



## Interactivity in Brand Web Sites: Cognitive, Affective, and Behavioral Responses Explained by Consumers' Online Flow Experience

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### Abstract

Web site interactivity creates numerous opportunities for marketers to persuade online consumers and receives extensive attention in the marketing literature. However, research on cognitive and behavioral responses to web site interactivity is scarce, and more importantly, it does not provide empirical evidence for *how* interactivity effects can be explained. Therefore, the aim of this study was to investigate the underlying principle that explains the influence of web site interactivity on consumers' cognitive, affective and behavioral responses: online flow, the web site users' complete immersion in an online activity (Hoffman and Novak 2009). In two studies, the hypothesis was tested that a visitor's flow experience in a specific brand web site mediates the effects of interactivity on the number and type (web site vs. product related) of thoughts, on attitudes toward the brand and web site, and on several behavioral intentions. The results provide evidence for the importance of flow in a marketing context, and the notion that the flow experienced on a specific web site is the underlying mechanism by which cognitive, attitudinal, and behavioral responses to an interactive brand web site can be explained.

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In the last two decades, almost every organization has found its way to the Internet. Multinational corporations, international bookstores, and the local bakery around the corner all try to communicate via their web sites. These brand web sites, defined as business to consumer web sites of brands that prioritize persuasion (Voorveld, Neijens, and Smit 2009), are the main online medium to inform and persuade consumers because of their interactive possibilities (e.g., eMarketer 2009; Macias 2003). Interactive features provide information about the brand, organization, and products. Examples of these features include three-dimensional product representations, store locators, games, discussion forums, real-time communication tools to communicate with the service desk and virtual tours (see Ghose and Dou 1998). This empowerment is not limited to organizations; consumers increasingly consider brand web sites

as the most important medium to seek and find information. Furthermore, many argue that interactivity is one of the key differences between traditional and new media (e.g., Chung and Zhao 2004). Therefore, interactivity has become a central theme in marketing communications literature (Kim and McMillan 2008). Within this context, it is pivotal to understand *how* web site interactivity influences consumers.

The number of studies examining web site interactivity has expanded over the last few years, especially in the field of marketing. However, there are some important limitations to the understanding of this phenomenon related to marketing communications. First, mainly affective responses were examined, but cognitive responses are studied to a lesser extent, and behavioral responses were generally neglected. Research mostly showed a positive relationship between interactivity and affective responses, such as attitude toward the web site and the online retailer (e.g., Fiore, Jin, and Kim 2005; Macias 2003; McMillan and Hwang 2002; Voorveld, Neijens, and Smit 2009; Wu 2005). Fewer studies examined cognitive responses to the web site, such as memory of the advertised brand (Macias 2003), the advertised product, and the web site (Arieli 2000; Chung and

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Zhao 2004; Daugherty, Li, and Biocca 2008; Sicilia, Ruiz, and Munuera 2005). Web site visitors seem to retain more of what they have seen on web sites that are relatively interactive. Concerning behavioral responses to web site interactivity, research is scarce and generally failed to find significant effects (Chung and Zhao 2004; Coyle and Thorson 2001; Voorveld, Neijens, and Smit 2009). Therefore, our understanding of online persuasion by interactivity in the domain of marketing communication, such as brand web sites, is incomplete.

Second and probably an even more compelling problem in web site interactivity effects research is that it does not examine *how* these effects can be explained. The main body of interactivity research examined the direct effect of interactivity on consumers' responses. Although these studies implicitly assume how these effects can be explained, these assumptions are not explicitly tested. Unsurprisingly, Sundar (2004) calls for research on the underlying mechanisms of interactivity. Only if underlying principles are studied can we fully understand how consumers are influenced by interactivity in online marketing communications.

This study fills in these gaps by examining the importance of flow in a marketing context, and the notion that the flow experienced on a specific web site is the underlying mechanism by which cognitive, attitudinal, and behavioral responses to an interactive brand web site can be explained. We do so by making at least three more specific contributions. First, this study aims to contribute to the understanding of the role of web site interactivity in information processing by examining interactivity effects on cognitive, affective and behavioral responses in one design. With respect to the cognitive responses, we focus on the amount of thoughts generated by a web site visit and analyze the subject of respondents' thoughts (i.e., website or product). In addition, we examine attitudes toward both the web site and the brands as affective responses and look at three different behavioral responses: word of mouth, intention to revisit the web site and shop intention. Second, this study examines which variable mediates the causal relationship between web site interactivity and consumer responses. Based on a conceptual model of online flow (Hoffman and Novak 1996), originally designed to explain antecedents and consequences of flow experience while navigating across web sites, we suggest that online flow explains interactivity effects in a marketing context. It is argued that online flow experience, in which web site users are completely immersed in the web site and forget about the world around them (in accordance with Csikszentmihalyi 1975 and Hoffman and Novak 1996) mediates the effects of interactivity in a brand web site. Prior research, in other domains than marketing, that pointed to the mediating role of flow was mainly theoretical or based on survey designs, which does not allow for testing causal relationships. Third, some researchers claimed that online flow is irrelevant for marketing (Zeithaml, Parasuraman, and Malhotra 2002). Thus, so far, empirical evidence for this mediating role of flow is lacking. By testing the suggested mediation hypothesis, this study tries to systematically contribute to interactivity theory within the domain of marketing communications and extend our knowledge on the concept of online flow, by applying online flow theory to a marketing context.

## Theoretical Framework

In the next paragraphs, the theoretical framework is presented that delves into the concept of interactivity in brand web sites. Then why the experience of online flow can account for cognitive, affective and behavioral responses to interactivity in brand web sites is explained.

### *Conceptualizing Interactivity*

To date, there is no consensus among researchers about the definition of interactivity, as reflected in several extensive literature reviews (e.g., Johnson, Bruner II, and Kumar 2006; Liu and Shrum 2002; McMillan and Hwang 2002; Song and Zinkhan 2008). We will not provide another literature overview but will address how we conceptualize interactivity in this study on brand web sites. Within the marketing literature, Liu and Shrum (2002) were the first to provide a thorough outline of interactivity research. Their definition of interactivity is based on both marketing and communication literature and thus matches the context of the current study (organizational brand web sites). Therefore, in this study, interactivity is defined as “the degree to which two or more communicating parties can act on each other, on the communication medium, and on the message and the degree to which such influences are synchronized” (Liu and Shrum 2002, p 54). This definition reflects the multidimensionality of the interactivity construct (e.g., Liu 2003; Liu and Shrum 2002; McMillan and Hwang 2002; Song and Zinkhan 2008). The first dimension is two-way communication and refers to the possibility of reciprocal communication between the organization and the web site user and between web site users. Features such as discussion forums and hyperlinks to e-mail addresses facilitate two-way communication in brand web sites. The second dimension is active control and refers to the extent to which the web site user is able to influence the communication process. Features such as language choice, download features, and delivery tracking systems enable active control in brand web sites. The third dimension is synchronicity and refers to the extent to which two-way communication is a simultaneous process and occurs in real-time. Synchronicity depends on the speed and reliability of the Internet connection.

### *Flow: The Underlying Principle of Web Site Interactivity Effects*

Flow is experienced in a variety of daily activities such as playing sports, reading a book, or watching a movie. In activities within a computer-mediated environment, one can experience an *online* flow, which has been proposed as the central process in consumers' web navigation (e.g., Chen, Wigand, and Nilan 1999; Huang 2006). Hoffman and Novak (2009, p 5) argue that online flow can be experienced when one is completely immersed in an online activity (based on Csikszentmihalyi 1975). Prior research demonstrated that online flow is a multi-dimensional construct, characterized by four dimensions: 1) perceiving control over the interaction, 2) the extent to which one's attention is focused on the interaction, 3) the curiosity aroused by the interaction, and 4) the extent to which the user experiences

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