



## Chapter XII

# Understanding Web Site Usability: The Influence of Web Site Design Parameters

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### Abstract

*Web site usability is concerned with how easy and intuitive it is for individuals to learn to use and interact with a Web site. It is a measure of the quality of a Web site's presence, as perceived by users. The usability of Web sites is important because high usability is associated with a positive attitude and greater trust towards the Web site. Poorly designed Web sites with low usability lead to negative financial impacts. Existing approaches to Web site usability include measurement and tracking of parameters such as response time and task completion time, and software engineering approaches that specify general usability guidelines and common practices during software development. This chapter analyzes usability from the point of view of Web site design parameters. An analysis of usability and other design characteristics of 200 Web sites of different kinds revealed that design aspects such as information content, ease of navigation, download delay, and Web site availability positively influence usability. Web site security and customization were not found to influence usability. The chapter explains these results and suggests design strategies for increasing Web site usability.*

## Introduction

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Web site usability is concerned with how easy and intuitive it is for individuals to learn to use and interact with a Web site, in order to quickly and easily accomplish their tasks on it (Preece, 2001). It is typically a measure of the quality of a Web site's presence, as perceived by users (Agarwal & Venkatesh, 2002; John & Bass, 2001). That is, Web sites which are highly usable are easy to learn, remember, and use. Web site usability is derived from a broader framework of system usability, as described in concepts from the literature on human computer interaction (HCI) (Schneiderman, 1998). The primary premise of HCI studies is that the design of information systems should include features and characteristics that make it easy for users to interact with and use the system.

The usability of Web sites is important for a number of reasons (Huang, 2002). First, the World Wide Web (WWW) is an open and connected environment and switching Web sites is easy. To ensure that people actually stay with a Web site until the transaction is completed, the Web site needs to be usable. In this context, Ellis and Kurniawan (2000) state that browsers often do not wait to complete their transactions on Web sites that are not user friendly, do not facilitate the retrieval of information, and do not present the information in a well organized and relevant form. Second, the WWW provides access to an increasing range of information, products, and services. Its users range from experts to novices, and have dramatically different expectations and skills. Hence it is important to understand the factors that increase Web site usability, for different kinds of browsers. Third, prior research suggests that high usability is associated with user-related positive outcomes such as a reduction in the number of user errors (Siau, 2003-2004) and a more positive attitude towards the Web site (Lecroff & Paterno, 1998; Nielsen, 2000). Fourth, greater Web site usability leads to greater user trust and loyalty for the Web site. Carlos, Guinalíu, and Gurrea (2006) performed a study to determine the influence of perceived usability on the user's loyalty to Web sites. The results showed that greater Web site usability was associated with increased loyalty towards the Web site and greater satisfaction from it.

Finally, the Web site is the interface through which employees and customers interact with the organization. In that sense, it is analogous to a brick and mortar store. High Web site usability is therefore akin to a user-friendly and pleasant store environment and influences the Web site traffic. It gives an impression of a strong customer orientation and services mindedness (Heldal, Sjøvold, & Heldal, 2004). Likewise, low usability portrays the opposite of these sentiments.

Financial and economic impacts of poor usability have also been documented. Landauer (1996), for example, found that inadequate use of usability engineering methods in software and Web site development projects costs the U.S. economy \$30 billion per year in lost productivity. According to the consulting firm A.T. Kearney,

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