidence," *The Journal of Consumer Research*, Vol.19, No.1:52-61, 1992.

Mitchell, V. and L. Bates. "UK consumer decision-making styles," *Journal of Marketing Management*, Vol.14:199-225, 1998.

Mitchell, V. and G. Walsh. "Gender difference in German consumer decision making styles," *Journal of Consumer Behaviour*, Vol.3, No.4:331-346, 2004.

Mottiar, Z. and D. Quinn. "Couple dynamics in household tourism decision-making: Women as the gatekeepers?", *Journal of Vacation Marketing*, Vol. 10, No. 2.: 149-160, 2004.

Moukas, A., G. Zacharia, R. Guttman, and P. Maes. "Agent-mediated electronic commerce: an MIT laboratory perspective," *International Journal of Electronic Commerce*, Vol.4, No.3:5-21, 2000.

Park, Y. "Investigating Online Decision-Making Styles". Unpublished Dissertation. College Station, TX, Texas A&M University, 2007.

Park, Y. and U. Gretzel. "Evaluation of Emerging Technologies in Tourism: The Case of Travel Search Engines," In Hitz, M., M. Sigala, and J. Murphy (Eds.), *Information and Communication Technologies in Tourism 2006*, Vienna, Austria: Springer Verlag, pp. 371-382, 2006.

Peters, C. and C. Bodkin. "An exploratory investigation of problematic online auction behaviors: experiences of eBay users", *Journal of Retailing & Consumer Services*, Vol, 14: 1–16, 2007.

Pires, G.D., J. Stanton, and P. Rita. "The internet, consumer empowerment and marketing strategies," *European Journal of Marketing*, Vol. 40, No.9/10:936-949, 2006.

Rohm, A.J. and V. Swaminathan. "A typology of online shoppers based on shopping motivations," *Journal of Business Research*, Vol. 57, No.7:748-757, 2004.

Scott, S. G. and R. A. Bruce. "Decision-making style: the development and assessment of a new measure." *Educational and Psychological Measurement*, Vol. 55, No. 5: 818-831, 1995.

Sproles, G.B. and E. Kendall. "A methodology for profiling consumers' decision-making styles," *The Journal of Consumer Affairs*, Vol.20, No.2:268-279, 1986.

Tai, S. "Shopping styles of working Chinese female," *Journal of Retailing and Consumer Services*, Vol.12:191-203, 2005.

Tan, C.H. "Comparison-Shopping Websites: An Empirical Investigation of the Influence of Decision Aids and Information Load on Consumer Decision-Making," Proceedings of the Twenty-Fourth International Conference on Information Systems, 2003.

Tauber, E.M. "Why Do People Shop?," *Journal of Marketing*, Vol.36, No.4:46-49, 1972.

To, P.-L., C. Liao, and T.-H. Lin. "Shopping motivations on Internet: A study based on utilitarian and hedonic value", *Technovation*, Vol. 27, No. 12: 774-787, 2007.

Torkzadeh, G. and G. Dhillon. "Measuring factors that influence the success of internet commerce", *Information Systems Research*, Vol.13, No.2:187-204, 2002.

Vishwanath, A. and G. Barnett. "An empirical investigation into the structure of bidding in online auctions", *Electronic Markets*, Vol 15, 261–268, 2005.

Walsh, G., V. Mitchell, and T. Hennig-Thurau. "German consumer decision-making styles," *The Journal of Consumer Affairs*, Vol.35, No.1:73-81, 2001.

Wan,Y., S. Menon, and A. Ramaprasad. "A Classification of Product Comparison Agents," *Communications of the ACM*, Vol.50, No.8:65-71, 2007.

Warrington, P. and S. Shim, "An Empirical Investigation of the Relationship between Product Involvement and Brand Commitment", *Psychology & Marketing*, Vol. 17, No. 9:761-782, 2000.

Wesley, S., M. LeHew, and A.G. Woodside. "Consumer decision-making styles and mall shopping behavior: Building theory using exploratory data analysis and the comparative method", *Journal of Business Research*, Vol.59:535-548, 2006.

Wickliffe, V.P. "Refinement and re-assessment of the consumer decision-making style instrument," *Journal of Retailing and Consumer Services*, Vol.11:9-17, 2004.

Wood, W. and D.T. Neal. "The habitual consumer", *Journal of Consumer Psychology*, Vol. 19, No.4:579-592, 2009.

Yang, C. and C.C. Wu. "Gender differences in online shoppers' decision-making styles," In Ascenso J, Vasiu L, Belo C and M Saramago (Eds.), *e-Business and Telecommunication Networks*. Vienna, Austria: Springer, pp. 99-106, 2006.

Yuan, S.-T., and A. Liu. "Next-generation agent-enabled comparison shopping", *Expert Systems with Applications*, Vol. 18:283-297, 2000.

Zhang, J. "The roles of players and reputation: evidence from eBay online auctions," *Decision Support Systems*, Vol. 42, 1800–1818, 2006.

Zhou, L., L. Dai, and D. Zhang. "Online Shopping Acceptance Model – A Critical Survey of Consumer Factors in Online Shopping", *Journal of Electronic Commerce Research*, Vol. 8, No. 1:41-62, 2007.