

# Chapter 5.13

## Cultural Cognitive Style and the Web:

### Toward a Theory and Practice of Web Design for International Users

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#### **ABSTRACT**

Several technological developments have altered our world in the last half-century. Among these were the new information processing and distribution platforms supported by computer-mediated communication (CMC). In 2005, Forrester Research found that 50% of Internet users were non-English speakers, and this number would increase to 66% by 2006. For many designers and Web usability researchers, addressing this situation seem limited to translating Web interfaces or content. Although early studies in usability testing have identified considerable cultural differences among users (D'Andrade, 1984; Evers & Day, 1997), a need exists for a more rigorous investigation from a cross-cultural perspective into how Web sites are designed. The authors hold that the cultural cognitive styles of Web

designers ultimately affect the performance and preferences of online users. As a result, specific attention should be paid to the impact of the Web designers' culturally shaped cognitive style on the design and development of online information.

#### **INTRODUCTION**

Several technological developments have profoundly altered our world in the last half-century. Among these, of central importance were the new information processing and distribution platforms supported by computer-mediated communication (CMC). These particular developments have reduced the time lags, human and material costs, and space limitations intrinsic to the traditional flow of communication, which, until recently, supported most large-scale organizations, businesses,

and social groups. A cross-cultural community of interests, commerce, ideas, and technology has emerged as a natural outcome of these developments. Its impact is omnipresent, affecting a large number of cultures, knowledge domains, and activities (Edwards, 1994).

In 2005, Forrester Research found that 50% of Internet users were non-English speakers and predicted that by 2006 this number would increase to approximately 66%. At the same time, Inktomi and NEC Research state that only 14% of Web sites are in a language other than English. Consequently, half of all Web users are able to understand less than a sixth of the Web sites. This was especially prevalent in Asia, where Internet use climbed from 38 million to 95.8 million in three years (WorldLingo, 2000).

This unprecedented proliferation of non-English-speaking e-commerce consumers suggests that a paradigm shift is imminent in the global marketplace, in response to which Web developers must formulate new strategies for effectively delivering Web content (Del Galdo & Nielsen, 1996). Specifically, communication technologists must consider the cross-cultural challenges that will inevitably confront the online world (Houston & Eckhardt, 2001; Zhang, Schmitt, & Haley, 2003).

For many designers and Web usability researchers, these challenges seem to be limited to translating Web interfaces or content. Although accurate translation of site content is imperative, there are far more important human factors related to information perception and organization, which are rarely considered by Web site developers. Chief among these factors are the subtle psychological dimensions of human-computer interaction (HCI), which come into play when a culturally diverse audience interacts with Web content (Ess & Sudweeks, 1998; Faiola & Matei, 2005b; Her-ring, 1996; Vishwanath, 2003). In this context, it is particularly important to investigate and elucidate the culture-specific thinking and reasoning methods that impact a user's experience.

Moreover, a recent body of research, particularly in CMC, HCI, and instructional technology, has shown the important relationship between culture's effect on information acquisition and processing strategies, and the user's experience on the Web (Chen, & Macredie, 2002; Choong & Salvendy, 1999; Ess & Sudweeks, 1998). This literature has begun to show how culture influences a variety of behaviors and preferences that are important to understanding usability issues specific to Web sites (Chau, Massey, Montoya-Weiss, & O'Keefe, 2002; Faiola & Matei, 2005a, 2005b). For this reason, when creating content for the WWW, developers should take into account the cultural differences in the ways that users think, assign value, and behave.

In brief, culture, especially that which is rooted in national and ethnic contexts, is one of several complex and problematic areas that need more attention from those who are trying to understand the factors that impact online commerce, education, and the general accessibility of online information (Simon, 2000). At the same time, Web developers with expertise in HCI, graphic design, information technology, and psychology are increasingly concerned with the cognitive processes involved in designing Web content (Faiola, 2002; Preece, Abras, & Maloney-Krichmar, 2004). Some of their conclusions and efforts have been further developed by communication scholars with the aim of identifying the most appropriate ways of improving information delivery to international users (Blanchard, 2004; Marcus, 2000; Preece, 1998). Although early studies in usability testing have identified considerable cultural differences among users (D'Andrade, 1984; Evers & Day, 1997), there is still a need for a more rigorous investigation from a cross-cultural perspective into how Web sites are designed.

As never before, it is necessary to construct a framework rooted in theory and best practices that can support strategizing for Web site construction and that addresses cross-cultural user preferences and usability issues. New research initiatives must

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