



Interaction Style of Virtual Shopping Agents: Effects on Social Presence and Older Consumers' Experience in E-tail Sites

Veena Chattaraman, and Wi-Suk Kwon, Auburn University, USA
Juan Gilbert, Clemson University, USA

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A growing stream of research has emphasized the important role played by virtual shopping agents in consumer experience in e-tail environments, particularly in the context of older consumers (Chattaraman et al., 2012). In a recent study, Keeling et al. (2010) found that style of agent communication (task- vs. social-oriented) is an important factor influencing user trust and patronage intention for online shopping. Specifically, the authors found that task-oriented communications is more effective for search goods/services (books), whereas social-oriented communication style contributes more to credence goods/services (insurance). The purpose of the current study was: 1) to examine effectiveness of social- and task-oriented interaction styles for older consumers and 2) to examine the moderating role of gender on the effects of social vs. task-oriented interactional style.

Older users experience greater distrust and need greater social support, social presence, and interaction in online transactions than do their younger counterparts (Chattaraman et al., 2012). Relational intelligence has been defined as “knowledge of when and how to use language to achieve social goals” (Bickmore & Cassell, 2001, p. 402). It has been argued that relational conversational strategies that employ social dialogue and small talk go a long way in building trust in agent-based interfaces (Bickmore & Cassell, 2001). The task-oriented functional approach to conversation offers an alternative strategy to the socially-oriented relational approach. Studies have indicated that task-oriented functional dialog requires higher cognitive load than socially-oriented relational dialog (Bickmore & Cassell, 2005). However, an important aspect that remains to be explored is whether gender plays a moderating role on the effects of social- versus task-oriented interactional style. This study hypothesizes the following: Older users will experience greater *social presence* in the e-tail site for social- rather than task-oriented agent interaction style (H1), and this effect will be mediated by perceptions of the *agent's engagement* (H2). *Social presence* will positively influence older consumers' *trust* (H3a), *social support* (H3b), and *perceived interactivity* (H3c) in the e-tail site. Older users will have greater *patronage intent* for an e-tail site with social rather than task-oriented agent interaction style (H4), and this effect will be moderated by *gender* such that the effects of interaction style on purchase intent will be stronger for females than males (H5).

The virtual agent was created using SitePal and employed in a mock e-tail site modeled similar to Amazon.com. A laboratory experiment was conducted with a 2-condition (social- vs. task-oriented interactions) between-subjects design, manipulated through the use of small talk in context to the task. A total of 114 (male = 54, female = 60) older consumers (61-86 years old, $M = 71.2$) participated in the study. Participants were randomly assigned to a condition and performed the task of purchasing a pair of athletic shoes from the e-tail site. Following this,

participants completed a questionnaire with dependent measures for social presence, perceptions of agent engagement, trust, social support, perceptions of interactivity, and patronage intent, all rated on a 5-point Likert-type scale. Analysis of variance results revealed that social-oriented interaction produced greater social presence than did task-oriented interaction ($M_{\text{social}} = 3.67$, $M_{\text{task}} = 3.38$; $F_{1,109} = 3.84$, $p = .05$), supporting H1. This effect was fully mediated by perception of agent's engagement ($M_{\text{social}} = 3.84$, $M_{\text{task}} = 3.36$; $F_{1,107} = 10.49$, $p = .002$) with the effect of interaction style on social presence becoming non-significant ($p > .05$) when perception of agent's engagement ($p < .001$) was introduced as a covariate in the model, supporting H2. Regression analysis results also showed that all three dimensions of trust (Ability: $\beta = .57$, $p < .001$; Benevolence: $\beta = .71$, $p < .001$; Integrity: $\beta = .65$, $p < .001$), social support ($\beta = .72$, $p < .001$), and perceived interactivity ($\beta = .47$, $p < .001$) were all positively influenced by increased social presence, supporting H3. Interaction style did not have a significant effect on patronage intentions for the e-tail site ($M_{\text{social}} = 3.99$, $M_{\text{task}} = 4.04$; $F_{1,110} = 0.08$, $p = .77$), rejecting H4. However, further regression analysis revealed that increased social presence from social-oriented interaction style positively influenced patronage intentions for the e-tail site ($\beta = .69$, $p < .001$). Finally, the Gender x Interaction Style interaction also did not have a significant effect on patronage intentions for the e-tail site ($F_{1,108} = 0.85$, $p = .36$), rejecting H5.

These results demonstrate that for older consumers, designing virtual agents with social-oriented interaction style is more effective than task-oriented interaction style in enhancing social presence via perceptions of agent engagement. This enhanced social presence influences enhanced trust, social support and perceived interactivity in the e-tail site, thus leading to enhanced patronage intentions for the e-tail site. In summary, online retailers targeting older consumers of both genders will benefit by implementing virtual shopping agents with more social-oriented interaction.

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