# 온라인 의류쇼핑에서 정보부하와 정보품질의 역할

The Roles of Information Load and Information Quality in Online Apparel Shopping

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### <Abstract>

The purpose of this study was to examine the effect for information load on perceived information quality and website quality, and the relationships among perceived information quality, website quality and behavioral intentions in online apparel shopping contexts. The information load theory provided the theoretical framework for this study. The research strategy employed an online experimentation using an apparel mock website. The total of 647 responses were used for data analyses. The model of the study was tested by MANOVA and SEM. The results of MANOVA revealed the effect of information load on perceived information quality and website quality. The medium level of information load was perceived as having more positive information quality and website quality as compared to the low or high level of information load. The findings of SEM revealed the positive effect of information quality on website quality, the positive effect of website quality on WOM and willingness to pay more, and the negative effect of website quality on willingness to switch. Online apparel retailers and website designers need to manage information quantity and quality by understanding the importance of information load.

본 연구의 목적은 온라인 의류 쇼핑환경에서 정보부하가 정보품질지각과 웹사이트 품질지각에 미치는 영향과 정보품질지각과 웹사이트 품질지각, 소비자 행동 의도 간의 관계에 관하여 조사하는데 있다. 정보부하이론은 본 연구의 이론적 틀을 제공하였으며, 가상의 의류 웹사이트를 이용한 온라인 실험을 실시하였다. 총 647명의 응답이 연구 결과 분석에 사용되었다. 연구모형은 MANOVA와 SEM으로 분석하였다. MANOVA 결과는 정보부하가 정보품질지각과 웹사이트 품질지각에 미치는 영향을 지지하였다. 중간 정도의 정보부하가 주어졌을 때가 높은 정도 혹은 낮은 정도의 정보부하가 주어졌을 때 보다 소비자는 가장 높은 정보품질과 웹사이트품질을 지각하였다. SEM 분석 결과 정보품질지각이 높을수록 웹사이트 품질지각이 높은 것으로 나타났으며, 웹사이트 품질지각

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이 높은 경우 긍정적인 구전을 하며 더 많은 돈을 지불할 의사가 있었고, 다른 웹사이트로 바꿀 의사가 적은 것으로 나타났다. 온라인 의류 소매상 및 웹사이트 디자이너는 정보부하의 중요성을 인식하고, 웹사이트에서 제공하는 정보의 양과 품질을 적절히 조절하여야 할 것이다.

주제어(Key Words) : 정보부하(information load), 정보품질(information quality), 웹사이트 품질(website qualtiy), 온라인 쇼핑(online shopping)

### I. Introduction

Online shopping provides an information-laden environment. The importance of the Internet as an information search tool has been widely recognized. The Internet allows customers to easily and conveniently browse for product or service information, compare information, and purchase products 24 hours a day, 7 days a week (Forsythe & Shi, 2003). Researchers have found that online apparel merchants provide a large amount of product and service information, such as price, sizes, sizing measurements, color swatches, shipping and handling fees, delivery time, and return policy (Park & Stoel, 2002).

According to Huang (2000), increasing information load can have positive impacts on consumers information searching and purchasing behaviors because online shoppers highly rely on available information in online shopping contexts. Although the importance of information availability has been noticed, it is unclear that the continuous increase in the amount of information can influence consumers' positive responses. According to Keller and Staelin (1987), increasing the number of information attributes (or alternatives) can decrease the quality of consumers' choices. In addition, when a retail store provides consumers too many choices, they are less likely to make a purchase decision as compared to when a reduced number of choices are available (Iyengar & Lepper, 2000).

The inconsistent findings of previous research on information quantity may be due to the incomplete understandings of the information overload paradigm in online shopping contexts. Previous studies tended to focus on the effect of the amount of information below the optimal level of information-processing. However, the effect of information quantity should be investigated

based on understanding the possibility of information overload. Because individuals have the working capacity of the information processing, information quantity should be managed based on understanding the human's limited capacity (Keller & Staelin, 1987). In information-intensive environments, it should be important to provide high quality information since human has a limitation in processing certain amount of information. Although the importance of information load and information quality in online shopping has been emphasized (Huang, 2000), there is little research on investigating information load. Therefore, the main purpose of the study was to investigate the roles of information load and information quality. Specifically, the study focused on examining the effect of information load on perceived information quality and website quality and investigating the relationships among perceived information quailty, website quality and behavioral intentions.

### II. Literature Review

#### 1. Information load and information quality

Information load is defined as the variety of information type and number to which information receivers pay attention, and refers to the fact that they are limited in their ability to obtain and process information in any given time (Jacoby, 1977). According to Mehrabian and Russell (1974), information load is associated with two features of information: Complexity and novelty. In online shopping environments, complexity of information refers to the number of different aspects of a website, which can enhance information diversity (Campbell, 1988). Novelty of information is associated with the new or unexpected elements or characteristics of

a website (Huang, 2000). Since online shopping environments are information intensive, it is important to manage information complexity in order to facilitate online shoppers' shopping behaviors and purchase decisions (Huang, 2000).

Most previous research in online shopping or non-store shopping has focused on the impacts of the amount of information on positive consumer responses. If the increased amount of information is available, consumers are likely to be more knowledgeable to products or brands and to make more informed and better quality decisions (Ballantine, 2005). Past research found that the amount of information plays a role in reducing perceived risks (Kim & Lennon, 2000) and increasing customer satisfaction (Ballantine, 2005). Although certain amount of information is available for online shoppers, it is arguable whether more important and useful attributes of information are provided because the increased information quantity can affect information load. According to the information load theory, consumers' cognition and behaviors are positively activated up to their optimal level of informationprocessing. However, if the amount of information increases further, the level of information-processing begins to decrease and information overload can occur (Malhotra, 1982). Therefore, it seems to be important that online retailers provide high quality information rather than high quantity information. Information quality is defined as "the usefulness of the available attribute information in helping a decision maker to evaluate his/her true utility associated with an alternative" (Keller & Staelin, 1987, p. 202).

#### 2. Website quality and behavioral intention

Website quality has been recently investigated by researchers in online shopping based on the previous studies of perceived service quality. Parasuraman, Zeithaml and Berry (1988) developed a multi-item scale (called SERVQUAL) for assessing customer perception of service quality in service and retailing organizations. Parasuraman *et al.* (1988) proposed multidimensional concepts of service quality, and defined five dimensions of service quality: Reliability, responsiveness, assurance, empathy, and tangibles. Reliability is described as the ability to deliver the promises about delivery, pricing

and complaint handling. Responsiveness is defined as the willingness to help customers and provide prompt service, and is associated with service personnels' attitudes to be attentive to customer requests, questions and complaints. Assurance stresses the ability to inspire trust and confidence, and empathy focuses on the treatment of customers as individuals, such as caring and individual attention provided by firms. Tangibles are the service aspect that focuses on the physical elements, such as physical facilities, equipment, and appearance of personnel.

Research on Internet shopping has examined website quality. Li, Tan and Xie (2002) defined web-based service quality as the extent to which services based on the web technology facilitate the effective and efficient online communication, purchase and delivery of product or services. Yang, Peterson and Cai (2003) studied multidimensional service quality in Internet retailing. Service quality was divided into 14 dimensions: responsiveness (e.g., prompt delivery, quickly solve problems), credibility (e.g., confidence, good reputation), ease of use (e.g., effective navigation, user friendly), reliability (e.g., accurate order fulfill, correct service), convenience (e.g., convenient shopping time and place, delivery), communication (e.g., information at order placement, information on product and service), access (e.g., e-mail access), competence (e.g., knowledge to answer questions), courtesy (e.g., address complaints friendly), personalization (e.g., individual attention), continuous improvement (e.g., continuous improvement on product quality), collaboration (e.g., prescription transfer), security/privacy, and aesthetics (e.g., web site attractiveness). Wolfinbarger and Gilly (2003) developed eTailQ(etail quality) to measure online quality. They found four dimensions of eTailQ: Website design (e.g., appropriate product selection, information search), fulfillment/reliability (e.g., accurate display, description of a product, delivery), privacy/security (e.g., security of credit card payments and shared information) and customer service (e.g., quick responsiveness).

Previous research considered behavioral intentions as consequences of perceived service quality. Favorable behavioral intention includes saying positive things about a company, remaining loyal to company, spending more with the company, paying a premium price (Zeithamal, Berry, & Parasuraman, 1996), and engaging in word-of-mouth (Athanassopoulos, Gounaris, & Stathakopoulous, 2001; Dick & Baru, 1994). Unfavorable intention includes saying negative things, switching to another company,

saying negative things, switching to another company, complaining to external agencies, and doing less business with the company (Dick & Baru, 1994; Zeithamal, Berry, & Parasuraman, 1996), intentions to switch service providers (Athanassopoulos *et al.*, 2001).

### III. Methods

### The development of hypotheses and the model of the study

 Part I: information load → information quality, website quality

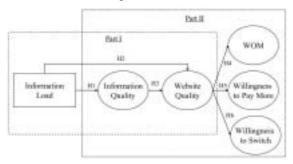
The first part of the study focused on the effects for information load on perceived information quality and perceived website quality. Available information plays critical roles in information-intensive online shopping environments. According to research on information quantity and availability of information, the amount of information has positive impacts on consumers responses (e.g., reducing perceived risks and increasing customer satisfaction and quality decisions) (Ballantine, 2005; Kim & Lennon, 2000). Therefore, it is expected that the certain amount of information will positively influence perceptions of information quality and website quality. However, it is still unclear whether the further increase in information quantity can result in consumers positive or negative responses since consumers have limitations in their abilities to process information. Prior research on information load (in particular, information complexity) found that when information load or information complexity was reduced, consumers' decision quality was positively increased (Hwang & Lin, 1999). Thus, based on the information load theory, if the amount of information exceeds the optimal level of information-proceeding, it is likely that perceived information quality and perceived website quality would be reduced. However, other research found that increasing information complexity (information load) induced impulsive purchases and encouraged online transactions (Huang, 2000). Thus, the effect of information load on perceptions of information quality and website quality is questionable and is investigated in the present study.

- H1:Information load will influence perceived information quality
- H2: Information load will influence perceived website quality.
- Part II: information quality → website quality
   → behavioral intention

The second part of the study model addressed the relationships among perceived information quality, perceived website quality and behavioral intention which included WOM, willingness to pay more, and willingness to switch. Li, Tan and Xie (2002) found that web-based service quality is evaluated based on information quality. When customers search an e-tailer's website for information, their perception of that website can be affected by information quality (e.g., a richer product description or service information) (McKinney, Yoon, & Zahedi, 2002). The present study postulated that information quality would positively influence perceptions of website quality.

Previous research on service quality has found the positive impacts of service quality on behavioral intentions although the research was conducted based on the service industries (e.g., banks, hotels, restaurants). When consumers have positive perceptions of service quality, they are more likely to pay more money and say positive things to their family or friends, and are less likely to switch brands or stores (Athanassopoulos et al., 2000; Srinivasan, Anderson, and Ponnavolu, 2002; Zeithamal et al, 1996). Thus, based on the reviewed literature, the present study expected the positive effects for website quality on WOM and willingness to pay more and the negative effect for website qualtiy on willingness to switch. In the part II of the study model, website quality was considered to be a moderator between information quality and behavioral intentions (WOM, willingness to pay more, and willingness to switch).

- H3: Perceived information quality will positively influence perceived website quality.
- H4: Perceived website quality will positively influence word-of-mouth (WOM).
- H5: Perceived website quality will positively influence willingness to pay more.
- H6: Perceived website quality will negatively influence willingness to switch.



(Figure 1) The model of the study

#### 2. Experimental design and procedure

This study conducted an experiment designed with an online apparel shopping situations. Information load was manipulated in three levels: high, medium, and low. In order to manipulate the different levels of information load, pretests were conducted. Firstly, product information (16 attributes) and service information (16 attributes) were collected from 10 apparel websites (e.g., www.bananarepublic.com, www.bluefly,com). Pretest participants (n = 52) evaluated 16 attributes of product information and 16 attributes of service information on the importance of information. Because this study considered the effect of information load on consumer responses, it was necessary that the experimental condition of low information load should provide information which is more important to online shoppers. The experimental condition of low information load provided information about products and services which were perceived as being the most important information (from the first to fifth ranks) (e.g., price, size, return policy). The experimental condition of medium information load offered information ranked from the first to tenth (e.g., texture, privacy policy, contact information). The experimental condition of high information load provided information ranked from the first to sixteenth (e.g., gift information, product processing information).

In order to select appropriate stimuli, a stimulus sampling technique was utilized. Twenty two apparel items (women's shirts) were collected from 10 apparel websites and 40 female college students evaluated 22 items on garment style (i.e., attractive/unattractive, fashionable/unfashionable, likable/unlikable, and likely to purchase/unlikely to purchase) using 7-point Likert scales. In order to prevent participants' responses from being affected by garment styles, apparel items in the medium level of fashionability and attractiveness (the eleventh and twelfth ranks) were selected for the main experiment.

A random sample of female students and faculty (N = 2,600) of a midwestern university were invited to participate in the study and were received an email including an invitation letter, the purpose of the study and an URL link of the mock apparel website. If they want to participate in the experiment, they were instructed to complete the agreement of the participation, were randomly assigned to one of three experimental conditions, and answered a series of questions.

#### 3. Instruments

The questionnaire of the study contained items related to demographics, perceived information quality, perceived website quality, and behavioral intentions (WOM, willingness to pay more, willingness to switch). To measure perceived information quality, an item was developed and measured using a 7-point Likert type scale (i.e., the information provided by the website was high quality information/low quality information). Perceived website quality was measured with the Wolfingbarger and Gilly's (2003) eTailQ scale. The eTailQ scale includes 4 dimensions (i.e., website design, fulfillment/reliability, security/privacy, and customer service) and was measured using a 7-point Likert-type scale with 'highly likely (7)' at one end and 'highly not likely (1)' at the other end. The Customer Behavioral Intention scale was developed based Athanassopoulos, Gounaris and Stathakopoulos's (2001) Behavioral Responses Battery, and Srinivasan, Anderson, and Ponnavolu's (2002) Behavioral Outcomes of Loyalty. 6

Behavioral intention consisted of three components: Four items for WOM behavior, four items for willingness to pay more and four items for willingness to switch. The items were measured with a 7-point Likert-type scale with 'strongly agree (7)' at one end and 'strongly disagree (1)'at the other end.

#### IV. Results

#### 1. Sample characteristics

Among 2,600 people originally invited to participate in the experiment, 657 completed the questionnaire of the experiment. After eliminating 10 unusable responses, the total of 647 responses were used for data analyses. The average age of the participants was 31 years old. Approximately 83% of the participants were Caucasian (n = 538). In terms of marital status, 55% of the participants were never married (n = 356) and about 30% of the participants were married (n = 197). In terms of education levels, about 33% were 'some college, no degree' (33%, n = 210), followed by 'college degree' (31%, n = 202) and 'graduate degree' (31%, n = 202).

#### 2. Preliminary analysis

The study performed a manipulation check on information load. At the end of experiment, perceived amount of information was assessed. The results of ANOVA revealed significant differences in perceived the amount of information among the high, medium and low information load experimental conditions ( $M_{\text{high}} = 6.34$ , n = 183;  $M_{\text{medium}} = 4.99$ , n = 235;  $M_{\text{low}} = 2.97$ , n = 229), [F(2, 644) = 1456.19, p = .000]. Therefore, the information load was successfully manipulated for the experiment.

Measurement validity was assessed by confirmatory factor analysis (CFA). Because four dimensions of website quality were used as indicators for the website quality latent variable, the items for each dimension were averaged. Anderson and Gerbing's (1988) two-step modeling approach was applied to refine the measurement model. Thus, two items for the latent variable of the WOM behavior and two items for the latent variable of willingness to pay more were eliminated due to low factor loadings and low squared

multiple correlation values. The fit indices of the finalized measurement model indicated a reasonable model fit  $[x^2(56) = 244.73(p = .00), RMSEA = .07, GFI =$ .95, AGFI = .91, TLI = .95]. Since the results of the CFA revealed that factor loadings of the latent variables were significant (all p-values < .05), the measures achieved convergent validity. Chi-square difference tests were also performed to test whether each of factor correlations was significantly different from unity. The significant Chisquare difference tests proved that the latent variables were mutually distinct constructs. Therefore, discriminant validity was achieved. The reliability of measures was assessed with Cronbach's alpha. All the measures showed a satisfactory level of reliability. Chronbach's alphas for website qualtiy, word-of mouth, willingness to pay more and willingness to switch were .98, .95, .82, and .89, respectively (see Table 1).

### 3. Hypothesis testing

The first part of the model (part I), which addressed the effect for information load on information quality and website quality, was tested by a multivariate analysis of variance (MANOVA). The second part of the model (part II), which addressed the relationships among information quality, website quality, WOM, willingness to pay more and willingness to switch, was tested by a structural equation modeling (SEM) analysis. The data analyses, appling two statistical methods, were recommended by previous experimental studies (Kim, 2004; Yi & Jeon, 2003). They suggested to test main and/or interaction effects of independent variables on dependent variables by using ANOVA or MANOVA and to test relationships between dependent variables by using SEM.

#### 1) Part I

Using SPSS 12, a MANOVA was performed to test H1 and H2. The results of MANOVA revealed a significant main effect for information load [F(10, 1280) = 5.92, p = .00]. ANOVA results revealed the significant effect for information load on perceived information quality (see Table 2). Inspection of cell means showed that when people were exposed to the medium level of information load, people perceived higher information quality (M = 5.37) than people who were exposed to the high (M = 1.00).

(Table 1) The results from CFA of the finalized measurements

	Standardized Item Loading	Item Loading	SE	t	Cronbach's α
Information Quality $(\xi_l)$					
The information provided by the website was high quality information/low quality information.	.76	1.00			
Website Quality ( $\xi_2$ )					.98
Security/privacy	.86	1.11	.04	26.27	
Customer service	.86	1.04	.04	25.88	
Website design	.74	1.13	.05	21.03	
Fufillment/reliability	.73	0.77	.04	20.69	
$WOM(\xi_3)$					.95
I would say positive things about this website to other people.	.95	1.29	.04	31.24	•
I would recommend this website to anyone who seeks my advice.	.95	1.39	.04	31.38	
Willingess to pay more $(\xi_{A})$					.82
I would continue to do business with this website if its prices increase somewhat.	.85	1.27	.07	17.42	
I would pay a higher price at this website to the competition for the same benefit.	.82	1.25	.07	17.12	
Willingness to switch $(\xi_5)$					.89
In the near future, I would intensify my efforts to find a better website.	.86	1.24	.05	26.74	
I would think seriously about switching to other websites	.93	1.33	.04	30.14	
I would purchase less from this website in the future.	.84	1.17	.05	25.68	
I would switch to another website that offers better service.	.65	.94	.05	18.05	

Note: \*\*\*p ⟨ .001.

4.37) and low levels of information load (M = 4.96). The results also found the significant effect for information load on all dimensions of perceived website quality (see Table 2). Inspection of cell means showed that when people were exposed to the medium level of information load, people perceived higher website quality ( $M_{\text{website}}$  design = 6.02,  $M_{\text{fulfillment/reliability}} = 5.90$ ,  $M_{\text{security/privacy}} = 5.51$ ,  $M_{\text{customer service}} = 5.58$ ) than people who were exposed to the high ( $M_{\text{website}}$  design = 5.78,  $M_{\text{fulfillment/reliability}} = 5.65$ ,  $M_{\text{security/privacy}} = 5.19$ ,  $M_{\text{customer service}} = 5.38$ ) and low levels of information load ( $M_{\text{website}}$  design = 5.50,  $M_{\text{fulfillment/reliability}} = 5.46$ ,  $M_{\text{security/privacy}} = 4.99$ ,  $M_{\text{customer service}} = 5.15$ ).

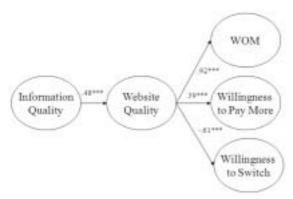
#### 2) Part II

Using AMOS 16, SEM analysis was conducted to test the proposed H3 through H6 by analyzing the relationships among information quality, website quality, WOM, willingness to pay more and willingness to switch. The overall model showed a satisfactory fit:  $x^2$ (61) = 261.47, p = .00; RMSEA = 0.07; GFI = 0.94; AGFI = 0.92; TLI = 0.95. The results of the SEM showed the significant positive effect of perceived information quality on perceived website quality ( $\gamma_1$  = .48, t = 9.46, p = .00), supporting H3. The results of the SEM revealed the significant positive effect of perceived website quality on

(Table 2) MANOVA and ANOVA Results for H1 and H2

MANOVA Result			ANOVA Result				
Dependent Variables	Wilk's λ	F (10,1280)	p	Partial <b>η</b> <sup>2</sup>	F (2, 644)	p	Partial $\eta^2$
Information Quality Website Quality	.91	5.92	.000	.044	26.37	.000	.076
Website design					14.51	.000	.043
Fullfillment/reliabilty					13.14	.000	.039
Security/privacy					10.91	.000	.033
Customer service					7.10	.001	.022

WOM ( $\beta_1$  = .92, t = 14.26, p = .00) and willingness to pay more ( $\beta_2$  = .39, t = 8.04, p = .00) and the significant negative effect of perceived website quality on willingness to switch ( $\beta_3$  = -.61, t = -12.27, p = .00). Therefore, H4, H5, and H6 were supported (see Figure 2).



(Figure 2) SEM results for testing H3 through H6

## V. Discussions and Implications

The present study explored the impacts of information load on perceptions of information quality and website quality and the relationships among information quality, website quality and behavioral intentions (WOM, willingness to pay more, willingness to switch) in online apparel shopping contexts. In order to test the effects for information load, the study conducted an online experiment using an mock apparel website. The results of the study revealed that when the medium information load condition was given, online apparel shoppers perceived higher information quality and website quality as compared to the low or high level of information load. The results were not inconsistent with the Huang's (2000) research on information load in online shopping contexts. Huang (2000) examined two dimensions of information load (information novelty and information complexity) and found the positive effects for information novelty and information complexity on consumer responses. Information novelty plays a role in making consumers stay longer in shopping sites and information complexity plays a role in stimulating impulse shopping (Huang, 2000). However, the results of present research revealed the negative aspects of the high level of information load in terms of reducing perceived information quality and website quality and also found that the low level of information load was not enough to increase information quality and website quality. These results can be supported by the traditional information load theory (Jacoby, 1977; Malhotra, 1982). If too much or too less information is provided (the level of information load exceeds or does not reach the level of information-processing), it is difficult for consumers to make better quality decisions. In addition, the study revealed the importance of information quality. When the certain amount of information is available, the provided information should be useful and helpful for online shoppers' shopping tasks.

The findings of the research also supported the relationships among information quality, website quality and behavioral intentions. When online apparel shoppers perceived higher information quality, they tended to perceive higher website quality. Moreover, they tended to say positive things to others (positive WOM) and to pay extra money for shopping the website, and were not likely to switch to other websites that offers better service. Although previous research has emphasized the roles of information in online shopping, not so much research has focused on information quality issues. The findings of the study provided implications in terms of providing the evidence of the critical role of information quality. Thus, it is important that high quality information should be available so that consumers can evaluate products and websites, make a purchase decision, and be finally loyal to the website.

The present study theoretically contributed to the research fields of information (in particular, information load and information quality), website quality and online apparel shopping environments. Most research on information in online shopping studied information availability (Park & Stoel, 2002) and the amount of information (Ballantine, 2005), but little research focused on the issues of information load or information quality in online shopping contexts (Huang, 2000). In addition, traditional information load studies examined information load based on the alternatives (brands) in a choice set (Jacoby, 1977; Malhotra, 1982). The current study contributed to supporting the information load paradigm in online apparel shopping and the roles of

information quality in affecting website quality, and finally influencing positive WOM and willingness to pay more and reducing willingness to switch.

This study provided valuable managerial implications. In the information-laden online shopping environment, effective managements of information can be a critical strategy to attract shoppers to their websites. The roles of information load and information quality should be considered by online apparel retailers and website designers of online shopping environments. Instead of increasing the amount of information, providing high quality information with the certain amount of information is essential in order to pleasant online shopping environments. The Internet has a capability to contain nearly limitless and extensive information and to easily add information and manage contents (Peterson & Merino, 2003). However, online retailers and website designers should be very careful when adding more amount of information. Additive information may not be effective because it can cause information load and other negative responses (e.g., negative information and website quality, negative WOM, switching to other websites, etc.).

Previous research in traditional shopping environments focused on finding the effect of service quality dimensions on behavioral intentions (e.g., loyalty, willingness to pay more, willingness to switch) (Athanassopoulos et al., 2001; Dick & Baru, 1994; Zeithamal et al., 1996). In addition, research in online shopping environments focused on identifying dimensions of website quality (or eTailQ, E-S-Qual) and developing the scale of website quality (Li et al., 2002; Wolfinbarger & Gilly, 2003; Yang et al., 2003). The current research revealed that information quality influenced website quality, subsequently affecting behavioral intentions (increasing positive WOM and willingness to pay more and reducing willingness to switch). These types of behavioral intentions are commonly shown in loyal customers. Online retailers and website designers should notice that increasing website quality can be an effective marketing strategy to enhance customer loyalty. They need to be prepared to maintain positive website quality perceptions with customers. In doing so, they need to realize critical roles of information quality in enhancing website quality.

There are a number of potential avenues for future research regarding information load in online shopping contexts. Creating pleasant online shopping environments is critical as an important online visual merchandising strategy. Website designers make an effort to effectively arrange diverse brands and styles in online shopping environments. The way to arrange the variety of alternatives in a webpage can influence online shoppers' perceived information load. For example, they use diverse search functions such as by brands, by styles, and by sizes. The layouts of an online store can be affected by the number of alternatives shown in a webpage which can be an important factor that may affect information load. Therefore, future research need to investigate how the layout of a online store can influence information load. The current research focused on verbal information to manipulate information load. However, high technological functions (e.g., rotation) and high amount of pictures may enhance information load. Therefore, future research should consider other visual variables that may impact information load.

This research has several limitations regarding characteristics of the sample of the study. Since the sample of the study was female college students and staff, the sample may not be representatives for the general population of online apparel shoppers. In addition, male consumers may show different patterns of information load. Therefore future research need to use other sample groups (e.g., comparisons between other gender groups or other age groups, etc).

#### References

Anderson, J., & Gerbing, D.(1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bullutin*, 103(3), 411-423.

Athanassopoulos, A., Gounaris, S., & Stathakopoulos, V.(2001). Behavioral responses to customer satisfactionAn empirical study. *European Journal of Marketing*, 35(5/6), 687-707.

Ballantine, P. W.(2005). Effects if interactivity and

- product information on consumer satisfaction in an online retail setting. *International Journal of Retail and Distribution Management*, 33(6), 461-471.
- Campbell, D. J.(1988). Task complexity: A review and analysis. *Academy of Management Review*, 13(1), 40-52.
- Dick, A. S., & Basu, K.(1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, 22(1), 99-113
- Forsythe, S., & Shi, B.(2003). Consumer patronage and risk perceptions in Internet shopping. *Journal of Business Research*, *56*, 867-875.
- Huang, M.(2000). Information load: its relationship to online exploratory and shopping behavior. *International Journal of Information Management*, 20, 337-347.
- Hwang, M. I., & Lin, J. W.(1999). Information dimension, information overload, and decision quality. *Journal of Information Science*, 25(3), 213-219.
- Iyengar, S. S., & Lepper, M. R.(2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, 79(6), 995-1006.
- Jacoby, J.(1977). Information load and decision quality: Some contested issues. *Journal of Marketing Research*, 14(November), 569-573.
- Keller, K. L., & Staelin, R.(1987). Effects of quality and quantity of information on decision effectiveness. *Journal of Consumer Research*, 14, 200-213.
- Kim, M.(2004). Consumer response to stockouts in online apparel shopping. Unpublished doctoral dissertation, The Ohio State University.
- Kim, M., & Lennon, S. J.(2000). Television shopping for apparel in the United States: Effects of perceived amount of information on perceived risks and purchase intentions. Family and Consumer Sciences Research Journal, 28(3), 301-330.
- Li, Y. N., Tan, K. C., & Xie, M.(2002). Measuring webbased service quality. *Total Quality Management*, 13(5), 685-700.

- Malhotra, N. K.(1982). Information load and consumer decision making. *Journal of Consumer Research*, 8(March), 419-430.
- McKinney, V., Yoon, K., & Zahedi, F. M.(2002). The measurement of web-customer satisfaction: An expectation and disconfirmation approach. *Information Systems Research*, 13(3), 296-315.
- Mehrabian, A., & Russell, J. A.(1974). An approach to environmental psychology. Cambridge, MA: The MIT Press.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring customer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
- Park, J. H., & Stoel, L.(2002). Apparel shopping on the Internet: Information availability on US apparel merchant Web sites. *Journal of Fashion Marketing and Management*, 6(2), 158-176.
- Peterson, R. A., & Merino, M. C. (2003). Consumer information search behavior and the Internet. *Psychology and Marketing*, 20(2), 99-121.
- Srinivasan, S. S., Anderson, R., & Ponnavolu, K.(2002). Customer loyalty in e-commerce: An exploration of its antecedents and consequences. *Journal of Retailing*, 78, 41-50.
- Wolfinbarger, M., & Gilly, M. C.(2003). eTailQ: dimensionalizing, measuring and predicting etail quality. *Journal of Retailing*, 79, 183-198.
- Yang, Z., Peterson, R. T., & Cai, S.(2003). Service quality dimensions of Internet retailing: An exploratory analysis. *Journal of Service Marketing*, 17(7), 685-700.
- Yi, Y., & Jeon, H.(2003). Effects of loyalty programs on value perception, program loyalty, and brand loyalty. *Journal of the Academy of Marketing Science*, 31(3), 229-240.
- Zeithamal, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60(4), 31-46

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