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SHOPPING AS EXPERIENCE AND WEB SITE AS A SOCIAL ACTOR: WEB INTERFACE DESIGN AND PARA-SOCIAL PRESENCE

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Abstract

We make a case for treating a Web site as a social actor and propose para-social presence as a central construct to measure the structure of the relationship that evolves between a web site and its visitors. Para-social presence (PSP) captures the underlying psychological cues that measure the level and extent of interaction among participating social entities (in an online shopping context in this study). We also argue that one medium could possess different levels of PSP, depending on how it is configured and used. The first phase of our research conceptualizes and develops an instrument to measure PSP. The second phase investigates the impact of new technologies and associated web interface design decisions on perceived communication characteristics of a medium, PSP and subsequent user evaluations of the web site. Specifically, this research studies the impact of personalization technologies and support for virtual communities.

Keywords: Customer relationship management, e-commerce, end user computing, human factors research, multimedia, personalization, virtual teams and communities, Web management.

OBJECTIVES

Shopping can be a high involvement activity and a major obstacle to consumers buying online is the inability of most of the shopping sites to engage the users cognitively as well as emotionally. In this era of new retail, shoppers have become guests, shopping has become an experience, and malls have become entertainment centers with communities. Realizing the value of “shopping as experience,” many online stores have begun efforts to enhance the positive experiences for the casual browser and develop a meaningful and rich relationship with its users by using the web interface as the primary contact point. While we argue that the structure of this relationship is not dissimilar to the structure of inter-personal relationship, it does have its unique characteristics. We make a case for treating the web site as a social entity and propose a construct, para-social presence (PSP),¹ to capture and emphasize the essence of this interaction-dimension between a web site and its visitors. To accomplish this, we examine the fundamental assumptions that drive the concept social presence (degree to which a media allows a user to establish a personal connection with other users) and recast this construct as PSP to connote a broader meaning. PSP refers to the extent to which a medium facilitates a sense of understanding, connection, involvement and interaction among participating social entities. In this research, we focus on PSP in a specific context: online shopping.

The objectives of this study are:

¹We use the term “para” to indicate re-conceptualization of social presence in a way that goes beyond what would be considered normal and natural (with specific reference to the nature of interaction between a web site and its visitors).

- To re-conceptualize social presence, as PSP, so that it captures the emerging interaction between a web site and its visitors,
- To develop an instrument to measure PSP,
- To investigate how PSP mediates the relation between specific perceived communication characteristics (modality, synchronicity,² etc.) of the media and user's evaluation of the organization (satisfaction, trust— competence, benevolence and integrity, and loyalty).

RESEARCH MODEL AND THEORETICAL BACKGROUND

Research Model

Dennis and Kinney (1998) persuasively argue that media richness theory is flawed because of its level of analysis and that researchers should examine fundamental aspects of the media (such as immediacy of feedback and not media richness) to understand their performance effects. We agree with Dennis and Kinney and use “media characteristics”³ as a starting point in our research model. This research does not attempt to investigate nor apply media richness theory in the web-shopping context. Rather, this research seeks to portray web site as a valid social actor and attempts to characterize the relationship that emerges between a web site and her visitors by reconceptualizing social presence.

Dennis and Valacich (1999) argue that the same medium could possess different communication capabilities depending on how it is configured. Previous research has also shown that media characteristics are perceived and the characteristics that are salient to a particular individual may not be salient to others. Thus, we argue that it is more appropriate to use the term perceived communication characteristics rather than media characteristics. This research will focus on the impact of some of these perceived communication characteristics within the same medium and not across media.

This research also introduces connectivity—the ability of a media to bring together people who share common interests or goals—as one of the communication characteristics. Connectivity is the extent to which and the ease with which individuals who share common goals and interests find each other. This characteristic is one of the more important qualities that distinguish the Internet from other traditional media as this allows spontaneous relationships to be developed among spatially and temporally distributed participants. While face-to-face communication may have many advantages over computer mediated communication (some of which can be overcome as participants get to know each other over time), it has a decided disadvantage over other communication formats vis-à-vis connectivity. The ease with which the Web as a medium amplifies and supplements this often overlooked characteristic could partially help offset some other limitations that the Web may face in facilitating relationships among entities.

The versatility of the Web allows different configurations to be used to support the avowed goals of a web site. For example, a decision on what combination of text, images, audio, and video to include affects the modality of the medium. A decision to include instant messenger systems affects the synchronicity of the medium. We manipulate the communication characteristics of the medium by manipulating the interface design decisions. This in turn affects PSP and subsequently the evaluation criteria (see the research model in Figure 1).

Relational Communication

Researchers in the communication field have drawn a conceptual distinction between the *content* and the *relational* aspects of communication (Watzlawick et al. 1967). Any given interaction can be analyzed in terms of the content of the message exchange (verbal and non-verbal) and in terms of what it reveals about the nature and structure of the relationships between two participants. The relational aspect of communication can be used to characterize and measure the extent of interpersonal relationships between

²Modality is the extent to which a media can support symbol variety (text, audio, and visual) to present rich information. Synchronicity characterizes whether the interaction occurs in real-time or with a time delay.

³However, a full discussion of the previous work on communication characteristics and the reasons for the choice of adaptiveness and connectivity (over similar characteristics developed elsewhere) are not included because of space constraints. Adaptiveness is a term used by Te'eni (2001) and this is somewhat similar to personal focus, developed by Daft et al. (1987), and contingency, developed by Burgoon et al. (2000).

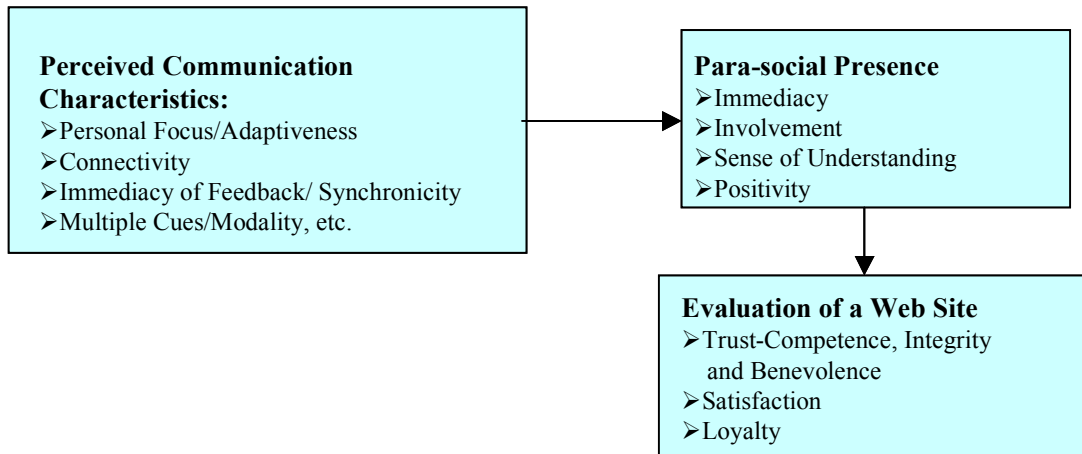


Figure 1. Research Model

participants. Burgoon and Hale (1987) undertook a survey of relational concepts from different disciplines and proposed 12 distinct dimensions to measure the relational aspect of communication, namely: dominance, emotional arousal, composure, similarity, formality, task vs. social orientation, intimacy, familiarity, affection, inclusion, trust, and intensity of involvement. In the objectives section, we proposed that PSP should be fashioned in the same way one would characterize the relational dimension of communication between human participants. This raises two important questions:

- Is it appropriate to draw parallels between relationship among humans and relationship between a web site and its users?
- How is PSP different from social presence? Do we really need another construct?

Do People Treat Computers as Social Entities?

Researchers at the Center for the Study of Language and Information at Stanford have shown that even experienced users tend to respond to computers as social entities (Nass et al. 1995a, 1995b; Nass and Steur 1994). These studies indicate that computer users follow social rules concerning gender stereotypes and politeness, and that these social responses are directed to the computer as a social entity and not to the programmer. When explicitly asked by the researchers, most users consistently said that social responses to computers were illogical and inappropriate, yet under appropriate manipulation, they responded to the computer as though it were a social entity.

We believe that there is value in conceptualizing the web site as a social actor and that there are several points-of-contact between a web site and its users that will result in responses by the users not unlike the way they would respond to a social interaction. However, not all elements of the relationship dimensions apply equally well to interactions with a web site. Later, we attempt to flesh out the dimensions we think are most appropriate. Having established the notion that “inter-personal” interactions between a web site and its users may not be so far-fetched after all, we now turn to the other important issue: How is this construct related to social presence?

Social Presence and Media Selection: Narrow Conceptualization

Social presence refers to the degree to which the media allows a user to establish personal connection with the other users (Short et al. 1976). A high presence medium is rated toward the sociable, warm, and personal end of the continuum. The theory further

postulates that the level of social presence needed by a particular communication task determines the use of a medium.⁴ The most widely used operationalization measures social presence with four seven-point semantic differential scale items (warm/cold, sensitive/insensitive, personal/impersonal, sociable/unsociable). However, we believe that the construct “presence” has greater potential and much wider meaning, if we step back and examine the basic assumptions of the social presence theory.

Presence: A Re-Conceptualization

Researchers from a wide array of fields have worked on presence, even though the conceptualizations made different assumptions about the construct and the domain in which it is situated (from the psychophysical to psychological). Lombard and Ditton (1997) identified six different conceptualizations of presence:

- **Social Richness:** Social presence theory familiar in MIS and OB (Short et al. 1976)
- **Realism:** Presence conceptualized by computer graphics and human factors field (perceptual and social realism)
- **Transportation:** Sensations of “you-are-there,” “it-is-here,” and “we-are-together” (e.g., virtual reality, video conferencing)
- **Immersion:** Perceptual and psychological immersion (virtual reality)
- **Social actor within medium:** Social responses of media users to entities within a medium. (e.g., user and television personality, user and Microsoft Office Assistant)
- **Medium as a social actor:** Social responses of media users to the cues provided by a medium.

We propose PSP as a construct that conceptualizes presence at a psychological rather than psychophysical level. We develop it to encompass three of the six conceptualizations cited above: social richness, social actor within a medium, and medium as a social actor. We borrow extensively from the communication literature (Burgoon et al. 2000; Burgoon and Hale 1987) to develop an instrument to measure it.

Para-Social Presence

Lombard and Ditton propose that the essential element for conceptualizing presence is the idea of perceptual illusion of non-mediation. However, we argue that illusion of non-mediation is an important issue only for immersive environments, and for all other cases it is more elegant and parsimonious to concentrate purely on psychological rather than psychophysical dimensions. Our conceptualization of presence focuses on the underlying structure of relationships facilitated by the medium. PSP is influenced by the participating social entities, the medium, and the way the medium is configured.

We argue that social entities can configure the media according to their preferences; examples include voice mail settings, web site design decisions made by the organization, and customization by the visitor to a site. It is also important to understand that content of the message exchange will affect the structure of relationship between the entities and vice-versa. We adopt measures for dimensions such as sense of understanding, involvement, and immediacy (Burgoon et al. use it in an inter-personal context) as they capture the essence of the structure of relationship that develops between a web site and its users. Please refer to Kumar and Benbasat (2002) for a full discussion of the conceptualization of PSP.

Interface Design Decisions and Evaluation Criteria

The communication characteristics of the medium can be manipulated by the interface design decisions made and underlying technologies used. This in turn affects PSP and subsequently the evaluation criteria. This research attempts to investigate the effect of support for different levels of personalization and different levels of consumer reviews (one form of virtual community) on the relationship that companies try to develop with their customers. The level and extent of personalization offered by the web

⁴For an excellent summary of the social presence theory and related research, see Carlson and Davis (1998).

site will have an effect on the perceived communication characteristics of the media. This research argues that different levels of support provided for personalization will specifically impact on the adaptiveness of the web site.

To enhance the relationship with the customers, companies can also provide support for virtual communities, as this will facilitate access to free-flowing and unstructured information beyond what is provided by the computer agents. For example, companies can aggregate the opinions of consumers on a particular product and present them to a new user who is browsing that product page. Depending on the level of support provided by the web site, the new user can also get in touch with another consumer with whom he/she might identify, as is the case with Amazon.com. This research argues that providing support for consumer reviews facilitates formation of one type of virtual community. High level of support (user rating and information about the user) for consumer reviews increases connectivity by giving the user an opportunity to express opinions and by facilitating formation of informal peer groups/communities.

RESEARCH METHODOLOGY

The first phase involves the conceptualization of PSP. We have developed an initial set of sub-dimensions (sense of understanding, interaction involvement, immediacy, and positivity) and a comprehensive list of items that tap into these sub-dimensions. We plan to use confirmatory factor analysis to validate and improve the construct measures. Then we plan to conduct a pilot study to validate the research model. The second phase involves an experiment to investigate the effect of web interface design on PSP and how this affects the evaluation of the web site. In a laboratory setting, we will utilize a factorial design with each of the chosen design features at different levels to generate web interfaces. Each subject will be asked to go through the purchase decision of two product types (CD and book).

Amazon.com is one of the business-to-consumer retailers well known for leading the industry in personalization efforts. We plan to filter the content of Amazon.com real-time and then manipulate the support offered by Amazon.com for different levels of personalization and consumer reviews. The filtered content will then be displayed to the participants in the experiment. We plan to offer three levels of support for personalization: no support, medium support (personalization based on simple filtering/rule based techniques), and high support (personalization based on simple filtering/rule based techniques and collaborative filtering). This research study will provide for two levels of consumer review support: no reviews and reviews with information about the rater included.

To increase involvement and external validity, subjects will have a chance to keep what they buy. For adequate statistical power, data from 100 to 150 subjects will be collected. However, we need to be very careful when interpreting the results of the experiment because of the complex model and mental constructs involved. The experimental manipulation (only the level of personalization and connectivity were manipulated; all other aspects of the web site remain the same) does increase the confidence with which this causality can be inferred.

STATUS AND CHALLENGES

We have identified the major sub-dimensions of PSP and compiled a comprehensive list of items. We are currently conducting confirmatory factor analysis and this will be followed by the laboratory experiment. We hope to expand more on the rationale behind the research model and present the results from factor analysis and the study.

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