How Important are Web-Site Attributes in E-Retailing?

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Abstract: *It is crucial for e-retailers to understand the way in which consumers shop online through their web-sites. E-retailers should formulate their strategies by focusing on perceptions of consumers towards web-site attributes in order to be successful. This study is in the forefront of examining consumer's perceptions and their visiting behavior related to a gift e-retailer in Turkey. It seeks to identify the dimensions of web-site attributes and to examine the effects of consumers' web-site attributes perceptions on their intention to visit. The survey was conducted on 360 internet consumers. The results revealed that all dimensions of web-site attributes, respectively; fun, ease of use, reliability, interactivity, security and personality had effects on intention to visit.*

Keywords: *Internet Marketing, E-retailing, Web-site Attributes, Consumer Perceptions, Intention to Visit, Regression Analysis.*

1. INTRODUCTION

With the trend toward the increasing use of the internet as an important shopping medium, the attributes of an e-retailers' web-sites are crucial for attracting consumers to the web-sites and convincing them to become or remain customers. The importance of web-site attributes in consumers' online shopping behavior, with certain attributes playing a major role in creating demand for online purchasing and increasing store transactions and sales are searched in the literature (Lohse and Spiller, 1998; Rowley and Okelberry, 2000; Swaminathan, White and Rao, 1999; Zellweger, 1997). It is found that web-site attributes' effects are not only on consumers' current purchases but also on their future purchase intentions (Watchravesringkan and Shim, 2003). Thus, e-retailers must understand how online consumers interact with their web-sites; how they evaluate web-site attributes and what makes them to visit their web-sites. It is proposed that through well-established web-site attributes, e-retailers can expect to gain consumers' intention to visit their web-sites. Moreover, in the gift e-retailing, as consumer demands continue to increase, much more diverse, and individualistic, an effort should be made to predict and analyze consumer demands in order to plan, develop, and distribute gifts that meet consumer desires. The purpose of this study is to identify the dimensions of web-site attributes of a gift e-retailer and examine the effects of consumers' web-site attributes perceptions on their visit intentions. This study aims to provide useful information for e-retailers to develop web-sites that can attract online consumers, satisfy and retain them by communicating successfully via their web-sites.

2. CONCEPTUAL BACKGROUND

E-retailing

Electronic retailing is a retail format in which the retailer and consumer communicate with each other through an interactive electronic network (Levy and Weitz, 2001). E-retailing is the newest store format in retailing, albeit using more radical models of retail operations, compared to the traditional bricks-and mortar store, catalog and home shopping formats in use today. E-retailing, which started out as a separate format of retailing, is now becoming part of a multi-channel strategy for manufacturers and retailers (Grewal, Iyerk and Levy, 2004). Because the technological characteristics and potential worldwide reach of e-retailing, many largest retailers integrated e-retailing into their operations. Thus, the trend of evolving from local to global in the world of retailing occurs. E-retailing provides some advantages whereas carries some disadvantages. From the consumer's point of view, e-retailing offers the convenience of being able to choose from a wide selection at any time, from home or office, and to have it delivered. However, e-retailing cannot always fulfill all consumers' needs and have more difficulty providing personalized human-contact, purchase trial or experience, and low-cost after-sales service (including returns) than do their bricks-and-mortar competitors (Grewal et. al., 2004). According to Grewal et. al. (2004) the factors enabling the spread of e-retailing depends on product category that some of them like computer products, books, music CDs and videos have strong customer acceptance. In addition, access to information, access to price information, novelty, accessibility and convenience are accepted as enablers of e-retailing. On the other hand compelling factors such as lack of trial, lack of interpersonal trust, lack of instant gratification, high shipping and handling costs, lower customer service, loss of privacy and security, high economies of scale, lack of stable customer base, poor logistics, lack of experience and lack of in-store shopping experience limit the success of e-retailing (Grewal et. al, 2004). In the literature, studies offer the strategies for e-retailers in order to avoid the disadvantages of e-retailing while emphasizing

its advantages. In addition, some service providers intensively promoted the benefit of e-retailing and assumed that consumers might be willing to use the services (Liao and Shi, 2009). Based on the study of Lee and Tan (2003), e-retailers should devise strategies to reduce the consumers' purchase risk on shopping on-line, including the use of well-known brands and retailer reputation. To sum up, with an extensive knowledge of its existing and potential consumers e-retailers can design e-retailing strategies effectively.

Web-site Attributes and Dimensions

The web-site is a door into a company, and must provide inviting, organized, and relevant content. Web-site can entertain, build communities, provide a communication channel with the customer, provide information, and assist in many other ways (Strauss and Frost, 2009: 296). Previous studies examined consumer behavior related to web-sites by analyzing web-site attributes and its dimensions. Lu (2004), investigating the success of shopping on internet, found four dimensions of web-site attributes called deep and broad product line, merchandise's price and transmission speed, graphics allocation and message board, and comprehensive information on merchandising. In the study of Wan (2002), consumers' attitudes towards web-sites were examined in five dimensions as relative advantage, compatibility, ease of use, enjoyment and risk. According to Ho (2003), web-site attributes have various aspects namely product availability, product information offering, product price, transaction procedure, after-sales service, interactivity, and content allocation. Chen (2001) examined consumers' evaluation of web-sites by six dimensions, online transaction cost, perceived risk, information system quality, web familiarity, ease of use and usefulness and proposed that evaluation of web-sites effects online shopping intention. In addition, Kaynama and Black (2000) studied attributes such as design and presentation, personalization and customization, content and purpose background, accessibility, responsiveness and investigation for online travel agencies. In other studies, the web-site attributes' are examined by so many dimensions. In the study of Madu and Madu (2002), 17 categories including assurance, strong capacity, security, system integrity, responsiveness, customization, structure, performance, trust, aesthetics, serviceability, reliability, features, reputation, empathy, product / service differentiation, and web-store policies of web service are proposed. In addition, Yang, Ahmed, Ghingold, Boon, Mei and Lee (2003) examined consumer preferences for web-site designs in their study. 18 variables including security, privacy, downloading time, brand, customer recommendations, user-friendliness, promptness of delivery, warranty, convenience, information content, mode of payment, discount price, graphical interface, customer support, unique merchandise, types of merchandise, banner advertisements, and affiliates influenced the effectiveness of web-sites.

Web-site attributes and customers' online shopping behavior

Previous studies have focused on identifying the factors that affect consumer online shopping behavior in the context of e-retailing. A significant amount of research aim to measure the consumer's attitudes and reactions to a variety of different elements of the retailer's strategic positioning, as manifested through the design of their web-sites (Doherty and Ellis-Chadwick, 2009). In the literature, web-sites are found to be effective not only on likelihood of consumers' satisfaction but also on consumers' online shopping behavior. Kim and Lim (2001) studied the relationship between consumers' evaluation of the relative importance of web-site attributes and their satisfaction with the attributes of the web-sites where they shopped. They found that some dimensions of evaluating the importance of web-site characteristics influenced consumers' satisfaction with other dimensions of the web-site characteristics. It is found that the consumers' evaluation of the information quality dimension of web-site attributes was significantly related to the consumers' satisfaction with entertainment dimension. A study by Swaminathan et al. (1999) revealed that the perceived ease of placing and canceling orders and usefulness of product information provided on web-sites increased consumer satisfaction and likelihood of repeat purchasing. Szymanski and Hise (2000) identified online convenience, merchandising, web-site design and payment security as important factors that influence internet consumers' satisfaction. Koivumaki (2001) found web-site characteristics such as clarity of the interface, usefulness of the web-site, interactivity, ease of navigation, selection availability, product presentation, ease of use and convenience of shopping had significant positive effect on the satisfaction. Kim and Stoel (2004) noted that the perceptions of informational fit-to-task, transaction capability, and response time were significantly related to satisfaction with web-sites. In addition, Pentina, Amialchuk and Taylor (2011) found that enriching relational and interactive / engagement experiences on a web-site will increase satisfaction of web-site visitors with their shopping, but will not increasingly induce immediate purchases. Instead, satisfying experiences may intensify positive word-of-mouth and lead to repeat visits, thus increasing online sales. In addition, a number of studies have indicated relationships between web-site attributes and customer's online shopping behavior. Some researchers suggest that attributes such as convenience, competitive price, the amount and type of product information, the ease of searching for information and customer service feedback, playing a major role in creating demand for online purchasing and increasing store transactions and sales (Lohse and Spiller, 1998; Swaminathan et al., 1999; Zellweger, 1997). Other researches indicate such factors as low prices, ease of comparison shopping, low shipping costs, timely delivery, security information, good customer services, convenience and time saving, and speedy e-mail response as key reasons for the increase in online purchasing (Rowley and Okelberry, 2000). Web-site layout design and information content are found to be important in order to arouse initial consumers interest to further explore a web-site (Huang, 2000; Menon and Kahn, 2002; Iyer, Gupta

and Johre, 2005). In addition, matching channel characteristics and retail information display for consumer shopping orientation are also found crucial factors (Mathwick, Malhotra and Rigdon, 2002). Perceived usefulness and ease of use, perceived risk, internet use, and perceived financial benefits are found the factors that affect web-shopping adoption (O'Cass and Fenech, 2002; Eastin, 2002). Siddiqui, O'Malley, McColl and Birtwistle (2003) found that web page design, ease of navigation, security guarantees, and return policies encourage consumers to purchase apparel products online. Park and Stoel (2002) noted that rich, descriptive information provided on the web-sites results in greater purchasing activity by online shoppers. Wan (2002) found that Taiwanese consumers' attitude towards web-site influence their shopping intention. The pivotal role of trust and the impact of security and privacy issues on web-purchase intentions and decisions are also determined in studies (Reynolds, 2000; So and Sculli, 2002; Shih, Chiang, Chan and Lin, 2004; Salisburym, Pearson, Pearson and Miller, 2000; Liao and Cheung, 2001; So, Wong and Sculli, 2005). The results of Ho (2003)'s study showed that web-site attributes influence consumer's revisiting and repurchasing intention to the web-site. Watchravesringkan and Shim (2003) examined the relationship between consumers' future online shopping intentions and their attitudes toward web-site attributes and found that the more positive were consumers' attitudes toward web-sites' processing speed and transaction security, the stronger their intentions to search online for apparel-product information and to buy apparel online.

3. METHODOLOGY
Research model and hypotheses
In this research, the effects of consumers' web-site attributes perceptions on their intention to visit are investigated. The independent variables of research model are six web-site attributes, which are expected to influence intention to visit as dependent variable. There are six dimensions of web-site attributes which effect consumers' intention to visit. The effects of ease of use, interactivity, security, fun, reliability and personality functions of web-site attributes on intention to visit are examined in the study. In the study, ease of use, interactivity, security, fun, reliability and personality are all hypothesized to have a positive effect on intention to visit.

H_1: Consumers' perceived ease of use positively effects consumers' intention to visit.
H_2: Consumers' perceived interactivity positively effects consumers' intention to visit.
H_3: Consumers' perceived security positively effects consumers' intention to visit.
H_4: Consumers' perceived fun positively effects consumers' intention to visit.
H_5: Consumers' perceived reliability positively effects consumers' intention to visit.
H_6: Consumers' perceived personality positively effects consumers' intention to visit.

Measurement
A total of 25 items are used as five point Likert-type scaled questions by rating from strongly disagree to strongly agree. Items used to measure web-site attributes perceptions were adapted from DaSilva and Alwi (2008), Seock and Norton (2007) and Merrilees and Fry (2002). The scale consisting four items for intention to visit was derived from Mummalaneni (2005) and Merrilees and Fry (2002).

Results
In order to test the research model, a survey was administered to the consumers of a gift e-retailer in Turkey via Internet. A total of 360 surveys were completed on a voluntary basis. Respondents were from both gender (with 55.3 % being male while 44.7 % being female), and mostly had an age of 26-35 (41.9 %) and 18-25 (38.3 %). Most of the respondents had 1001-2000 TL income level (32.2 %) and 1000 TL or below (26.9 %). The sample was represented by small sized and married families. In the study, the reliabilities of scales were assessed by computing Cronbach's coefficient alpha. The web-site attributes perceptions scale has established good reliability of 0.971 which is much more above the accepted level of 0.70 (Hair, Anderson, Tatham and Black, 2005). The Cronbach's alpha for intention to visit is 0.87 which is also much more above 0.70. Thus, scale reliabilities indicate that they exhibit an acceptable level of reliability of 0.70 (Nunnally, 1978). An exploratory principal components factor analysis with Varimax rotation with Kaiser Normalization was used to test the dimensionality of the web-site attributes perceptions scale. The scale items loaded into six factors that collectively explained 0.797 of the variance. Factor loadings in the rotated component matrix ranged from 0.527 to 0.808. Component 1 referred to as "ease of use"; component 2 referred to as ''interactivity''; component 3 referred to as "security"; component 4 referred to as "fun"; component 5 referred to as "reliability" and component 6 referred to as "personality". Ease of use attribute of web-site comprised six items such as "This site has a simple and user-friendly design.", "This site has an easy and efficient navigation.", "It is easy to get around and get what you want at this site.", "This site provides sufficient product information.", "This site allows me to shop the way I want to shop." and "At this site I have the full information at hand.". Interactivity attribute of web-site is composed of five items relating to "This site provides good two-way communication.", "This site helps the viewer participate, learn, and act.", "This site develops a close, personalized relationship with the viewer.", "This site facilitates feedback from the viewer to retailer." and "This site has good interactivity.". Items regard to security attribute of web-site was captured in another factor. It consisted of four items such as "I feel secure giving credit card details at this site.", "I feel like my privacy is protected at this site.", "The site has adequate

security features." and "Any form of communication is of a high level of credibility.". Web-site attribute called fun included four items like "This site is entertaining.", "This site is fun to use.", "This site is visually challenging." and "There is a wealth of information and ideas.". Reliability attribute was concerned with three items as "I get what I ordered from this site.", "The product I purchased was accurately represented by this site." and "The product was delivered by the time promised.". Finally, personality attribute of web-site was explained with three items including "This site makes purchase recommendation that matches my needs.", "This site develops close personalized relationship with its customers." and "This site provide product information that is relevant to me.". In order to assess the dimensionality of intention to visit scale, an exploratory principal components factor analysis was performed. Intention to visit was measured by four items including "I feel close attachment to this site.", "I feel loyal to this site.", "I am likely to purchase on this site." and "I am likely to revisit on this site.". The four items formed one factor that explained 0.722 of the variance in the scale. Finally, all scale reliabilities, factor loadings and total variance explained values are relatively high. In order to test the effects of consumers' web-site attributes perceptions on their intention to visit multiple regression analysis was applied to data. For testing research hypotheses, a regression model including web-site attributes perceptions as independent variables and intention to visit as dependent variable was created. The regression equation derived using enter method is formulated in Table 1.

Table 1: Regression Equation

IV $= -0.1714 + 0.501F + 0.342EU + 0.293R + 0.277I + 0.266S + 0.222P$	
IV : Intention to Visit	F : Fun
EU :Ease of Use	R : Reliability
I : Interactivity	P : Personality
S : Security	

In Table 2, Beta coefficients, t statistics, R^2, adjusted R^2, F statistics and p values (significance levels) of the regression model are shown. In order to evaluate the effects of consumers' web-site attributes perceptions on intention to visit, an F test was used. As seen in Table 4, F statistics value of 109.640 is significant at 0.001 significance level. In other words, consumers' web-site attributes perceptions effect their intention to visit. The adjusted R^2 value for the model is 0.645, indicating that the model can account for 64.5 % of the sample variance in intention to visit.

Table 2: Regression Results

Model	Dependent Variable	Independent Variables	Beta	T	R^2	Adjusted R^2	F
1	Intention to Visit	Ease of Use	.342*	10.888	0.651	0.645	109.640
		Interactivity	.277*	8.802			
		Security	.266*	8.462			
		Fun	.501*	15.931			
		Reliability	.293*	9.315			
		Personality	.222*	7.046			
*p<0.001							

To sum up, all hypotheses tested are supported at $\alpha=0.01$ significance level. As demonstrated by the regression analysis, the empirical study shows that consumers' web-site attributes perceptions determine their intention to visit.

4. CONCLUSION

The purpose of this study is to understand the effect of consumers' web-site attributes perceptions on their intention to visit. In the study, the dimensions of web-site attributes are determined and the effects of each dimension on intention to visit are examined. In order to determine the effects of web-site attributes on intention to visit, a survey was administered to 360 consumers of a gift e-retailer in Turkey. In the study, six dimensions of web-site attributes namely ease of use, interactivity, security, fun, reliability and personality are identified. From the data analyzed, it can be concluded that consumers' perceptions of web-site attributes affect their intentions to visit web-sites. More specifically, consumers' perceptions of fun, ease of use, reliability, interactivity, security, and personality attributes of web-site have significant effect on their intentions to visit. Findings of this research come from the examination of the relative strengths of the dimensions of six web-site attribute perceptions on intention to visit. Among the dimensions of web-site attributes, fun has the highest effect on intention to visit, indicating that fun is the most important web-site attribute for consumers. This result suggests that e-retailers should emphasize their efforts in making their web-site such entertaining and challenging that consumers have a good time while visiting their web-sites. The results clearly indicate that ease of use can explain significant amount of the variance in intention to visit. Accordingly, in order to attract and gain consumers to the web-sites, e-retailers must ensure that their web-sites provide ease of use such as being simple and user-friendly, having easy and efficient navigation and having sufficient product information. Reliability also provides a substantive contribution to the variance in intention to visit. Consumers of a gift e-retailer perceive the reliability as an important factor in representing their intention to visit web-sites. The reliability can be gained by keeping promises in terms of product and delivery time. Findings suggest that

interactivity of web-site attributes is perceived as a key factor in consumers' intention to visit web-sites. Interactivity can be explained by good two-way communication that assures consumers' participation, learning and acting. Security is also an important predictor of intention to visit web-sites thus e-retailers must focus on protecting consumers' security by giving emphasis on consumers' privacy and providing high level of credibility and security features. Although personality is a significant term in the model, it has the weakest effect on intention to visit. In other words, personalization of web-sites through offering recommendations that matches consumers' needs have minimum effects on their intention to visit. To sum up, this research demonstrates that consumers' perceptions of web-site attributes respectively; fun, ease of use, reliability, interactivity, security and personality effect their intentions to visit web-sites. These results indicate that retail managers carefully analyze how consumers evaluate their web-sites in order to structure their web-sites that communicate consumers in the most efficient manner. Further, given the effect of web-site attributes on consumer behavior, these results suggest that retail managers work closely with their web-site designers.

5. LIMITATIONS AND IMPLICATIONS

Findings of this research are important for academic researchers dealing with e-retailing by understanding consumers' perceptions and their online shopping behavior. On the other hand, understanding the factors that impact consumers' intentions to visit web-sites is a vital issue for practitioners in their marketing strategies. Although, this research offers new insights to retailers in building effective web-sites for gaining consumers' intention to visit, there are several limitations that need to be pointed out. The findings may be limited to the sample and the e-retailer investigated in the research. In this study, 360 respondents were surveyed and a gift e-retailer, which is only one of the various types of e-retailers, is investigated. Further research can verify whether these findings hold for other samples and other types of e-retailers.

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