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Deconstructing and Operationalizing Interactivity: An Online Advertising Perspective

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Abstract:

In an online advertising context, this empirical study examines the influence of the interface characteristic interactivity on important user perceptions and their intention to use a website. Results indicate that social presence and telepresence are significant predictors of attitude toward online advertisements, satisfaction with online advertisements, and subsequent intentions to use a host website. Also indicated by this study is the significant influence of interactivity, as well as consumer involvement and the interaction between these two variables. The outcomes of this study offer preliminary insight into the conceptualization and affect of interface characteristics, such as interactivity, in online advertising.

Keywords: Interactivity, online advertising, speed, range, mapping, social presence, telepresence

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INTRODUCTION

Online advertisement has fundamentally changed how companies spend their marketing dollars. Although investment in traditional marketing media such as print, radio, and TV has increased in recent years (Vanacore 2010), investment in online advertising has also taken a significant piece of this market. In fact, online advertising has been predicted to grow over 12 percent to \$61 billion (USD) globally just in 2010 alone (Mitchem 2010). While online media have gained prominence for many advertisers, online advertising differs from the traditional means of dissemination. Past research has shown that online advertising offers a very different set of attributes compared to traditional media (e.g., television, radio, newspaper) (Liu and Shrum 2002; Rayport and Jaworski 2003). The specific differences between online media and others have been (1) the level of control a user has over the environment, (2) the one-to-one interaction that is possible online, and (3) the possibility of two-way communication (Liu and Shrum 2002). The unique characteristics of online media allow users to actively interact with online advertisements differently than in traditional advertising media; as these attributes are varied across different advertising media, the potential user interaction with the advertisement varies.

Similar to other traditional media, online media attempts to overcome the social distance with users, which results from limitations of the media in which it is portrayed. TV, radio, and newspaper, for example, cannot convey actual physical touch or simulate the face-to-face interactions possible in a brick-and-mortar marketplace. However, research has shown that humans react to and perceive interactions with computers similar to those of dealings with humans (e.g., sales representatives) (Nass and Moon 2000). Due to the similarities between face-to-face and virtual communication, website designers have utilized interface characteristics that portray certain social cues (Abdul-Gader and Kozar 1995). Researchers in the area of Human-Computer Interaction (HCI) have identified two key constructs that can minimize user perceptions of this social distance in virtual environments: telepresence and social presence. *Telepresence* refers to a user's perception of physical distance (Steuer 1992), whereas social presence refers to a user's perception of the salience of social connection to another party (Short et al. 1976).

The construct of interactivity has been utilized to study properties of the website design that influence perceptions toward website elements. The extant literature has shown that interactivity is a determinant for both telepresence and social presence (Fortin and Dholakia 2005; Steuer 1992). Organizations frequently lack the understanding of how the online experience can affect consumer perceptions. Research has shown that these types of interface characteristics influence perceptions and attitudes about the virtual environment and advertisements that can influence consumer behavior (Karson and Fisher 2005). Past research has investigated the effect of interactivity on key variables, for example, attitude (Campbell and Wright 2008; Hopkins et al. 2004). This rich but fledgling body of research has acknowledged the influence interface characteristics (e.g., interactivity) and media perceptions (e.g., telepresence and social presence) have on consumer behavior, but lack a consistent conceptual and operational definition of the construct. Therefore, the goal of this study is to provide a robust conceptual understanding of interactivity and give insight on how interactive interface characteristics influence user behavior. This includes an exploration of how interactivity is derived while also examining its influences in an online advertising context.

The paper is organized as follows: first, the relevant literature regarding interactivity is reviewed. Second, the research model and hypotheses are presented. Third, the method and results are described. We conclude with implications of the findings and suggestions for future research.

CONTRIBUTION

This survey study is geared to offer clarity and guidance on the issue Interactivity for both researchers and practitioners alike. First, for researchers, Interactivity has been defined and conceptualized a myriad of different ways based on several perspectives. This paper offers a strict definition and operationalization of Interactivity based on Steuer's (1992) seminal article on Telepresence. Further, this article provides a comprehensive review of how Interactivity is conceptualized. Finally, we provide evidence that in an online advertising context Interactivity can be operationalized as Speed, Range, and Mapping.

For the practitioners, decomposing Interactivity to a basic understanding where this construct is determined by Speed, Range, and Mapping. For this reason, manipulating these basic attributes can provide different experiences for consumers which may provide some affect on consumers which, in turn, can create more appropriate Website elements.



LITERATURE REVIEW

Most, if not all, Internet users have experienced online advertising. This includes very different representations of advertisement. Some of these ads act much like traditional billboards, which offer nothing more than information about a product or service. More recently, online advertisements have become more complex marketing tools where the ads can be enacted. This can include everything from clicking on an advertisement to bring you to a product page (e.g., Google Ad Words) to immersion-game-like ads (typical on website such as ESPN and Yahoo! Sports). These advertisements are said to have varying levels of interactivity. Unfortunately, there exists in the literature many different definitions, uses, and conceptualizations of the interactivity construct (see Cho and Cheon 2005; Johnson et al. 2006; Keng and Lin 2006; McMillan and Hwang 2002; Tremayne and Dunwoody 2001; Yadav and Varadarajan 2005). This has led to a false impression of accumulated knowledge for this stream of research.

Table 1¹ outlines how the extant literature has conceptualized and utilized interactivity. Studies involving interactivity include unidimensional, multidimensional and high-order conceptualizations. Further, interactivity has been measured and operationalized using more than twenty different measures. Interactivity has also been shown to influence more than fifteen different dependent variables. Clearly, there is a need to offer a consolidation of how interactivity is conceptualized, operationalized, and utilized within the context of online advertising. There has been one strong candidate that may provide guidance on this important issue in ecommerce.

Table 1: Summary of Operationalized Interactivity Constructs in Articles Citing Steuer (1992)

Authors	Operationalization/ Conceptualization	Measures	Dependent variables
(Bhatt 2004)	Unidimensional	2 items	Interactivity as a sub-dimension of Virtual Reality
(Campbell and Wright 2008)	Unidimensional	3 items	Attitude toward website
(Cho and Cheon 2005)	3 Dimensions	Consumer- message (11 items) Consumer-marketer (9 items) Consumer-consumer (5 items): Each item was mapped to an objective function.	No dependent measures: Compared cultural differences on these dimensions
(Coyle and Thorson 2001)	Objective Manipulation	Manipulation check utilized 2 items	Telepresence and Attitude toward the website
(Florenthal and Shoham 2010)	Second Order Construct	Reciprocity, Responsiveness, Nonverbal information, Speed of response	Channel preference
(Fortin and Dholakia 2005)	3 Dimensions: Control, Role Exchange, and Mutual Discourse.	6 item unidimensional construct	Social presence and Involvement
(Gao et al. 2009)	First Order Construct	User control choices, Control instructions, Humor, Customization	Attitude toward ads
(Hyun et al. 2009)	3 Dimensions: Speed (2 items), Range (3 items), Mapping (3 items)	6 item unidimensional construct	Telepresence (virtual experience)
(Jiang and Benbasat 2007)	First-Order Construct	Perceived diagnosticity, Compatibility with in-store shopping, Shopping enjoyment	Attitude towards shopping at a website, Intentions to purchase, Intentions to return
(Johnson et al. 2006)	Second-Order Construct	Reciprocity (4 items), Responsiveness (5 items), Nonverbal (4 items), Speed of response (4 items)	Attitude to website and Involvement

¹ To generate Table 1, two of the authors separately searched well known databases for existing work on Interactivity. This included the ACM Digital Library, AIS Digital Library, Business Source Premier, EBSCO, ISI Web of Knowledge, ISI Web of Science, Google Scholar, Springer Link, and Scopus Database. The search was completed 25 May 2010. A particular focus was paid to finding and evaluating all manuscripts that cited Steuer (1992) (e.g., 1st generation manuscripts) or works that cited those papers that cited Steuer (1992) (e.g., 2nd or 3rd generation research).

(Liu 2003)	Second Order Construct	Active control (4 items), Two-way communication (6 items), and Synchronicity (5 items)	No dependent measures: Instrument development paper
Table 1 (continued): Summary of Operationalized Interactivity Constructs in Articles Citing Steuer (1992)			
(Liu and Shrum 2009)	Second Order Construct	Use of interactivity, Presence of interactivity	Brand attitude
(McMillan and Hwang 2002)	Second Order Construct	Real-time conversion (7 items), No delay (3 items), and Engaging (8 items)	Attitude toward the website
(Negash et al. 2003)	Unidimensional	3 items	Satisfaction
(Novak et al. 2000)	Unidimensional	3 items	Flow, Challenge, and Arousal. Unsupported hypotheses to Telepresence, Time distortion, and Focused attention
(Peng et al. 2004)	Unidimensional	3 items	Attitude toward the website and entertainment
(Sautter et al. 2004)	3 Dimensions	Stimulus (2 items), Organism (2 items), Response (2 items)	Shopper outcomes
(Sicilia et al. 2005)	Objective manipulation	4 item manipulation check	Flow intensity, Valence or processing toward the website, Valence of processing toward the product, and Total processing
(Skadberg and Kimmel 2004)	Unidimensional	3 items	Telepresence
(Song and Zinkhan 2008)	3 Dimensions	Communication (six items), Control (nine items), Responsiveness (six items)	Medium's usage
(Stout et al. 2001)	Multi-dimensional construct	Exploratory analysis identifies different dimensions of interactivity: Accessibility, Navigation, Time, Personalized content, Delivery message, Data entry and use, Entertainment, Promotions, and Relationship.	Theorized to affect aspects of learning
(Sundar et al. 2003)	Objective Manipulation	1 item manipulation check	Impressions of politician, which include: Dynamism, Character, Competence, Likeability, Public policy, and Education policy
(Wu and Chang 2005)	Machine interactivity (also included person interactivity in the model)	3 items	Flow dimensions: Enjoyment and Time distortions
(Yang and Wu 2009)	First Order Construct	Telepresence	Purchase, Rebrowse
(Yoon et al. 2008)	3 Dimensions	Perceived control, Two way communication, Perceived synchronicity	Perceived relationship investment, Relationship quality, and Behavioral loyalty

Many of the works referenced in Table 1 applied various conceptualizations of interactivity to the context of virtual environments. Johnson et al. (2006) proposed a conceptualization of interactivity that overarched previous, more focused, definitions. As a result, Johnson et al. (2006) proposed a conceptualization of interactivity that was not specific to any context (e.g., virtual environments). During this endeavor, Johnson et al. (2006) found nineteen different conceptualizations applied in various research domains (e.g., Marketing, Advertising, Information Systems, Communication, and Strategy). Johnson et al. (2006) acknowledged in this review that Steuer's (1992) conceptualization was highly cited in IS literature and appropriate in the context of a computer-mediated



environment. We agree with Johnson et al. (2006) that Steuer's (1992) conceptualization of interactivity is appropriate in the context of computer-mediated environments and interface design research. Steuer's (1992) defines interactivity "as the degree to which users of a medium can influence the form or content of the mediated environment" (p. 84).

Steuer identified three driving factors of interactivity, speed, range, and mapping, which were proposed to affect perceptions of interactivity. *Speed* "refers to the rate at which input can be assimilated into the mediated environment" (p. 85). *Range* "refers to the number of possibilities for action at any given time" (p.85) and is determined by "the number of attributes of the mediated environment that can be manipulated, and the amount of variation possible within each attribute" (p. 86). Examples of specific dimensions of range include "temporal ordering, spatial organization (where objects appear), intensity (loudness of sounds), and frequency characteristics (timbre, color)" (p. 86). *Mapping* "refers to the ability of a system to map its controls to changes in the mediated environment in a natural and predictable manner" (p.86). The extremes of mapping are likened to a spectrum where at one end, "mappings can be completely arbitrary and unrelated to the function performed [or the other extreme where] mapping may be completely natural" (p. 87). After comparing these definitions and alternative conceptualizations, it becomes clear that Steuer's work is appropriate for virtual environments.

The influence that Steuer's (1992) conceptual piece has had on IS research is evident in the number of researchers who have adopted and cited this work.² Furthermore, many researchers have since incorporated the interactivity construct into their research (see Table 1, emphasis added). During our review of literature based on Steuer's work, we found many conceptualizations that are inconsistent with Steuer's work, and, therefore, the literature lacks a cumulative understanding of this phenomenon. For example, Novak, Hoffman, and Yung (Novak et al. 2000) specifically note that a limitation in their work is that they used a measure that "does not fully capture interactivity" (p. 4). In comparing Steuer's (1992) work with Johnson et al. (2006), we can see that for virtual environments the research to date has not made any significant strides in improving Steuer's work. Johnson et al. (2006) identified four dimensions of interactivity, reciprocity, responsive, speed of response, and nonverbal information. Reciprocity refers to the ability of conversing with another party. Some of the research in Table 1 refers to this facet with other terms (e.g., two-way-communication). Responsive refers to the linkage between the response and the input from the other. The higher the linkage, the more responsive. These two dimensions are obviously related. Is Responsiveness possible without Reciprocity? These two dimensions are captured more appropriately in the virtual environment with Steuer's (1992) mapping dimension. Of the remaining two dimensions from Johnson et al.'s (2006) conceptualization, speed of response is based on Steuer's (1992) by direct citation (Johnson et al. 2006, p. 40). The final dimension, nonverbal information is defined as the amount of channels used in the communication. This is captured by Steuer's (1992) work by the range dimension. Therefore, we posit that applying or extending Johnson et al.'s (2006) work to virtual environments would support Steuer's (1992) conceptualization of interactivity.

As seen above, Steuer's conceptualization of interactivity has been drawn on significantly, but not wholly. Therefore, we aim to provide a study that fully leverages interactivity (including the influencing factors of speed, range, and mapping) to provide some insight into its influence in a virtual environment, specifically in an online advertising context.

THEORETICAL DEVELOPMENT

Previous research has identified many antecedents that may affect cognitive and affective reactions toward advertisements (MacKenzie and Lutz 1989). One of the key antecedents identified in a conceptualization of online advertising is perception of the online environment (Karson and Fisher 2005). In the following figure, we expand upon Karson and Fisher and propose a conceptual model of online advertising (see Figure 1). This is a critical component to understand how interactivity is placed in a nomological network consistent with online advertising.

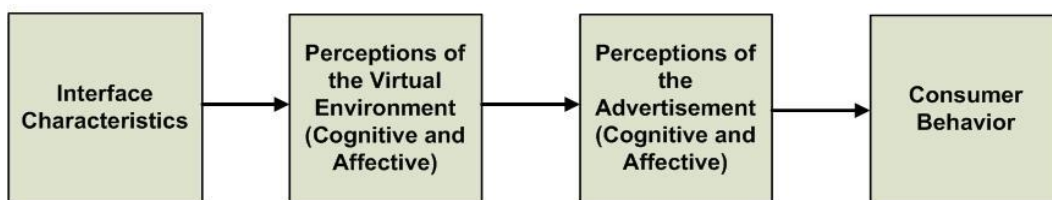


Figure 1: Conceptual model: Interface to consumer behavior chain.

² As of July 5th, 2010 there were more than 1400 citations of Steuer (1992), according to Google Scholar.

Evident in Karson and Fisher's conceptualization of the Interface to Consumer Behavior Chain is how interface characteristics, such as interactivity, influence affective responses, which subsequently influence behavior. Some of the influences can make good business sense (e.g., increase of loyalty or intention to revisit a website). As advertising is one of the most common revenue models for websites, there is a synergistic relationship when businesses can create a revenue stream as well as positively influence the user's intention to return to the website. However, past research has also indicated that certain interface characteristics and online advertisements can produce a negative affective response (e.g., irritation and alienation), which result in a decrease in key user perceptions and intentions to return to the website (Campbell and Wright 2008; McCoy 2008; McCoy 2007). This type of alienation may lead to a decrease in users and ultimately an unsuccessful business model. Further, past research has shown that a download delay in an interface does not necessarily have adverse influence on user perceptions (Galletta et al. 2006). These mixed results present an opportunity to understand what interface properties within the advertisement itself may be influencing some of the past diverse findings in the extant literature. Clearly there is a need to understand, in an omnibus research model, how interactivity within online advertising affects perceptions and subsequently behavior.

Online media enables advertisements to be enacted through multiple psycho-social-behavioral mechanisms that result in user experiences that are markedly different than those resulting from traditional media such as print. To this end, research from the Computers-As-Social-Actors paradigm has shown that people perceive social cues through their interaction with computers even if they know that the interface is not representing a human counterpart (Lee 2008; Nass et al. 1996; Nass and Lee 2001; Nass and Moon 2000; Nass et al. 1995; Nass et al. 1997; Takayama and Nass 2008). Two key factors that help shape one's perceptions in a virtual environment are telepresence and social presence (Short et al. 1976; Steuer 1992). Because computer-based communication provides different opportunities for the conveyance of social cues (as compared to traditional media), we focus on exploring the effects of interface characteristics on perceptions of online advertising (Carlson and Zmud 1999; Dennis et al. 2008; Dennis and Valacich 1999). Following Karson and Fisher's Chain, our research model integrates concepts from interface design, the perceptions of these design elements and consumer behavior (see Figure 2 below). The following will develop the research model.

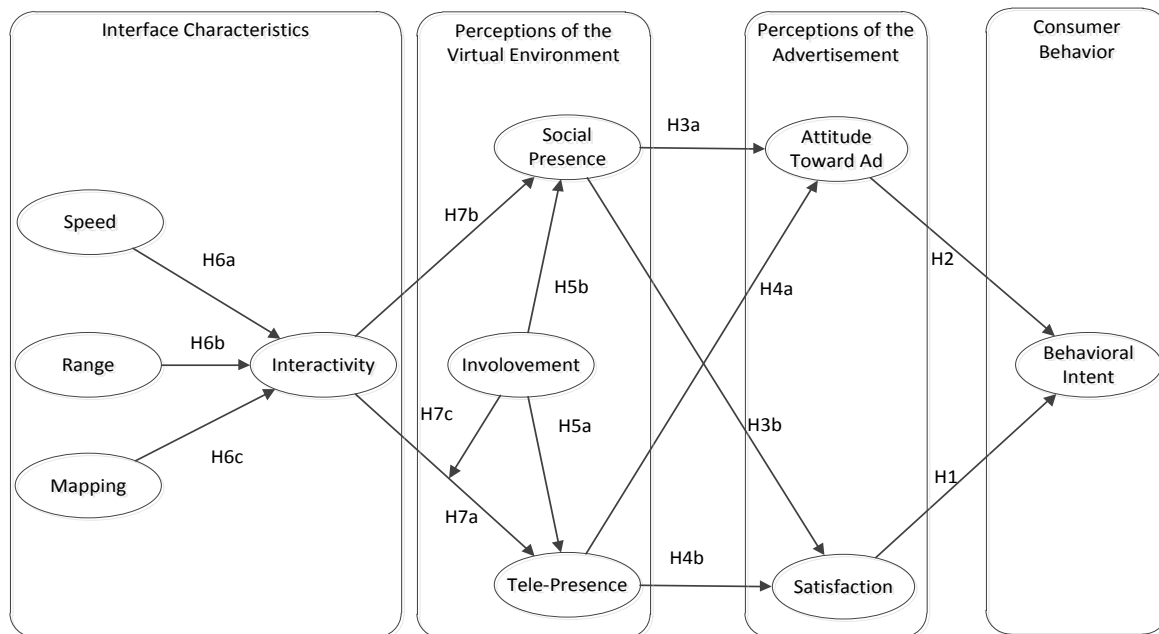


Figure 2: Research model.

Online Behavioral Intention

It is clear from past literature that consumers' behavior is strongly affected by behavioral intentions (Ajzen 1991; Ajzen and Fishbein 1980). Within the context of ecommerce, the intention to use a website becomes a focal construct, especially when advertising has become a primary revenue stream for a website. These antecedent constructs are often prone to managerial intervention (Abdul-Gader and Kozar 1995; Chen et al. 2002; Pennington et al. 2003; Van der Heijden et al. 2003). Building on this foundation, we adopt online behavioral intention to use a website as the final endogenous construct in our research model.



Satisfaction with the Advertisement

Within advertising, Giese and Cote (2000) highlight two key aspects defining satisfaction: first, a summary of affective response, and second, that the response is time specific and of limited duration. Affective responses (such as satisfaction) effectively influence consumer behavior (Demetrios and Ambler 1999). Across disciplines, the predictive relationship between satisfaction and behavioral intentions suggest that the former is a critical criterion for the formation of a behavioral intent (e.g., Gountas and Gountas 2007; Martin et al. 2008; Whittaker et al. 2007; Yi and La 2004). Again, in the context of ecommerce, satisfaction is a key factor influencing behavioral intentions such as the intention to use or continue to use websites or online information systems (Bhattacharjee 2001; Wixom and Todd 2005). Additionally, past research supports the influence of satisfaction with online transactions on purchase intentions (Pavlou 2003). Consistent with this research we posit that satisfaction with an online advertisement affects consumer's behavioral intentions toward the website. Therefore:

H1: Satisfaction with the advertisement positively affects behavioral intention.

Attitude Toward the Advertisement

Similar to satisfaction, attitude toward an advertisement has been used extensively in the extant literature. Bohner and Wanke defined "an attitude as a summary evaluation of an object....An attitude object can be anything a person discriminates or holds in mind... whether it be concrete, abstract, inanimate, persons, or groups" (Bohner and Wanke 2002, p. 3). The Theory of Reasoned Action (TRA), used extensively in behavioral research, has shown that attitude is an influencing factor on behavioral intentions (Ajzen and Fishbein 1980). Likewise, attitude exhibits a strong influence on consumer behavior (e.g., Fishbein and Middlestadt 1995; Herr 1995; Olson and Zanna 1993). TRA-based research in the area of ecommerce has shown that attitude is predictive of behavioral intentions (Chen et al. 2002) including attitude towards e-vendors (Pennington et al. 2003) and attitudes toward purchasing (Van der Heijden et al. 2003). Consumer behavior research has also shown that attitudes toward advertisements predict behavioral intentions (Tan and Farley 1987) including purchase intentions (Brown and Stayman 1992; Hopkins et al. 2004). Consistent with past research, we posit that in an online context attitudes toward the advertisement are predictive of behavioral intentions. Therefore:

H2: Higher attitude toward the advertisement positively affects behavioral intention.

Social Presence

Social presence is "the salience of the other in a mediated communication and the consequent salience of their interpersonal interactions" (Short et al. 1976, p. 65). Social presence has been described as a mechanism of an interface that enables the communication of social cues (Hassanein and Head 2005) (i.e., the degree to which a computer-mediated environment facilitates the interaction and social cues between parties). For example, the extent that one can feel warmth, or other personal or social cues, being portrayed by another. Websites that facilitate a sense of awareness or engagement with others enhances the site's social presence. According to Short and colleagues, when social presence is low people feel disconnected and are typically not engaged in the activity at hand (Short et al. 1976). Conversely, when social presence is high, there is a strong level of engagement.

While commercial activities are increasingly being performed in online environments, the importance of social presence is only starting to be recognized as a factor contributing to the viability of online ventures. Past research has shown that social presence affects a variety of cognitive assessments; e.g., usefulness (Karahanna and Straub 1999) and trust (Gefen and Straub 2003; Gefen and Straub 2004). Technology-facilitated social presence has been shown to be affected by communication styles, the task at hand, feedback levels, and response immediacy embedded in the website (Tu 2002). Similarly, research shows the subsequent influence of presence on attitudes and behavioral intentions (Li et al. 2002). Extending these findings, we posit that social presence similarly affects perceptions of the interface, specifically in reference to attitudes toward online advertisements.

H3a: Social presence positively affects one's attitude toward the advertisement.

Past literature on the effects of social presence on affective responses is limited; however, the effects of social presence are similar to those of other affective reactions. For example, previous research has shown the significant effect of social presence on enjoyment (Hassanein and Head 2005; Hassanein and Head 2007) and arousal (Fortin and Dholakia 2005). Similarly, we posit that social presence will have a positive influence on the affective reaction of satisfaction with an online advertisement.

H3b: Social presence positively affects satisfaction with the advertisement.

Telepresence

Telepresence is “the experience of presence in an environment by means of a communication medium” (Steuer 1992, p. 76), i.e., the extent to which users experience the feeling of “being there.” Two technological variables that influence an individual’s perception of telepresence are interactivity and vividness (Steuer 1992). These characteristics of online media are important for marketing websites (e.g., Coyle and Thorson 2001). In an advertising context, telepresence has been shown to affect attitudes and behavioral intentions (Hopkins et al. 2004; Suh and Chang 2006). As a function of the media itself, telepresence affects user perceptions as they are exposed to an interface. Similar to the effects on the more stable attitudes, telepresence influences less stable affective reactions such as satisfaction (Shin 2006; Zhao 2003). Consistent with this research, we hypothesize that in an advertising context the perceived telepresence in an online environment affects (1) attitudes toward and (2) satisfaction with online advertising. Therefore:

H4a: Telepresence positively affects attitude toward the advertisement.

H4b: Telepresence positively affects satisfaction with the advertisement.

Involvement

Based upon Zaichkowsky’s(1994) conceptualization, involvement is the degree to which an individual perceives an object to be relevant based upon their needs, values, and interests. To be successful, an online advertisement must engage users such that they become involved with the advertisement. Such involvement is based on personal relevance (Campbell and Wright 2008), content, and the structure of the ad and its relation to the users own interests, needs, and values. For example, if you are searching for a new golf bag and see an advertisement for a golf store, it is likely that you will pay more attention to the advertisement and the embedded social cues it portrays. Increased focus on social cues facilitates the feeling of connectedness one experiences in an online environment. Thus, we posit involvement affects the perception of social presence. Researchers have suggested that, in an ecommerce context, involvement has a direct relationship with telepresence(Keng and Lin 2006). As consumers are exposed to involving online advertisements, they are more apt to interact and thus form perceptions regarding the social interaction with the interface (e.g., telepresence and social presence). We posit a direct relationship between involvement and telepresence. Past research has also shown a significant correlation between involvement and social presence (Fortin and Dholakia 2005). A higher level of involvement with advertisements positively affects the salience of social cues represented in the interface.

H5a: Involvement positively affects telepresence.

H5b: Involvement positively affects social presence.

Given the aforementioned relationships among the cognitively oriented constructs in the model, we will next present the technology-oriented construct interactivity.

Interactivity

While there have been multiple conceptualizations of interactivity(Heeter 1989; Hoffman and Novak 1996; Lee 2005; Newhagen and Rafaeli 1996; Rafaeli 1988; Rogers 1986; Steuer 1992), we have adopted the definition proposed by Steuer (1992), where interactivity is “the extent to which users can participate in modifying the form and content of a mediated environment in real time.” This use of interactivity is consistent with prior work involving interactivity and computer-mediated environments (Johnson et al. 2006). Our reliance on Steuer’s (1992) work is posited with two underlying assumptions. First, that Steuer’s (1992) conceptualization is sufficiently complex to capture the needed level of detail and relevant underlying dimensions. Second, Steuer’s (1992) work is specific to virtual environments. Therefore, in the context of this study, it is most appropriate to capture this phenomenon specific to this context. Interactivity consists chiefly of three factors: (1) Speed—the rate in which content can be manipulated (2) Range—ability of content to be manipulated (3) and Mapping—the similarity between the controls and how the content is manipulated (Steuer 1992).

Online environments can have varying levels of interactivity, dependent on the specific level of speed, range, and mapping designed into the environment. For example, ads placed by Google via its Ad Words program provide a high degree of range, in that they dynamically adjust to the context of the users’ browsing behavior and a high degree of mapping, because the result of interaction with the ad, i.e., clicking on the ad, responds predictably, but Ad Words ads are slow (the exposure does not vary). Therefore, Ad Words ads exhibit a high degree of range and mapping but a low degree of speed; hence they can be considered moderately interactive. Other online media, such as flash-based demonstrations, can be slow or fast in their exposure (speed), dynamic or static (range), or intuitive or unintuitive (mapping) in its interaction with the user (Oliver et al. 1997). Depending on the varying levels of each

of these dimensions, the interaction between a user and the advertisement can differ. Such differences influence the experience and attitude formed from exposure to different types of online ads.

H6a: Speed of the advertisement positively affects interactivity of the advertisement.

H6b: Range of the advertisement positively affects interactivity of the advertisement.

H6c: Mapping of the advertisement positively affects interactivity of the advertisement.

Interactivity is one of the interface characteristics that affects a human's perception of telepresence (Steuer 1992). As the interactive capability of the technology increases, users become increasingly immersed in the online environment (i.e., increased telepresence). Consistent with this conceptual definition, we posit this relationship in an online advertising context as well. We expect that the level of interactivity in online advertising is especially influential to perceptions of telepresence due to the added level of control and two-way communication users experience in online media (Liu and Shrum 2002; Rayport and Jaworski 2003).

H7a: Interactivity positively affects telepresence.

While the relationship between involvement and telepresence has shown both moderating and direct relationships (Hopkins et al. 2004; Keng and Lin 2006), we believe that interactivity of the interface may explain some of these differing results. Similar to the hypothesized direct effects of interactivity and involvement on telepresence, we posit that levels of interactivity interact with the involvement construct on user perceptions of telepresence. Specifically, perceptions of telepresence are magnified for involved users as levels of interactivity are increased. For example, as an involved user is provided an online experience with increasing levels of interactivity, the user's sense of being in the online environment will interact in a multiplicative interaction.

H7b: Interactivity and involvement have an interaction effect on telepresence.

Interactivity is also expected to positively affect social presence in an online advertising context. Past research also has shown that interactivity affects Social Presence (Fortin and Dholakia 2005). As consumers are exposed to advertisements that afford increased levels of interactivity, they are able to actively participate in the manipulation of their online experience. The interactivity of the advertisement is a form of dyadic communication between the user and the advertisement. Such two-way communication enables the users to process social cues expressed through the advertisement. Therefore:

H7c: Interactivity positively affects social presence.

In the next section the methodology for the empirical examination of these hypotheses is outlined.

METHODOLOGY

This study utilized a cross sectional experimental design with study participants recruited from a population that is highly relevant to online advertisers. A survey was utilized to measure participant perceptions regarding facets of the advertisement, the online advertisement media, and their intention to use.

Measurement Instrument

The measurement instrument used to capture the constructs of interest were adapted from many items previously established in the literature: behavioral intention (Bhattacharjee 2001; Van der Heijden et al. 2003), attitude toward the ad (Bhattacharjee 2001; Kempf and Smith 1998), satisfaction with the ad (Bhattacharjee 2001), social presence (Short et al. 1976), telepresence (Coyle and Thorson 2001), involvement (Johnson et al. 2001; Zaichkowsky 1994), and interactivity (Coyle and Thorson 2001; Liu 2003). For the constructs of speed, range, and mapping, we developed items using the following process: item generation, factor analysis, reliability analysis, and validity analysis. Also included in this instrument were the control variables of age, sex, and online purchase history. Additionally, each treatment served as a control. These items are also included in the appendix. These variables were included to increase the internal consistency and measure possible biases in the sample. Two separate and independent samples were used in this process. An exploratory data analysis was performed on the first sample, and the second sample was used to confirm the results of the first (Byrne 2006). As the first step, a bank of items was generated that could potentially measure the constructs of interest. To ensure content validity, three researchers were recruited to generate more than fifteen items to measure the constructs of interest. An Exploratory Factor Analysis (EFA) utilizing 203 undergraduate students followed by a Confirmatory Factor Analysis (CFA) with

244 undergraduate and graduate students confirmed the factor structure of the survey instrument. See Appendix 1 for a list of the items used in this survey.

Participants

A separate snowball sampling technique was used to recruit participants for this study. A snowball sample is a chain-referral sampling methods that originated with Coleman(1958). This sampling technique uses a sample of participants recruited from a relevant population as seeds. These seeds recruit subjects based on a set of criteria to participate. This way, many different networks are tapped. The sample group appears to grow like a rolling snowball. This methodology is commonly used in market research (e.g., Mick 1996). Some other common labels used for snowball sampling are Link-Tracing sampling and Random-Walk sampling (Hedman and Sharafi 2004).

An initial seed group of students enrolled in an undergraduate business course were selected. This core group of participants were given an incentive (extra credit worth approximately 1 percent of the final grade) to recruit other nonstudent participants. Each student was instructed to solicit four individuals who were of diverse backgrounds and who use the Internet for online purchases. Those who were recruited were not solicited to recruit others (the chain only went one link). This sampling technique was used due to its ability to provide a more heterogeneous sample, and, therefore, interject higher levels of generalizability compared to other techniques commonly used with laboratory experiments. Control and high levels of internal validity were maintained by standardizing and randomly assigning the stimuli presented to participants with the quasi-experimental design of the study.

One hundred and seventy nine individuals (including the seed sample of students) participated in this survey. All survey members reported that they used the Internet for ecommerce purposes. The minimum age was sixteen and the maximum was eighty-two. The average age was 32.14. Seventy-seven of the subjects (43.02 percent) were male. A diverse set of occupations were reported. This set of participants was deemed to fairly represent the general population of interest (i.e., prospective ecommerce customers). According to the Pew Internet & American Life Project (Jones and Fox 2005), these segments of consumers represent one of the largest that actively engages in online shopping.

Task

This study consists of a simple one-by-four design (see Table 2 and Appendix 2). This approach was used to introduce variance into the experiment by incorporating different aspects of interactivity (speed, range, and mapping). The purpose of the conditions was not to test differences between the conditions, but to ensure that the results of this study were not biased by one type of stimulus. Subjects were asked to complete a shopping task using a working model of a fictitious ecommerce website named *Chamber's Travel Agency* and a task sheet (see Appendix 3). The shopping task included browsing and purchasing a vacation package for the upcoming spring break. In particular, participants were asked to find the best deal to Cancun, Mexico. Included in the website was a "fly-in" advertisement that incorporated functionality or explicit directions, depending on treatment, to aid in finding the best price to spring break destinations. The "fly-in" advertisement was selected for this study for two reasons: (1) Due to the nature of the snowball sampling technique, the advertisement would not be stopped by any pop-up blockers, and (2) because it was able to be manipulated across the dimensions of speed, range, and mapping, unlike other types of online ads (e.g., Google Ad Words). After completion of the shopping task, a survey was administered via a webpage.

Table 2: Conditions and Levels of Interactivity

Condition	Description
Low Speed Condition	Presents an ad that reacts very slowly to any interaction. When the user triggers the ad to close, to move or go to a desired webpage there is a 5 second pause.
Low Range Condition	Present an ad that does not allow the user to directly go to the advertised products page; rather the ad gives directions on how to get to the products page.
Low Mapping Condition	Presents an ad that, when closed or triggered to go to the desired webpage, goes to another page or does not close.
High Interactivity Ad	Presents an ad that has high degree of all factors.

Analytical Technique

The model was tested using SmartPLS 2.0m3 (Ringle et al. 2005) a components-based (i.e., variance-based or predictive) approach to structural equation modeling. PLS enables the assessment of complex models (Chin 1998). Established procedures of construct validation were followed (Gefen and Straub 2005; Straub 1989). Subsequently, the structural model was tested. This included a Bootstrapping process in which 300 cases were sampled 500 times in order to provide significance levels.



Modeling constructs as formative vs. reflective and vice versa was recently addressed by Kim et al. (2010). We followed the advice of this research, and each construct was carefully assessed to ensure that it was properly modeled as reflective constructs. Convergent and discriminant validity was then reviewed (Gefen and Straub 2005). Convergent validity was assessed via an examination of the significance of the item to construct loadings. All items loaded significantly on the intended constructs, indicating that the measures for each construct converged on their intended constructs. Subsequently, we performed two tests to evaluate discriminant validity. First the pattern of item loadings to construct correlations indicated that each item more strongly loaded on its intended construct than on alternative related constructs (refer to Table 3). Second, the square root of the average variance extracted was much higher than the correlations among other constructs (refer to Table 4). Together the aforementioned tests support the contention that the measures appropriately capture their intended constructs without inappropriately capturing alternative constructs.

Table 3: Item to Construct Correlations

	ATA	BI	INT	INV	MAP	RNG	SAT	SP	SPD	TP
ATA1	0.95	0.59	0.60	0.55	0.36	0.48	0.69	0.59	0.20	0.48
ATA2	0.98	0.58	0.62	0.55	0.41	0.53	0.71	0.62	0.18	0.48
ATA3	0.98	0.59	0.60	0.52	0.39	0.54	0.67	0.62	0.13	0.50
ATA4	0.99	0.60	0.63	0.55	0.40	0.53	0.71	0.63	0.16	0.50
BI1	0.57	0.87	0.45	0.53	0.26	0.46	0.56	0.44	0.04	0.38
BI2	0.55	0.95	0.44	0.57	0.41	0.41	0.64	0.50	0.12	0.30
BI3	0.56	0.96	0.44	0.61	0.39	0.40	0.65	0.50	0.10	0.33
INT1	0.55	0.46	0.86	0.41	0.48	0.48	0.68	0.44	0.24	0.29
INT2	0.44	0.37	0.85	0.39	0.45	0.39	0.58	0.46	0.29	0.22
INT3	0.55	0.43	0.82	0.42	0.33	0.51	0.51	0.51	0.24	0.41
INT4	0.52	0.31	0.78	0.40	0.42	0.43	0.58	0.49	0.25	0.28
INV1	0.44	0.58	0.42	0.90	0.24	0.37	0.48	0.59	0.10	0.42
INV2	0.60	0.59	0.52	0.80	0.23	0.43	0.55	0.55	0.13	0.43
INV3	0.64	0.57	0.55	0.84	0.22	0.44	0.57	0.59	0.18	0.52
INV4	0.57	0.55	0.50	0.87	0.29	0.33	0.59	0.63	0.12	0.43
INV5	0.45	0.54	0.36	0.84	0.24	0.34	0.43	0.54	0.04	0.38
INV6	0.39	0.43	0.37	0.78	0.18	0.27	0.39	0.46	0.20	0.29
INV7	0.40	0.50	0.37	0.84	0.19	0.27	0.46	0.53	0.09	0.35
INV8	0.39	0.49	0.37	0.88	0.23	0.27	0.41	0.53	0.09	0.39
INV9	0.39	0.50	0.35	0.90	0.23	0.29	0.42	0.57	0.08	0.38
INV10	0.41	0.49	0.35	0.90	0.21	0.32	0.43	0.57	0.03	0.39
MAP1	0.40	0.38	0.47	0.25	0.92	0.46	0.50	0.30	0.04	0.15
MAP2	0.37	0.34	0.47	0.27	0.92	0.48	0.49	0.31	0.19	0.11
MAP3	0.33	0.35	0.46	0.21	0.92	0.48	0.42	0.26	0.09	0.15
RNG1	0.50	0.46	0.53	0.36	0.48	0.94	0.52	0.40	0.07	0.35
RNG2	0.46	0.36	0.43	0.37	0.44	0.93	0.44	0.33	0.05	0.40
RNG3	0.54	0.46	0.56	0.38	0.53	0.95	0.50	0.42	0.05	0.45
SAT1	0.66	0.59	0.68	0.50	0.45	0.51	0.91	0.50	0.34	0.28
SAT2	0.69	0.66	0.66	0.55	0.51	0.51	0.96	0.59	0.27	0.33
SAT3	0.64	0.60	0.66	0.50	0.49	0.49	0.95	0.57	0.29	0.30
SAT4	0.69	0.65	0.67	0.55	0.48	0.49	0.96	0.62	0.26	0.33
SAT5	0.68	0.67	0.68	0.54	0.50	0.46	0.96	0.61	0.26	0.31
SP1	0.57	0.47	0.55	0.55	0.28	0.38	0.57	0.92	0.17	0.33
SP2	0.59	0.49	0.54	0.63	0.30	0.35	0.61	0.91	0.14	0.29
SP3	0.57	0.48	0.47	0.56	0.26	0.38	0.49	0.86	0.12	0.36
SP4	0.55	0.43	0.53	0.63	0.30	0.38	0.56	0.93	0.20	0.38
SPD1	0.15	0.09	0.29	0.10	0.08	0.04	0.26	0.16	0.96	0.11
SPD2	0.09	0.06	0.19	0.12	0.03	0.02	0.22	0.13	0.88	0.14
SPD3	0.21	0.10	0.34	0.12	0.17	0.10	0.32	0.18	0.94	0.03
TP1	0.35	0.26	0.25	0.29	0.07	0.23	0.21	0.24	0.11	0.79
TP2	0.51	0.36	0.37	0.46	0.14	0.44	0.33	0.39	0.08	0.95
TP3	0.48	0.36	0.36	0.50	0.17	0.45	0.33	0.37	0.06	0.96

Table 4: Correlations Among Latent Constructs

	CR ¹	ATA	BI	INT	INV	MAP	RNG	SAT	SP	SPD	TP
ATA	0.99	0.98 ²									
BI	0.95	0.61	0.93								
INT	0.90	0.63	0.48	0.83							
INV	0.84	0.56	0.62	0.49	0.85						
MAP	0.94	0.40	0.39	0.51	0.27	0.92					
RNG	0.96	0.53	0.46	0.55	0.39	0.52	0.94				
SAT	0.98	0.71	0.67	0.71	0.56	0.51	0.52	0.95			
SP	0.95	0.63	0.52	0.58	0.66	0.31	0.41	0.61	0.91		
SPD	0.72	0.17	0.09	0.31	0.12	0.11	0.06	0.30	0.17	0.93	
TP	0.93	0.50	0.36	0.36	0.47	0.15	0.42	0.33	0.38	(0.09)	0.90

Common Method Bias Analysis

Common method bias can be problematic in survey research where a user's perceptions are used for both the independent and dependent variables. For this reason, one must test to see if common method bias has affected the study's findings. There are two steps outlined by Podsakoff and Organ (1986) in testing for common method variance. First, as Harmon (1967) suggests, we conducted a one-factor extraction test. This exploratory analysis will show that a single factor explains a majority of the variance. We found ten factors that were identified with Eigen values greater than one, explaining a total variance of 80percent. The first factor accounted for 41 percent of the variance.³ Lindell and Whitney (2001) recommends a second procedure that examines correlations corrected for any method effect. This procedure analyzes the correlations between constructs that are related. Specifically, this is done by a priori selecting a marker variable that conceptually should not be correlated with the dependent variable of interest. After the data collection, the marker variable is treated as a proxy measure for method bias and is used to partial out the method effect. If the marker variable is not selected before data collection, as in this study, an alternative variable with a low correlation with the variables of interest can be selected. Perceived ease of use (PEOU) (Davis 1989) and Real-Time Conversation (RTC) (McMillan and Hwang 2002) were selected as the marker variables. PEOU is commonly used in common-method testing but is naturally correlated with satisfaction and behavior intention (Davis 1989). Therefore, a second real-time conversation was also used to parse out any method effect. There is little theoretical reasoning why real-time conversation should correlate with satisfaction and behavior intention. Table 5 represents the adjusted correlations of the related variables and correlations adjusted for method effects. As can be seen, in each case at least one of the adjusted correlations remained significant at p<.05. Considering that these marker variables represent the legitimate correlation between the constructs and any variance caused by the shared method, it is reasonable to conclude that the relationships shown are strongly supported by the data.

RESULTS

The results provide significant support for the research model. All fourteen of the hypotheses were fully supported. The results are summarized Figure 3. Together, attitude toward the ad and satisfaction with the ad accounted for more than 51percent of the variance in the respondents' intention to use the website. Social presence and telepresence accounted for nearly 48percent of the variance in the attitude toward the ad and more than 38percent of the variance in satisfaction with the ad. Interactivity and involvement accounted for more than 51percent of the variance in the social presence, while interactivity, involvement, and interaction accounted for just over 29percent of the variance in telepresence. Over 43percent of the variance in interactivity was accounted for by the speed, range, and mapping.⁴ Further, interactivity was vetted and provided both discriminant and convergent validity thus corroborating empirically our operationalization of this construct.

³ A limitation of Harmon's one-factor test is that there are no guidelines on how high the variance of the first factor should be for common method bias to be detected. In addition, the first factor would contain variance that is due to methods bias and to the traits, and it is not possible to isolate the variance attributable to the method in this test." (Jayachandran et al. 2005, p. 186) Such is the situation with this data as it is impossible to separate the common method variance from the expected theoretical covariance between the antecedents and the exogenous variables in the model.

⁴ In the online advertising several studies have focus on the influence of the advertisement to the website itself (Campbell and Wright 2008; Jiang and Benbasat 2007; Parboteeah et al. 2009). Although in this study it was an explicit choice to focus on the advertisement we did test to see if the advertisement influenced the perceptions of the website. In order to do so, we also ran the competing model substituting attitude toward the advertisement with attitude toward the website and also substituting satisfaction with the ad with satisfaction with the website. Using Cohen F² we determined that the behavioral intention toward the website does have a small increase in effect size (0.12) when using website-oriented satisfaction and attitude constructs.



Table 5: Common Method Analysis					
	BI	ATA	SAT	TP	SP
ATA	0.59				
PEOU adj. ATA	0.4				
RTC adj. ATA	0.5				
SAT	0.67				
PEOU adj. SAT	0.51				
RTC adj. SAT	0.6				
SP		0.63	0.61		
PEOU adj. SP		0.46	0.43		
RTC adj. SP		0.55	0.52		
TP		0.5	0.33		
PEOU adj. TP		0.26	0.01		
RTC adj. TP		0.39	0.18		
INTER				0.36	0.58
PEOU adj. INTER				0.06	0.38
RTC adj. INTER				0.22	0.49
INV				0.47	0.66
PEOU adj. INV				0.22	0.5
RTC adj. INV				0.35	0.59
PEOU	0.32	0.3	0.29	0.05	0.3
RTC	0.18	0.14	0.09	0.31	0.21

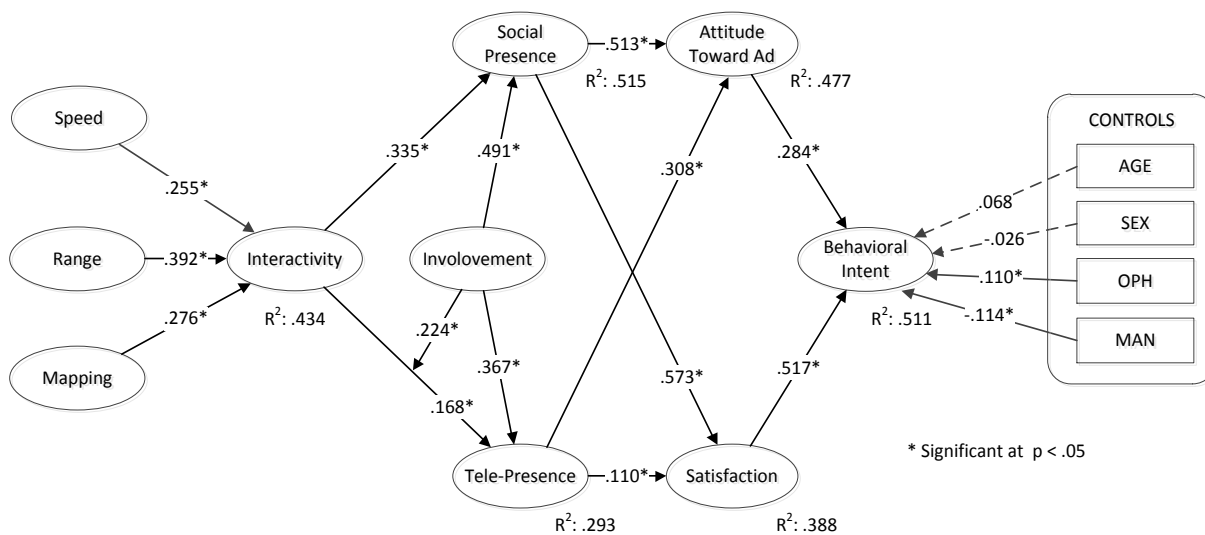


Figure 3: Results from the PLS analysis.

These results show that perceptions regarding the media, specifically social presence and telepresence, significantly influence user perceptions regarding online advertising. In the context of this experiment, social presence was the strongest predictor of both attitude ($\beta=0.513$) and satisfaction ($\beta=0.573$) compared to telepresence ($\beta=0.308$ and $\beta=0.110$ respectively). In other words, a user's perceptions of the social cues embedded into the ad were more influential than their sense of "being" in a virtual marketplace.

The interface characteristic of interactivity was a significant predictor of social presence ($\beta=0.335$) and telepresence ($\beta=0.168$). Interestingly, the results indicate that all sub-dimensions of interactivity were all significant contributors to the variance in interactivity (speed $\beta=0.255$, range $\beta=.392$, and mapping $\beta=.276$). Further, the data shows that involvement was most predictive of social presence ($\beta=0.491$) and telepresence ($\beta=0.367$). The influence of the involvement and interactivity interaction showed a significant ($\beta=0.224$) effect on user's perception of telepresence. These results suggest that website designers and marketers can work together in order to enhance the influence of online advertising by adjusting the level of interactivity in an advertisement. These results similarly show that interactivity has a further positive influence on ad perceptions by interacting with involvement.

DISCUSSION

As this study fully leverages Steuer's (1992) work regarding interactivity, these results indicate the significance and conceptual importance of interactivity's sub-dimensions, speed, range, and mapping. As such, we recommend authors consider including this more robust measure of interactivity in future research. Additionally, this study provides support that the significant role interactivity plays in virtual environments. As Johnson et al. (2006) work provides a conceptualization of interactivity that can span multiple contexts, this work provides empirical and conceptual support for a conceptualization of interactivity specifically focused on virtual environments.

Within the context of online advertising, this study provides a unique perspective on the influence an advertisement can have on perceptions of the host site. In most cases, the company represented in the advertisement is distinct from the organization associated with the host site. However, this research suggests that perceptions of one affect the other. Therefore, these results indicate that practitioners may need to be more strategic about the types of ads permitted or used. Some ads may result in positive associations, and others may result in negative associations. In order to avoid negative consequences (i.e., lower intentions to return or purchase), such undesirable associations should be avoided.

LIMITATIONS AND FUTURE RESEARCH

Snowball samples are not considered to be truly random samples without bias (Heckathorn 1997; Heckathorn 2002; Salganik and Heckathorn 2004). However, the intent of this sampling method was to introduce more heterogeneity into the sample. Two known limitations of experimental methods are a lack of generalizability of the findings and realism for the participants (Dennis and Valacich 2001; McGrath 1982). Although the snowball sampling method could not eliminate this limitation, it was selected to partially mitigate it. We chose to focus on precision and control in this quasi-experimental design in order to maximize internal validity. Similarly, we recognize that the resulting measurement instruments for the dimensions of interactivity could have been strengthened by the inclusion of more reverse coded items to guard against various possible confounding effects. However, we have demonstrated that these measures are psychometrically sound.

This research endeavor studied only one type of advertisement (e.g., the fly-in). Other types of advertisements, such as banners, Ad Words, video, and so on, might produce different effects based on the levels of interactivity. However, the purpose of the study was to manipulate the interactivity construct, not test differences across different types of advertisements. Future studies are needed to evaluate the interaction effect that is produced between the level of interactivity and the type of online advertisement.

With the further deconstruction of interactivity, and the identification and operationalization of the dimensions speed, range, and mapping, future research can focus on understanding the most influential dimensions in certain contexts. For example, are there certain contexts in which mapping is the most influential aspect of interactivity in comparison to speed and range. Certainly such relationships may differ in accordance to the context, understanding which dimension is driving key relationships will assist developers at a more specific level. Additionally, other comparisons across the sub-dimensions of interactivity are also appropriate for future research.

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APPENDIX 1: LIST OF ITEMS USED IN THE SURVEY

Speed Adapted from (McMillan and Hwang 2002)		9 point response scale with strongly disagree – strongly agree range Please rate the ADVERTISEMENT you just used on the following:
	MAP1	Loads fast
	MAP2	Loads slow
	MAP3	Operates at high speed
Range		9 point response scale with strongly disagree – strongly agree range
	RNG1	There were a lot of possible ways to manipulate the "pop-up" advertisement.
	RNG2	The functionality in the "pop-up" advertisement allowed me to do many things.
	RNG3	There were many different ways to use this "pop-up" advertisement.
Mapping		9 point response scale with strongly disagree – strongly agree range
	MAP1	When I used the "pop-up" advertisement it takes me to the right web page.
	MAP2	When I click the link(s) in the "pop-up" advertisement it takes me to where I thought it would.
	MAP3	The "pop-up" advertisement maps directly to what it should.
Note: items taken from previously established measures can be seen in Appendix 4.		

APPENDIX 2: SCREEN SHOTS FOR EACH OF THE EXPERIMENTAL CONDITIONS

CHAMBERS TRAVEL AGENCY

Welcome Categories Contact Us

Search for: Search Sign In Order Status Shopping Cart

Chambers Travel

3rd Annual Super Saver SPRING BREAK SALE

Cheapest prices to Cancun etc...

To get to this ad to CLOSE click the airplane.

Category

Bahamas

The center of action revolves around Legends Beach resort and Risky Business with daily entertainment, contests and giveaways. These two Spring Break hangouts compete non-stop for Spring Breakers attention. There are numerous hotels located within a short walk or across the street from these two Spring Break hot spots.

Rating: 4 stars

Category Items

Description	Item#	Price
Nassau Beach Hotel [more]	bah1007	\$1,325.99 \$1,109.95
Nassau Palm Resort [more]	bah1009	\$1,115.99 \$1,129.95
Paradise Island Harbor Resort [more]	bah1008	\$1,225.99 \$1,119.95

Example of website with fly-in advertisement

<p>Low Speed:</p> <p>The ad was slow to display fully and slow to react to the user</p>	<p>Low Range:</p> <p>Allows no direct interaction displays online for 10 seconds (Note: Black Box added to retain anonymity)</p>	<p>Low Mapping:</p> <p>Clicking on airplane sends the users to the incorrect page, clicking the "X" to close makes the ad larger, dragging the does the opposite as the mouse movement (e.g. dragging right moves the ad left)</p>	<p>High Interactivity</p> <p>Functions normally.</p>



APPENDIX 3: TASK SHEET

When considering which website to buy from, you are mostly concerned about the features that are provided to help with order processing, and the interface presentation. Please help your friend in determining whether this purchase should be made at this website. Below is a list of items that will **help you in assessing the website**. Please perform and check off each action as you go through the list.

	Enter Your Name: _____.
<input type="checkbox"/>	CLICK HERE and MAXIMIZE the new window (you will need to go back and forth from this window to the shopping site).
<input type="checkbox"/>	List a description of any advertisements you see.
<input type="checkbox"/>	Look at the vacation packages for Cancun .
<input type="checkbox"/>	Write down the price of the package you consider to be the best buy here _____.
<input type="checkbox"/>	Now you would like to explore other vacation packages. Click the “ Categories ” link
<input type="checkbox"/>	Now feel free to browse other vacation packages or any of the advertisements by Clicking their links.
<input type="checkbox"/>	As you are browsing, please write down the price of the best alternative to your above recommendation here _____.
<input type="checkbox"/>	When you have completed looking at the prices and details for the vacation packages. You are ready to purchase the best deal for the Cancun trip . Go to the vacation package and add it to your cart by clicking “ Buy Now. ”
<input type="checkbox"/>	Then while in your shopping cart, Click “ Checkout. ”
<input type="checkbox"/>	Enter in your information as requested. Then Click “ Continue. ”
<input type="checkbox"/>	Enter in your shipping information, or check the box if it is the same as your billing information. Then Click “ Continue. ”
<input type="checkbox"/>	Choose a shipping method. Then Choose a payment method, and Click “ Continue. ”
<input type="checkbox"/>	You are now finished with the purchase, and can view your order or close the internet browser.
	Now Complete the Survey CLICK HERE

APPENDIX 4: PREVIOUSLY ESTABLISHED SURVEY ITEMS

Controls		
Age	AGE	Please indicate your age.
Sex	SEX	Please indicate your sex.
Online Purchase History	OPH	How many purchases do you transact online per year?
Survey Items		
Behavioral Intention Adapted from (Bhattacharjee 2001; Van der Heijden et al. 2003)		9-point response scale with strongly disagree—strongly agree range
	BI1	How likely is it that you would return to this website?
	BI2	Suppose you were in the market for one of these products. How likely would you be to do business with this organization via its website?
Attitude toward the Advertisement Adapted from (Bhattacharjee 2001)		9-point semantic differential scale My attitude toward the ADVERTISEMENT on this site is:
	ATA1	Bad—Good
	ATA2	Like—Dislike
	ATA3	Favorable—Unfavorable
Satisfaction with the advertisement Adapted from (Bhattacharjee 2001)		9-point semantic differential scale How do you feel about your overall experience with the ADVERTISEMENT?
	SAT1	Very dissatisfied—Very satisfied
	SAT2	Very displeased—Very pleased
	SAT3	Very frustrated—Very content
	SAT4	Absolutely terrible—Absolutely delighted
Social Presence From (Short et al. 1976)		9-point semantic differential scale The ADVERTISEMENT on the website was:
	SP1	Cold/ Warm
	SP2	Insensitive / Sensitive
	SP3	Impersonal / Personal
Telepresence From (Coyle and Thorson 2001)		9-point response scale with strongly disagree—strongly agree range
	TP1	When I left the ADVERTISEMENT, I felt like I came back to the "real world" after a journey.
	TP2	The ADVERTISEMENT came to me and created a new world for me, and the world suddenly disappeared when I left the website.
Involvement Adapted from (Johnson et al. 2001; Zaichkowsky 1994)		Please rate your experience with the ADVERTISEMENT you just visited for the follow few questions:
	INV1	Important / Unimportant (reverse)
	INV2	Unexciting / Exciting
	INV3	Appealing / Unappealing (reverse)
	INV4	Mundane / Fascinating
	INV5	Not needed / Needed
	INV6	Irrelevant / Relevant
	INV7	Means a lot to me / Means nothing to me (reverse)
	INV8	Trivial / Fundamental
	INV9	Beneficial / Not beneficial
INV10	Matters to me / Does not matter to me	
Interactivity Adapted from (Coyle and Thorson 2001; Liu 2003)		9-point response scale with strongly disagree—strongly agree range
	INT1	I felt that I had a lot of control over my visiting experiences at this website.
	INT2	While I was on the website, I could choose freely what I wanted to see.
	INT3	The website had an image that I could click on to go to other screens.
	INT4	The website offered many places to click on for more information.

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