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GENDER AND WEBSITE DESIGN ACROSS CULTURES

Abstract

Previous research has determined that women and men process information differently and have unique values. These findings are further confirmed in the context of online shopping where women are known to have diverse preferences from men related to website design, and different sentiments regarding website trust and security. Yet despite these known differences, relatively there is little research has examined gender and website design. Further, although online shoppers hail from all corners of the globe, no research has examined gender differences concerning website design in a multicultural sample. To fill this gap, the current investigation examined differences between men and women with a focus on trust, satisfaction, loyalty, and website design in eight countries. Results demonstrate significant differences between men and women on all variables tested. Further analyses of four of the countries in the sample (China, Canada, the United States, and Germany) are compared related to socio-cultural values for masculinity-femininity. As expected, countries more alike on this dimension exhibited more similarities in terms of gender comparisons. All hypotheses in the study are supported. Suggestions are made regarding avenues for future research.

Keywords: Website Design, Trust, Satisfaction, Loyalty, Gender, Culture.

1 INTRODUCTION

The number of women shopping online is increasing, although relatively little is known about gender differences when buying on the Web. According to Dittmar, Long and Meek (2004, p.423):

Given that men and women have been shown to differ in their attitudes toward both the Internet and shopping (in conventional environments), it seems surprising that there is little research that explicitly addresses gender differences in on-line buying.

Prior research that does examine gender related attitudes and activities on the Internet suggests women are less interested in the Internet than men, spend less time online than men, and are less likely to purchase online (Allen 2001, Garbarino & Strahilevitz 2004, Rodgers & Harris 2003).

The design of the website is expected to impact user preferences, which in turn may produce differing reactions between men and women. Chen and Dhillon (2002, p. 310-311) write:

In the case of an Internet vendor, the website is perhaps the only way a firm communicates with its customers. Therefore its appearance and structure encourage or discourage a consumer's purchase intentions. In the marketing literature website features such as layout, appeal, graphics, readability, and ease-of-use have been considered to affect consumers' clicking frequency.

Although few studies have examined gender and website design - there are some exceptions. For instance previous research has examined gender differences related to online social presence and enjoyment (Cyr & Hassanein & Head & Ivanov 2007), website design and satisfaction (Cyr & Bonanni 2005), email usage (Gefen & Straub 1997), social norms (Venkatesh & Morris 2000), online risk (Garbarino & Strahilevitz 2004), trust (Awad & Ragowsky 2008, Cyr & Bonanni 2005) or technology acceptance (Awad & Ragowsky 2008).

Building on previous research, the goal of the current investigation is to examine differences between men and women concerning their reactions to an online shopping website. The research variables considered include: website design elements (such as information design, information content, visual design, navigation design), disposition to trust, website trust and security, satisfaction, and loyalty. To expand the generalizability of the findings, data was collected in eight countries (Canada, the United States, India, Germany, Japan, Mexico, Chile, and China) as well as separately for English and French Canadians within Canada.[1] In addition, comparisons are made between four countries based on levels of masculinity-femininity (as elaborated by Hofstede 1984). Of interest is whether there is any similarity between user perceptions based on gender in countries which are similar on psychological-cultural values such as masculinity-femininity.

This paper begins with an introduction to gender and information processing, as well as cultural values related to gender with a focus on masculinity-femininity. This is followed by a review of the literature related to the various dependent variables, and with respect to prior research that examines the variables in the context of gender. The method, results, and discussion follow, with both theoretical and practical implications outlined.

2 INFORMATION PROCESSING AND GENDER

Men and women are known to process information differently, and this spills into various areas of information technology communications (Gefen & Geri &Paravastu 2007, Gefen & Ridings 2005) including online shopping. Dittmar et al. (2004, p. 440) write: "Men are more functional in their

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[1] It should be noted that the purpose of this paper is not to compare the research variables across countries but rather to focus on gender differences within each country or group with respect to the research variables. Separate research has been conducted by this author on website design across cultures. Please refer to Cyr (2008a).

buying attitudes…whereas women stress social-experiential and identity-related concerns, and in particular, emotional involvement". Rodgers and Harris (2003) noted that inadequately perceived emotional benefits may be an underlying reason why women are less involved in e-commerce activity.

Social explanations have been advanced with relevance for why men and women vary in their perceptions and expectations regarding online shopping. Men tend to vigorously pursue self focused goals having great personal consequences, while women are guided by communal concerns emphasizing interpersonal affiliation and harmonious relationships (Petrevu 2001). To better understand differences in information processing between men and women, two theories – selectivity interpretation and item-specific versus relational processing – are advanced. The selectivity hypothesis (first proposed by Meyers-Levy 1989) asserts that men are selective processors who rely on highly available and salient cues. Women are comprehensive processors who are apt to assimilate all available information before arriving at a conclusion. Translated to an online shopping experience, men tend to pursue a minimizing approach whereby they make a selection as quickly as possible. Women, on the other hand, will spend considerably more time gathering information about products and comparing the merits of each prior to making the purchase decision.

Alternately, in item-specific information processing, attributes that are unique or distinctive to a message are important and there is a tendency to focus on a few salient attributes (more male oriented). When relational processing occurs (more female oriented), similarities, shared themes, or interrelationships among disparate pieces of information are sought (Einstein & Hunt 1980). In the context of online shopping these theories find relevance in that women require more social interaction than men in the shopping experience - and which may not be possible on the Web. Hence women perceive less emotional benefit from online shopping, and have less favorable perceptions of the experience than men (Cyr & Bonanni 2005, Simon 2001). According to van Slyke, Comunale and Belanger (2002, p. 85),

If women tend to gain benefit from the social aspects of traditional shopping, Web-based shopping may be viewed less favorably, thus affecting women's perceptions of the relative advantage and compatibility of Web-based shopping.

3   SOCIO-CULTURAL VALUES OF MASCULINITY-FEMININITY

In addition to different perceptions in online shopping related to gender, culture is known to have an effect as well (Cyr & Bonnani & Bowes & Ilsever 2005, Cyr 2008, Gefen & Heart 2006, Srite & Karahanna 2006). Differences in online communication strategies for target markets occur between Japan, Spain and the United States (Okayazaki & Rivas 2002). Over the years, researchers have often used Hofstede's (1984) classifications to study social psychological phenomena including website design and experience (Gefen & Heart 2006, Jarvenpaa & Tractinsky & Saarinen & Vitale 1999, Simon 2001).

In this research, Hofstede's (1984) classification for masculinity-femininity will be considered for its relatedness to psychological-social phenomena with respect to gender. Masculine values emphasize work goals such as material success and having challenging work. Feminine values are focused on quality of life, nurturing, and modesty (Hofstede & Associates 1998). As defined by Hofstede (1984) works goals include a focus on recognition, challenge, advancement, earning, and achievement defined by earnings. This set of goals, termed ego goals or ego enhancing goals, is thought to be associated with masculine cultures. Alternately, quality of life work goals emphasize a supportive and friendly work environment, cooperation, job security and achievement determined with respect to work relationships and human contacts. According to Hofstede, these social or relationship enhancing goals are associated with feminine cultures. Specific to the countries in this investigation, two countries that are ranked medium in masculinity (Canada - 52; China - 50) are compared; as are two countries that are ranked high in masculinity (the United States - 62; Germany - 62). As outlined in the introduction, it is of interest to see if in similar countries based on socio-cultural values of masculinity-femininity if there are any gender parallels for these countries.

4   WEBSITE DESIGN AND GENDER

Effective website design engages and attracts online consumers (Agarwal & Venkatesh 2002). Modes of information presented on the Internet, and the quality of graphics have a significant impact on user experience (Chau & Au & Tam 2000, Cyr & Head & Larios & Pan 2009). Others have conducted research into website design related to website trust, satisfaction and loyalty and have considered separate elements of information design, visual design, and navigation design (Cyr et al. 2005, Cyr 2008). In addition, Cyr (2008) included the additional design element of information content. Building on this earlier work, in this study the following are investigated:

Information Content - information that is complete, sufficient, and effective;

Information Design - information that is logically presented and organized;

Navigation Design - the navigational scheme or format used to help or hinder users as they access different sections of a website;

Visual Design - design elements such as balance, emotional appeal, aesthetics, and uniformity of a website's overall graphical look; this may include colors, photographs, shapes, or font type.

Few studies have explicitly explored website design differences between men and women. Although in one investigation differences in website perceptions were examined for men and women concerning information richness, communication effectiveness, and communication interface (Simon 2001). Results from this study revealed that women had a lower perception of websites than men. In another study, Cyr and Bonanni (2005) found differences on selected items only between men and women for information design, navigation design and visual design. In total, five of 11 design items were statistically different using t-test comparisons. Based on these results as well as interview data, men felt the information on the website was better organized and presented, and they were more satisfied with navigation. With respect to visual design, women were more attracted by the colors on the website while men liked the more interactive and "flashy" design elements.

Further, based on four of the eight countries in the sample, it will be interesting to explore if there are similarities between how men and women perceive website design elements in a context that includes socio-cultural values of masculinity-femininity. More specifically, it is expected that countries that are both medium in masculinity such as Canada and China will have similar results for gender comparisons. Alternately, other countries such as the United States and Germany that are both high in masculinity will likewise be similar, and in turn different from Canada and China with respect to gender comparisons for website design.

Based on the preceding, the following hypotheses are posited:

H1: There will be differences between men and women in their perception of information content.

H2: There will be differences between men and women in their perception of information design.

H3: There will be differences between men and women in their perception of navigation design.

H4: There will be differences between men and women in their perception of visual design.

H5: Canada and China (both medium masculinity) will be similar in gender results compared to the United States and Germany (both high masculinity), and alternately the United States and Germany will be more similar compared to Canada and China for information content, information design, navigation design, and visual design.

5   TRUST, SECURITY AND GENDER

According to Jarvenpaa et al. (1999) online trust refers to consumer confidence in the website and a "willingness to rely on the seller and take actions in circumstances where such action makes the consumer vulnerable to the seller" (p. 4). Building on this definition, in the current research online

trust refers to general trust of the website, and that the user can trust the transaction process as well as information presented. Consumer trust in the website is fundamental to loyalty including online purchase intentions (Flavián & Guinalíu & Gurrea 2006, Gefen 2000, McKnight & Kacmar & Choudhury 2004, Pavlou & Gefen 2005) and willingness by consumers to buy from an online vendor (Flavián et al. 2006, Laurn & Lin 2003, Pavlou 2003, Wang & Benbasat 2008). Overall, women are less likely to trust a website than men (Cyr & Bonanni 2005, Rodgers & Harris 2003).

Online shopping is deterred by absence of payment security, payment-clearing structures, or privacy policies (Jarvenpaa et al. 1999). Use of trusted third parties as intermediaries such as VeriSign (Palmer & Bailey & Faraj & Smith 2000) help reduce buyer's perceived risk. Women perceive a higher level of risk in online purchasing than men (Garbarino & Strahilevitz 2004).

It appears that perceptions of online trust and security are influenced by gender, although few studies examine this phenomenon. As a baseline measure of trust in the current investigation, data was gathered on general disposition to trust unrelated to the Internet or e-commerce. More specifically, in this research disposition to trust generally refers to an expectation that people are trustworthy and honest. In addition, website trust was examined in terms of whether users feel they can trust the website viewed. Finally, transaction security of the website was considered and whether or not shopping on the website is deemed by the user as secure. This leads to the next set of hypotheses:

H6: There will be differences between men and women for disposition to trust.

H7: There will be differences between men and women for website trust.

H8: There will be differences between men and women for transaction security.

H9: Canada and China (both medium masculinity) will be similar in gender results compared to the United States and Germany (both high masculinity), and alternately the United States and Germany will be more similar compared to Canada and China for disposition to trust, website trust, and transaction security.

6   WEBSITE SATISFACTION, LOYALTY AND GENDER

An effectively designed website may engage and attract online consumers resulting in satisfaction with an online vendor (Agarwal & Venkatesh 2002). Palmer (2002) validated design metrics for websites and found information content, site organization, and navigation are important to website success, including intent to return to the site. In other research, website design and the "*ambience associated with the site itself and how it functions*" is related to online satisfaction (Syzmanski & Hise, p. 313). In the current investigation, website satisfaction refers to overall contentment with the online experience (Anderson & Srinivasan 2003, Flavián et al. 2006), and may include access to information, a positive navigation experience, and perception of a well designed website (Balasubramanian & Konana & Menon 2003). While few studies have examined online satisfaction and gender, there is evidence that women tend to be less satisfied with the online experience than men (Dittmar et al. 2004, Simon 2001). Further, men and women differ in their 'web acceptance and usage processes' (p. 19) with men more driven by instrumental factors with stronger perceptions of usefulness of the Web than women (Sanchez-Franco 2006).

Online loyalty, or e-loyalty, has been conceived as a "consumer's intention to buy" from a website and that consumers will not change to another website (Flavián et al. 2006). In a business-to-business service context, Lam, Shankar, Erramilli and Murthy (2004) tested customer satisfaction to loyalty where loyalty is both the patronage of an online vendor, as well as confidence in recommending the vendor. In a study in which website design and loyalty were investigated across cultures, Cyr et al. (2005) defined loyalty as intention to revisit a website, or to consider purchasing from it in the future. Consistent with the preceding, in the current investigation e-loyalty is defined as perceived intention to visit or use a website in the future and to consider purchasing from it in the future. Prior research examining risk perceptions in marketing found that risk perceptions are negatively correlated with

willingness to buy (White & Truly 1989). As already noted Garbarino and Strahilevitz (2004) found women perceived online shopping to have higher levels of risk than men. Hence we would expect that women would also be less likely to be loyal to a website than men, as supported by other research (Allen 2001, Garbarino & Strahilevitz 2004, Rodgers & Harris 2003). This results in the final set of hypotheses:

H10: There will be differences between men and women for website satisfaction.

H11: There will be differences between men and women for website loyalty.

H12: Canada and China (both medium masculinity) will be similar in gender results compared to the United States and Germany (both high masculinity), and alternately the United States and Germany will be more similar compared to Canada and China for website satisfaction and loyalty.

7   METHOD

7.1   Participants

A total of 1156 participants located in English Canada (232: Female (F) = 124), French Canada (80: F=39), the United States (197: F=116), India (106; F=90), Germany (122: F=61), Japan (78: F=31), Mexico (71: F=41), Chile (48: F=37), and China (222: F=109) completed an experimental task and online survey. To ensure participants are "of the culture" it was determined each had lived in the country the majority of their lives and spoke the native language as their primary language. Participants were recruited from a wide range of sources including universities, institutes, and companies. Average age across countries is similar with an overall average of 27.4 years. Participants are experienced online shoppers with a mean of 3.8 years of online shopping experience. They are well educated with 273 having graduate education, 487 undergraduate education, 50 technical training, and 263 with high school completion. To determine if significant differences existed across cultures based on demographics, ANOVA tests were run for age, education, and Internet and online shopping experience. Overall, no differences occurred between cultures that would influence the constructs tested in this research.

7.2   Task and Website Design

This research targets user impressions of B2C Web pages. For the research treatment participants responded to the local version of the SonyStyle website represented in their native language. The SonyStyle website was chosen after an extensive search for a well localized vendor website in which the design of the website was adapted to be appropriate to the culture of each user as determined by a design expert who rated each country website. To recruit participants, the researcher sent an email to international colleagues with a link where instructions for the research and an online survey were found. These colleagues further distributed the email to students and members of their respective organizations. Participants were requested to initially view the home page of the local website, followed by navigation of the website to choose a cell phone they would hypothetically purchase. This methodology is consistent with Cyr et al. (2005) and Cyr (2008a, 2008b). Once participants concluded this task each completed an online questionnaire. Background information to the study, and all other written content including the questionnaire were translated and back-translated into each required language. As an incentive to participate in the study, participants could optionally enter their name in a draw for a US$ 250 gift certificate for Amazon.com.

7.3   Instrument Validity and Reliability

Content validity ensures construct items are representative and drawn from a universal pool (Cronbach 1971). With the exception of Information Content, the constructs used in the investigation are based on previous research and have been previously validated from a variety of sources and exhibit content validity. More specifically: Disposition to Trust and Transaction Security (Yoon 2002, McKnight et al.

2002), Information Design (Cyr 2008a, Egger 2001), Navigation Design, Visual Design (Cyr 2007, Cyr 2008a), Website Trust, Website Satisfaction, and Website Loyalty(Cyr et al. 2005, 2007, 2008a). Items for Information Content were derived from existing literature including Garrett's (2003) website classifications, and this construct was successfully validated in this investigation.[2] All items were assessed on a 7-point Likert scale from strongly disagree to strongly agree. The questionnaire was pre-tested with 62 undergraduate students. Categories were evaluated for item validity and reliability and several items were revised for better fit.

Table 1 shows the results of the principle component analysis with Varimax rotation. Construct reliability was assessed using Cronbach's α-value. In Table 1 α-values ranged from 0.714 (for Visual Design) to 0.869 (for Loyalty). The Cronbach α of a scale should be greater than 0.5 for items used together and ideally higher than 0.7 (Rivard & Huff 1988). Therefore all constructs possess construct reliability. The average variance extracted (AVE) for a construct should exceed 0.5 (Fornell & Larcker 1981). In Table 1 this criterion is satisfied for all constructs, and the constructs used in this study exhibited satisfactory convergent validity (demonstrated by the principle component factor analysis) and satisfactory discriminant validity (shown from inter-construct correlation analysis).

	Principal Component								
	Disp	**Sec**	**InfoCont**	**InfoDes**	**NavDes**	**VisDes**	**Trust**	**Sat**	**Loy**
Disp1	**.830**	.050	.115	.024	.051	.071	.077	-.123	.106
Disp2	**.861**	.118	.041	.026	-.029	.059	.071	.047	.062
Disp3	**.820**	.093	.005	.029	.068	.029	.097	.148	-.051
Sec2	.137	**.675**	.175	-.012	.059	.163	.399	-.097	.124
Sec3	.120	**.824**	.085	.157	.006	.046	.028	.161	.102
Sec4	.079	**.765**	.218	.067	.151	.049	.188	.068	.094
InfoCont1	.036	.335	**.671**	.206	.093	.000	.148	.136	.061
InfoCont2	.052	.062	**.814**	.088	.184	.105	.141	.105	.089
InfoCont3	.104	.150	**.645**	.303	.168	.110	.193	.114	.184
InfoCont4	.051	.099	**.791**	.112	.129	.157	.018	.107	.196
InfoDes1	.057	.152	.204	**.748**	.252	.148	.192	-.020	.180
InfoDes2	.014	.093	.225	**.668**	.367	.220	.134	.139	.185
InfoDes3	.036	.076	.327	**.617**	.278	.107	.100	.227	.197
NavDes1	.011	.095	.156	.253	**.796**	.137	.124	.149	.132
NavDes2	.043	.076	.179	.197	**.816**	.120	.196	.098	.211
NavDes3	.067	.066	.214	.229	**.696**	.163	.200	.118	.216
VisDes3	.097	.104	.215	.203	.270	**.709**	.215	.033	.129
VisDes4	.098	.108	.114	.147	.130	**.818**	.109	.180	.201
Trust1	.149	.295	.171	.107	.211	.195	**.664**	.063	.177
Trust2	.108	.060	.143	.211	.170	.084	**.781**	.152	.220
Trust3	.114	.292	.135	.095	.191	.111	**.714**	.182	.217

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[2] Due to space constraints the questionnaire is not included but may be obtained from the author.

Sat2	.019	.101	.262	.194	.189	.173	.270	**.706**	.269
Sat3	.093	.158	.322	.083	.276	.141	.156	**.665**	.281
Loy1	.069	.203	.195	.080	.193	.077	.174	.233	**.715**
Loy2	.037	.067	.149	.157	.170	.194	.160	.086	**.836**
Loy3	.048	.101	.147	.224	.184	.103	.229	.116	**.799**
α-value	.811	.775	.840	.817	.868	.714	.832	.800	.869
AVE	.837	.757	.734	.679	.771	.765	.721	.689	.785

NB: Disp = Disposition to Trust; Sec = Transaction Security; InfoCont = Information Content; InfoDes = Information Design; NavDes = Navigation Design; VisDes = Visual Design; Sat = Satisfaction; Loy = Loyalty

Table 1.   Factor Analysis

8   RESULTS

A goal of the investigation is to determine if gender differences exist for an international sample of participants. Comparisons were conducted using Tukey HSD testing (N=1156). Results for gender differences for the mixed country sample appear in Table 2. For all dependent variables significant differences between men and women are noted. This serves to confirm Hypotheses 1, 2, 3, 4, 6, 7, 8, 10, and 11.

Dependent Variable	*F-Value*	Sig
Disposition to Trust	8.401	.004**
Transaction Security	50.435	.000***
Information Content	36.166	.000***
Information Design	62.839	.000***
Navigation Design	51.185	.000***
Visual Design	79.843	.000***
Trust	69.360	.000***
Satisfaction	28.283	.000***
Loyalty	9.897	.002**

** p < .01   *** p <.001

Table 2.   Gender Differences for Mixed Country Sample (ANOVA)

Means and standard deviations appear in Table 3. In all cases, men score higher than women. Comparisons for gender differences for China, English Canada, the United States and Germany appear in Table 4. As predicted, China and English Canada which both are medium for masculinity are more similar for the various dependent variables compared to the United States and Germany, which are both high for masculinity. This confirms Hypotheses 5, 9, and 12. Means and standard deviations appear in Table 5.

Construct \ Gender	Disp Mean (S.D.)	Sec Mean (S.D.)	InfoCont Mean (S.D.)	InfoDes Mean (S.D.)	NavDes Mean (S.D.)	VisDes Mean (S.D.)	Trust Mean (S.D.)	Sat Mean (S.D.)	Loy Mean (S.D.)
Male	4.630 (1.178)	5.225 (1.072)	5.199 (1.132)	5.494 (1.023)	5.612 (1.066)	5.718 (1.150)	5.529 (0.996)	4.904 (1.282)	5.033 (1.356)
Female	4.424 (1.114)	4.726 (1.167)	4.761 (1.192)	4.927 (1.232)	5.070 (1.317)	4.999 (1.385)	4.955 (1.181)	4.478 (1.288)	4.767 (1.361)
Total	4.510 (1.145)	4.935 (1.154)	4.945 (1.186)	5.165 (1.182)	5.298 (1.247)	5.301 (1.339)	5.196 (1.142)	4.657 (1.302)	4.879 (1.365)

Table 3. Gender Differences for Mixed Country Sample [Sample N = 1156]

Construct \ Gender	Disp Mean (S.D.)	Sec Mean (S.D.)	InfoCont Mean (S.D.)	InfoDes Mean (S.D.)	NavDes Mean (S.D.)	VisDes Mean (S.D.)	Trust Mean (S.D.)	Sat Mean (S.D.)	Loy Mean (S.D.)
English Canada [Sample N = 231]									
Male	4.692 (1.171)	5.141 (1.103)	4.975 (1.078)	5.190 (1.096)	5.370 (1.091)	5.606 (1.231)	5.429 (1.048)	4.555 (1.269)	4.906 (1.311)
Female	4.727 (1.186)	5.265 (1.206)	5.107 (1.293)	5.454 (1.158)	5.547 (1.182)	5.615 (1.314)	5.550 (1.133)	4.959 (1.443)	4.891 (1.536)
Total	4.710 (1.176)	5.207 (1.157)	5.045 (1.196)	5.329 (1.135)	5.464 (1.141)	5.611 (1.273)	5.493 (1.093)	4.769 (1.376)	4.898 (1.431)
United States of America [Sample N = 196]									
Male	4.434 (1.239)	5.234 (1.000)	5.432 (0.963)	5.725 (0.794)	5.821 (0.921)	5.950 (0.977)	5.525 (0.971)	5.088 (1.196)	5.080 (1.399)
Female	4.613 (1.106)	5.061 (1.135)	4.951 (1.284)	5.319 (1.221)	5.282 (1.334)	5.440 (1.398)	5.348 (1.156)	4.643 (1.425)	5.113 (1.279)
Total	4.540 (1.163)	5.131 (1.083)	5.147 (1.185)	5.485 (1.084)	5.502 (1.209)	5.648 (1.266)	5.421 (1.085)	4.824 (1.351)	5.099 (1.326)
Germany [Sample N = 120]									
Male	4.295 (1.099)	4.328 (1.229)	4.263 (1.203)	4.767 (1.211)	5.017 (1.523)	4.892 (1.360)	4.878 (1.097)	4.159 (1.383)	4.317 (1.477)
Female	4.300 (1.133)	4.867 (1.331)	5.084 (1.168)	5.489 (1.190)	5.639 (1.085)	5.442 (1.303)	5.373 (1.257)	4.842 (1.145)	5.162 (1.386)
Total	4.298 (1.111)	4.598 (1.304)	4.673 (1.251)	5.128 (1.249)	5.328 (1.353)	5.167 (1.355)	5.125 (1.200)	4.500 (1.310)	4.739 (1.488)
China [Sample N = 211]									
Male	4.509 (1.168)	4.538 (1.021)	4.792 (0.872)	4.589 (1.003)	4.699 (1.155)	4.840 (1.247)	4.496 (1.044)	4.394 (1.252)	4.683 (1.132)
Female	4.189 (1.123)	4.556 (1.096)	4.468 (1.132)	4.399 (1.245)	4.565 (1.345)	4.524 (1.284)	4.325 (1.237)	4.329 (1.185)	4.399 (1.369)
Total	4.345 (1.154)	4.547 (1.058)	4.626 (1.024)	4.492 (1.135)	4.631 (1.255)	4.678 (1.273)	4.408 (1.148)	4.361 (1.216)	4.538 (1.264)

Table 5. Gender Differences for English Canada, United States, Germany, and China

Country / Dependent Variable	China		English Canada		United States		Germany	
	F-Value	Sig.	*F-Value*	Sig.	*F-Value*	Sig.	*F-Value*	Sig.
Disposition to Trust	4.116	.044*	.053	.819	1.121	.291	.001	.978
Transaction Security	.016	.900	.664	.416	1.211	.272	5.313	.023*
Information Content	5.384	.021*	.699	.404	8.089	.005**	14.389	.000***
Information Design	1.497	.223	3.147	.077	6.848	.010**	10.865	.001***
Navigation Design	.603	.438	1.379	.241	9.847	.002**	6.648	.011*
Visual Design	3.300	.071	.003	.956	7.978	.005**	5.121	.025*
Trust	1.174	.280	.706	.402	1.266	.262	5.277	.023*
Satisfaction	.148	.701	5.056	.025*	5.259	.023*	8.700	.004**
Loyalty	2.699	.102	.006	.939	.029	.865	10.441	.002**

* p< .05   ** p <.01   ***p <.001

Table 4.   Gender Differences for China, English Canada, the United States and Germany

It is interesting that in the medium masculinity countries where socio-psychological values would be more similar, there are few gender differences related to website design. For China, only significant gender differences are for disposition to trust and information content. In each case men score higher than women. For English Canada, the only significant difference is for satisfaction and rather surprising, women report greater satisfaction than men. The U.S. and Germany both have numerous significant differences by gender. For the U.S. 5 of 9 variables are significantly different, and in each case men score higher than women. For Germany, 8 of 9 variables are significantly different, and unexpectedly men score lower than women in all cases.

9   DISCUSSION

9.1   Theoretical and Practical Contributions

Research is limited regarding website perceptions between men and women. However, overall, gender differences have appeared in select areas related to website design, trust, and satisfaction. This study, based on a large sample of participants from eight country locations, serves to strongly reinforce the reality that men and women have a different experience of the same website. In the mixed country sample significant gender differences were found for all dependent variables. Further, the direction of the findings was as expected from previous research for website design (Cyr & Bonanni 2005, Simon 2001), trust and risk (Cyr & Bonnani 2005, Garbarino & Strahilevitz 2004), satisfaction (Dittmar et al. 2004, Simon 2001), and loyalty (Allen 2001, Garbarino & Strahilevitz, 2004, Rodgers & Harris 2003). In all cases women score lower than men. Looking at each variable separately, mean scores are reasonably high for both men and women and range for men from 4.6 (out of 7) for disposition to trust to 5.6 for navigation design. Alternately, mean scores for women range from 4.4 for disposition to trust and satisfaction to 5.1 for navigation design. While, scores for women are lower, there are parallel patterns of preference for both men and women. From a practical perspective, this data provides insights into website characteristics that are most important for the user, and as such offers designers important information as to how to please online shoppers.

An interesting discovery from this research is that based on socio-cultural values associated with masculinity-femininity patterns emerge related to gender preferences between countries. This suggests that countries that are more similar on the masculinity-femininity dimension also score similarly in terms of gender differences for the dependent variables as tested in this research. It would appear that

there are fewer differences between men and women in countries where masculinity is moderate (as in Canada and China) versus higher (as in the U.S. and Germany). Perhaps this can be explained by more similar socio-cultural values in those countries - regardless of gender. For Web designers this might feasibly suggest that for countries with similar cultural values, that the requirement for website localization (or adaptation) is less than for companies where cultural values are more discrepant.

9.2 Limitations of the Research

Data was collected in eight countries, including separate samples for English Canada and French Canada with a total of 1156 participants. A large and diverse sample population is a positive feature of this investigation. Participants are from a variety of sources including companies, universities, and institutes which offers generalizability of the findings. Concerning limitations to the research, a single vendor website (SonyStyle) was used. The possibility of response biasing could occur as respondents are aware of the company name and reputation, and may have previously established impressions of the company. In addition, a single task was used of searching for a cell phone for hypothetical purchase on a product-based website. No actual purchase was required. While this procedure is consistent with other e-commerce research, this may limit transferability of the findings to real e-commerce situations. In the future, similar research could be expanded to include a greater variety of tasks on both service and product websites, a larger sample of websites, or websites without specific branding.

9.3 Directions for Future Research

The findings for Germany are puzzling, with eight of nine variables significantly different between men and women and higher in each case for women. This finding merits additional investigation, perhaps using qualitative methodologies, to discover why exactly women are responding differently from their female counterparts in other countries. To date, there is no evidence to suggest why this result occurred.

Since the investigation of website preferences and the online shopping experiences between men and women is relatively new, there is much scope for future investigations in this field. Further research is suggested to more deeply probe online trust, transaction security, satisfaction, and e-loyalty. In addition, differences in design preferences for men and women indicate this area offers multiple opportunities to expand understanding as to what is gender relevant when browsing or shopping online. Although website localization is usually considered in a cultural context, researchers and web designers might also want to consider the notion of gender localization – given the results of this study. With large numbers of both men and women shopping online, vendors who create gender appropriate websites may reap rewards from customers who are more satisfied and loyal.

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