

# THE IMPACT OF SOCIAL PRESENCE ON THE EXPERIENCES OF ONLINE SHOPPERS

## *A Cross-Cultural Study*

Khaled Hassanein, Milena Head

*DeGroote School of Business, McMaster University, Hamilton, Canada*

Chunhua Ju

*College of Computer and Information Engineering, Hangzhou University of Commerce, P. R. China*

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**Abstract:** A notable difference between online and offline shopping that is hindering the growth of e-Commerce is the decreased presence of human and social elements in the online environment. This paper explores how human warmth and sociability can be integrated through the Web interface to positively impact online consumer perceptions. More specifically, the impact of design elements (emotive text and socially-rich pictures) is explored across two national cultures: Canadian and Chinese. Our results show increased levels of social presence through socially-rich design elements (i.e. socially-rich text and pictures) as having a positive impact on antecedents of attitude/intention of Canadian online shoppers (perceived usefulness, trust and enjoyment). We were also able to demonstrate similar results with Chinese online consumers in the case of perceived usefulness and enjoyment but not for trust. The paper concludes with a discussion of these results outlining implications for practitioners and directions for future research.

## 1 INTRODUCTION

Electronic commerce (e-Commerce) promises significant potential to revolutionize the way business is conducted, however, to date online business is still relatively insignificant. In particular, business-to-consumer e-Commerce transactions have not reached a point of critical mass (Ho et al., 2006).

A notable difference between online and offline consumer markets that is hindering the growth of e-Commerce is the decreased presence of human and social elements in the online environment. The traditional offline shopping experience includes a wide range of emotions involving various types of social interactions with humans (Tauber, 1972). In contrast, the online shopping experience may be viewed as lacking human warmth and sociability (Gefen and Straub, 2003). Online vendors can try to overcome the more impersonal, anonymous and automated stigma of online shopping (Riegelsberger

et al., 2003) by making their virtual storefront socially rich (Kumar and Benbasat, 2002).

This paper explores how human warmth and sociability can be integrated through the Web interface to positively impact consumer perceptions. More specifically, the impact of design elements (emotive text and socially-rich pictures) is explored across two national cultures: Canadian and Chinese. Research has shown that the infusion of social presence into e-Commerce Websites has a positive effect on the perceptions of North American online consumers (Gefen and Straub 2003; Cyr et al. 2006). More specifically, it has a positive effect on various Web experiences such as trust, perceived usefulness and enjoyment. This paper seeks to understand if these positive impacts of social presence hold for other cultures (in particular, the Chinese culture).

## 2 THEORY

In this section we provide a brief overview of two important lines of research that are fundamental to our hypotheses development: social presence and cultural influence.

### 2.1 Social Presence

Social presence is broadly defined as the extent to which a medium allows users to experience others as being psychologically present (Fulk et al. 1987). A more specific perspective of social presence focuses on “warmth”, where a medium is perceived to be warm if it conveys a feeling of human contact, sociability, and sensitivity (Rice and Case, 1983). This is the perspective we adopt in the current study.

Gefen and Straub (2003) suggest that pictures and text content can convey a personal presence in the same way as personal photographs and letters can. Choice of language can help create a sense of psychological closeness, warmth and social presence (Weiner and Mehrabian, 1968; Nass and Steuer, 1993). The effect of pictures may be even more pronounced, as our visual senses tend to dominate our perceptions and may be more susceptible to the influence of social presence (Short et al., 1976).

In computer mediated communications, automated and impersonal interactions can become more warm and personal by integrating interface elements that help to build perceived social presence. This, in turn, can help to promote acceptance and use of such systems. For example, in an online environment, Dormann (2001) suggests that incorporating emotional or social displays (via pictures, text, etc.) can be a key factor to the success of e-Commerce.

### 2.2 Cultural Influence

Culture is defined as the “collective programming of the mind which distinguishes the members of one human group from another” (Hofstede 1980). In his widely cited research in this area, Hofstede (1980) identifies the following dimensions for characterizing national cultures:

(i) Power Distance: The extent to which less powerful members expect and accept that power is distributed unequally.

(ii) Individualism vs. Collectivism: Looking after oneself and immediate family vs. loyalty to cohesive groups.

(iii) Uncertainty Avoidance: The extent to which members feel threatened by unknown situations.

(iv) Masculinity vs. Femininity: Competitiveness and material success vs. nurturing behaviour and quality of life.

Context is another commonly cited cultural dimension that had been affirmed by many researchers for its validity and usefulness (de Mooij, 2003). According to Hall and Hall (1990), “high context or low context refers to the amount of information that is in a given communication as a function of the context in which it occurs”. In high context cultures (such as China), information is part of a contextual understanding and is implicit, while in low context cultures (such as Canada) information is conveyed explicitly.

Previous research has shown that culture can influence the attitude towards and adoption of information technologies (see Ford et al. 2003 for a comprehensive review). More specifically, research results have shown that there are differences between cultural-based perceptions and satisfaction with Websites (Simon 2001; Tsiriktsis 2002) and e-Commerce adoption (Pavlou and Chai 2002; Hwang et al., 2006).

### 2.3 Research Hypotheses

A number of IS studies have examined various determinants of consumer attitude towards and intentions to transact with a Website. Three common determinants of attitude/intention within the Web context are the perceived usefulness (PU) construct of TAM (Technology Acceptance Model) (Davis 1989); Trust; and Enjoyment.

#### 2.3.1 Social Presence and Perceived Usefulness

There is a psychological connection between perceiving that a medium is warm and its usefulness across a range of communications tasks (Rice and Case, 1983). Therefore, when a Website serves as a communication interface between an online vendor and a customer, it is expected that social presence will be positively related to perceived usefulness. This relationship between social presence and perceived usefulness has been investigated and established by Straub (1994), Karahanna and Straub (1999), and Gefen and Straub (1997).

The above studies have established the positive influence of social presence on PU within a Western culture. Since China is classified as a culture with a high degree of uncertainty avoidance (Hofstede 1980) a rich interface incorporating social presence elements such as pictures of people with products should help reduce the degree of consumer

uncertainty in conducting business with a particular Website. We, therefore, hypothesize that:

*H1: Increased levels of social presence will have a positive impact on perceived usefulness for both Canadian and Chinese consumers while shopping online.*

### 2.3.2 Social Presence and Trust

Trust is especially important in the online environment to positively impact consumers' attitudes and purchasing intentions (Corritore et al. 2003). Since trust is created within the context of a social environment (Blau 1964), social presence is a necessary condition for the development of trust (Gefen et al. 2003). A lean social presence environment may facilitate information hiding and untrustworthy behaviour. Whereas, a high social presence environment may engender trust among participants (Gefen et al. 2003).

China is considered to be a collectivist society (Hofstede, 1980), where trust is built through frequent face-to-face communications (Jarvenpaa 1998). In the online environment, face-to-face interaction is minimal, making it more difficult for Chinese consumers to develop trust online.

Based on the above discussion, a socially rich Web interface should help engender trust for consumers in general, and may play a larger role for collectivist societies, such as China. We, therefore, hypothesize that:

*H2: Increased levels of social presence will have a positive impact on trust for both Canadian and Chinese consumers while shopping online*

### 2.3.3 Social Presence and Enjoyment

Enjoyment is an important experiential aspect in offline shopping (Morris 1987). Likewise, enjoyment has emerged as an essential factor in online shopping with significant impacts on online consumers' attitudes (Koufaris et al. 2001/02). (Lombard and Ditton (1997) argue that perhaps the most prominent psychological impact of social presence is enjoyment. Previous research has shown that increased social presence positively influences enjoyment for low context cultures (Cyr et al. 2006).

High context cultures (such as China) tend to place strong emphasis on mood and emotion, as compared to low context cultures (such as Canada). Therefore, high context cultures tend to favour face-to-face over computer-mediated interactions (Liu and Murphy 2003). Hence, infusing social presence through interface elements may play a larger role for

high context societies, such as China. We, therefore, hypothesize that:

*H3: Increased levels of social presence will have a positive impact on enjoyment for both Canadian and Chinese consumers while shopping online.*

## 3 RESEARCH METHODOLOGY

An empirical study was conducted to investigate our proposed hypotheses. The study was designed as a one-factorial experiment manipulating three levels of Website social presence with three independent groups. The study was conducted in Canada and in China using the same experimental design and methodology. Subjects were given the task of purchasing a shirt/top as a gift for a female friend. Clothing was selected as the online product to sell on the Websites for this study as it is a product that all consumers would be familiar with and to which social presence could be easily and naturally applied.

Each of the three Websites displayed the same products and followed the same design. Only social presence elements were manipulated on the sites. The experiment was conducted entirely online and subjects could complete the study from any computer with an internet connection, thus increasing the online shopping task realism. Following the completion of the task (selecting a woman's top for a friend), subjects completed a questionnaire about their experiences on the clothing Website they visited.

### 3.1 Experimental Websites

Three Websites were created for a fictitious clothing company (called myCloset.com). A fictitious company was chosen to avoid any potential bias from previous branding or experience. The manipulated levels of social presence were incremental, as shown in Table 1. With this approach, differences between the three groups could be directly attributed to the increasing levels of social presence.

As previously mentioned, this study was restricted to manipulating social presence through imaginary interaction elements of textual and graphic information. Example screen shots of the study sites are shown in Figures 1, 2 and 3 which show the same product page for the low, medium and high social presence Websites respectively.

Table 1: Social Presence (SP) Manipulations of the Experimental Websites.

Website	SP Level	Available Features
SP-1	Low	<ul style="list-style-type: none"> <li>Products are shown in a solitary format</li> <li>point form, functional descriptions</li> </ul>
SP-2	Medium	<ul style="list-style-type: none"> <li>all features of SP-1</li> <li>socially-rich text: descriptions aimed at evoking positive emotions</li> </ul>
SP-3	High	<ul style="list-style-type: none"> <li>all features of SP-2</li> <li>socially-rich pictures: products are shown worn by people in emotional, dynamic settings</li> </ul>

It is important to note that the same experimental Websites were used for both the Canadian and Chinese samples. While the Chinese participants were residents of mainland China, they were all fluent in English and had experience with English e-Commerce Websites. This was a highly controlled study, with no Website localization (translations and/or other cultural markers).

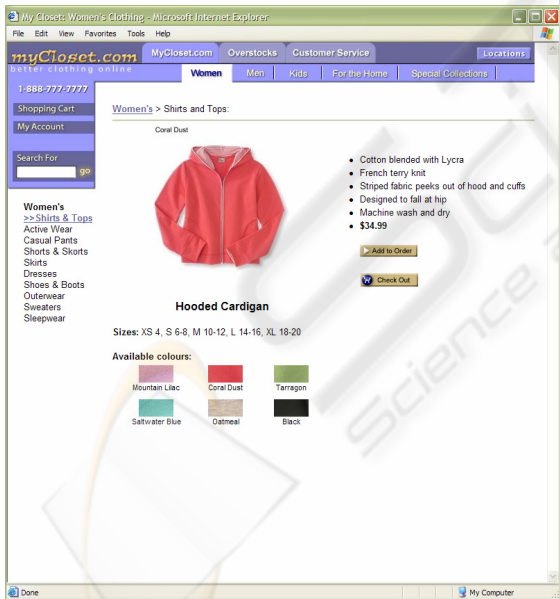


Figure 1: SP-1 Low Social Presence Website.

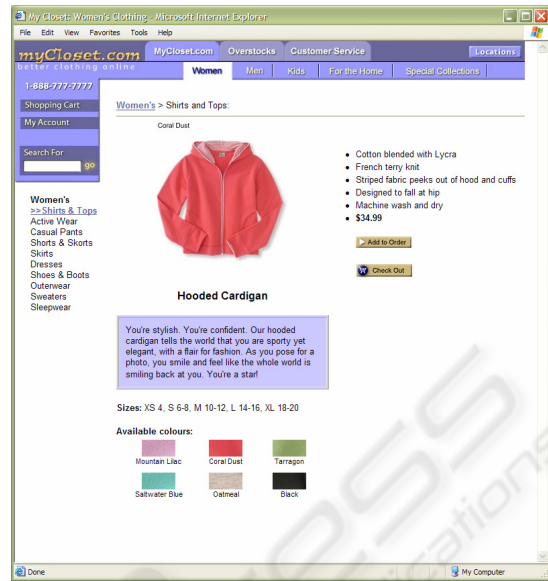


Figure 2: SP-2 Medium Social Presence Website.

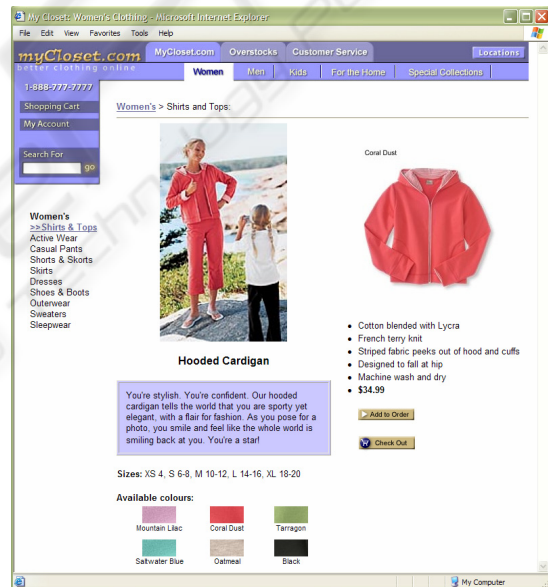


Figure 3: SP-3 High Social Presence Website.

### 3.2 Subjects

A total of 158 subjects participated in this experiment (78 for the Canadian study and 80 for the Chinese study). Subjects were largely undergraduate and graduate students and the demographics were similar among the Canadian and Chinese samples. Each subject participated in only one of the three groups. Subjects were randomly assigned to the social presence groups to control for confounding effects due to possible variations in individual



characteristics. ANOVA tests found no significant differences for subjects in the various treatment groups in terms of Internet and online shopping experience. Similarly, there were no significant differences in the proportion of male-to-female subjects across the three groups. Therefore, randomization of assignment across groups for both cultures was successful in terms of subject characteristics.

### 3.3 Validity

Measures for our dependent variables (i.e. perceived usefulness, enjoyment and trust) came from existing literature, where they had been repeatedly shown to exhibit strong content validity. Construct items used in this study are provided in the Appendix. Construct validity (measured through convergent and discriminant validity) examines the extent to which a construct measures the variable of interest. A construct is considered to exhibit satisfactory convergent and discriminant validity when items load highly on their related factor and have low loadings on unrelated factors. Table 2 includes the results of the varimax rotation on the original 12 items for both the Canadian and Chinese samples. Hair et al. (1995) suggested that an item is significant if its factor loading is greater than 0.50. From the original 12 items, one was eliminated in the Canadian sample (T3) and three were eliminated in the Chinese sample (PU4, E2, and T3) due to high cross-loadings on other constructs.

Table 2: Construct validity.

Construct Items	Canada		China	
	Item Loading	$\alpha$	Item Loading	$\alpha$
PU1	.610	.856	.785	.844
PU2	.806		.783	
PU3	.778		.790	
PU4	.622			
E1	.804	.900	.810	.914
E2	.847			
E3	.872		.879	
E4	.775		.788	
T1	.860	.821	.698	.789
T2	.820		.904	
T3				
T4	.605		.750	

Table 2 also shows that the Cronbach  $\alpha$ -values (measure for construct reliability) were satisfactory for both the Canadian and Chinese samples.

## 4 RESULTS

A MANOVA analysis was conducted to examine differences between group means for the three dependent variables of social presence (i.e. perceived usefulness, trust and enjoyment) across cultures (Canada and China). Groups were defined by the three levels of manipulated social presence (SP-1, SP-2, and SP-3). MANOVA test statistics included Pillari’s Trace, Wilks’ Lambda, Hotelling’s Trace, and Roy’s Largest Root. The  $p$ -values of these statistics were found to be significant ( $p < 0.01$ ) across all three groups of respondents for both the Canadian and Chinese samples. Table 3 summarizes the MANOVA results, where social presence level is the independent variable, and perceived usefulness, trust and enjoyment are the three dependent variables.

Table 3: MANOVA Results for Level of Social Presence.

Dependent Variable	Canada		China	
	F	Sig.	F	Sig.
PU	7.360	.001**	3.221	.045*
Trust	8.503	.000***	0.207	.813
Enjoyment	6.101	.004**	4.468	.015*

Note: Level of Social Presence is the independent variable; \* denotes significance at .05 level; \*\* denotes significance at the .01 level; \*\*\* denotes significance at the .001 level

As shown in Table 3, the F-statistic was significant for all three dependent variables in the Canadian sample ( $p < .01$ ), but only significant for perceived usefulness and enjoyment in the Chinese sample ( $p < .05$ ). Significance indicates that at least one of the social presence levels is different from the others. Contrast results, shown in Tables 4 and 5, indicate where these differences are. It is interesting to note that there were no perceived differences for usefulness, trust and enjoyment between SP-1 and SP-2 for Canadian or Chinese subjects. Hence, the addition of emotive text to Website design did not influence the dependent variables investigated in this study for either culture.

However, there were significant differences between SP-1 and SP-3 and between SP-2 and SP-3. In the Canadian study, these differences were exhibited for perceived usefulness, trust and

enjoyment. In the Chinese study, there were significant differences between SP-1 and SP-3 and between SP-2 and SP-3 for enjoyment, but only between SP-1 and SP-3 for perceived usefulness. There were no differences in terms of trust for the Chinese participants for any pair-wise comparisons of Website conditions. This indicates that the addition of socially-rich pictures to Website design had a more influential impact on user perceptions than the addition of emotive text for both cultures. This is in line with extant literature that suggests the effects of pictures may be more pronounced than the effects of text alone (Short et al., 1976; Fogg, 2002; Olson et al., 2002; Riegelsberger, 2003). However, this impact is more pronounced for Canadians than for Chinese. While the Chinese found the addition of socially-rich pictures to Website design to positively impact their enjoyment, it had a marginal effect on their perceptions of usefulness and no impact on their perceptions of trust. On the other hand, Canadian perceptions of enjoyment, usefulness and trust were significantly enhanced through the inclusion of socially-rich pictures.

A summary of our hypotheses and whether they were supported or not for the Canadian and Chinese samples is provided in Table 6.

Table 4: MANOVA Contrast Results for the Canadian Sample.

Contrast		Dependent Variable		
		PU	T	E
SP-1 vs. SP-2	Contrast Est.	.519	-.013	.096
	Std. Error	.291	.239	.294
Sig.		.078	.955	.744
SP-1 vs. SP-3	Contrast Est.	-1.115	-.846	-.933
	Std. Error	.291	.239	.294
Sig.		.000	.001	.002
SP-2 vs. SP-3	Contrast Est.	-.596	-.859	-.837
	Std. Error	.291	.239	.294
Sig.		.044	.001	.006

Table 5: MANOVA Contrast Results for the Chinese Sample.

Contrast		Dependent Variable		
		PU	T	E
SP-1 vs. SP-2	Contrast Est.	.439	.211	.293
	Std. Error	.369	.334	.340
Sig.		.238	.529	.392
SP-1 vs. SP-3	Contrast Est.	-.992	-.060	-1.062
	Std. Error	.391	.353	.360
Sig.		.013	.865	.004
SP-2 vs. SP-3	Contrast Est.	-.553	.151	-.769
	Std. Error	-.403	.364	.371
Sig.		.174	.679	.041

Table 6: Hypotheses Support Summary.

	Canada	China
H1	supported	supported
H2	supported	not supported
H3	supported	supported

## 5 CONCLUSION

This research suggests that infusing social presence through the Web interface could play an important role in enhancing the experience of online consumers. Specifically we have shown that increased levels of social presence through socially-rich design elements (i.e. socially-rich text and pictures) as having a positive impact on antecedents of the attitude/intention of Canadian online shoppers (perceived usefulness, trust and enjoyment).

We were also able to demonstrate similar results with Chinese online consumers in the case of perceived usefulness and enjoyment. However, higher levels of social presence failed to have a significant influence on establishing trust within an online environment with Chinese consumers. This may be due to one or more of the following factors:

- (i) Our study utilized the same Website for the Canadian and Chinese studies. Although the Chinese subjects were all English speaking, they might have perceived more trust had we localized the Websites in terms of language (Mandarin instead of English); nature of emotive text used (Chinese narrative instead of English narrative) photos (Asians instead of Westerners); clothing fashions (Chinese-based instead of Western-based fashions).
- (ii) The Chinese culture places a lot of emphasis on frequent face-to-face interactions over time in terms of building trust. Hence, it is more difficult to establish swift trust with Chinese subjects based on one encounter with a Website as was the case in our experimental setup even if the interface is socially rich.

Results from this study can have direct implications for designers of online shopping Websites. We have shown that social presence can be infused by including descriptions aimed at evoking positive emotions and pictures that depict products with people in social settings. Text and pictures are standard elements in Webpages, not requiring advanced technologies or additional resources from the designers' or users' points of view. Therefore, inducing a sense of social presence through these design elements on commercial

Websites can be an attainable goal for e-vendors. It is also important to realize that Website artefacts that are appropriate for one culture may not have the same effects on members of another culture. In this regard, it is important to ensure that such artefacts are appropriately localized to the target culture to ensure the realization of its intended effects.

A definite area for future research is to explore whether localizing the Websites to the Chinese cultures as outlined above would yield different results (i.e. show social presence as having a significant influence on trust). Future research needs to also determine the extent to which the findings presented in this paper can be expanded to include other persons, settings, products and times. Areas for future research include examining the influence of increased social presence for other product types; other cultures and other applications (e.g. B2B and C2C) The impact of other socially-rich design elements (such as virtual communities, chats, message boards, human Web assistants, etc.) should also be explored.

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PU3: This Website increases my effectiveness for clothing assessment online  
 PU4: This Website is useful for assessing clothing online

*Enjoyment (E)*

Sources: Ghani and Deshpande (1994); van der Heijden (2003); Hwang and Yi (2002)  
 E1: I found my visit to this Website interesting  
 E2: I found my visit to this Website entertaining  
 E3: I found my visit to this Website enjoyable  
 E4: I found my visit to this Website pleasant

*Trust (T)*

Sources: Gefen et al. (2003)  
 T1: I feel that this online vendor is honest  
 T2: I feel that this online vendor is trustworthy  
 T3: I feel that this online vendor cares about customers  
 T4: I feel that this online vendor would provide me with good service

**APPENDIX**

All items were measured on a seven-point Likert strongly disagree/strongly agree scale.

*Perceived Usefulness (PU)*

Sources: Moon and Kim (2001); Chen et al. (2002)  
 PU1: This Website provides good quality information  
 PU2: This Website improves my performance in assessing clothing online