

# Exploring the factors associated with Web site success in the context of electronic commerce

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## Abstract

Web sites are being widely deployed commercially. As the widespread use and dependency on Web technology increases, so does the need to assess factors associated with Web site success. The objective is to explore these factors in the context of electronic commerce (EC). The research framework was derived from information systems and marketing literature. Webmasters from Fortune 1000 companies were used as the target group for a survey. Four factors that are critical to Web site success in EC were identified: (1) information and service quality, (2) system use, (3) playfulness, and (4) system design quality. An analysis of the data provides valuable managerial implications for Web site success in the context of electronic commerce. © 2000 Elsevier Science B.V. All rights reserved.

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## 1. Introduction

Web sites are being widely deployed throughout industry, education, government, and other institutions. In practice, the importance of the use of Web technology for electronic commerce (EC) activities has been discussed widely (e.g., [32,34,50,58,59,61]). EC is a way of conducting business by companies and their customers performing electronic transactions through computer networks [19]. EC can help business organizations cut costs, interact directly with customers, run more smoothly and in a more timely manner, and even better, it can help an organization outperform its competition.

As the dependency on Web technology increases, so does the need to assess factors associated with Web site success. Although there has been significant research on supporting EC, existing empirical research focusing on success factors of Web sites is mainly anecdotal and exploratory in nature. Few studies involved more than one or two measurement variables involved in a Web site design. Thus, while there should be a considerable number and variety of factors associated with Web sites success, little knowledge exists above the combination of these factors. In addition, the preponderance of studies focuses on building security for on-line transactions on the Web [31,43]. Customers would not pay for products or services over the Web if financial information could not be transmitted securely: secure transactions are critical to the success. However, security is only a necessary but not a sufficient condition of designing a successful Web site: a secure Web market does not guarantee customers.

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## 2. Specification of Web site success

The general definition of IS success is: the extent to which a system achieves the goals for which it was designed [23]. A Web site is a new type of information technology. In the context of EC, the functions and features provided by companies' Web sites can be classified into three phases of marketing: pre, on-line, and after sales [39]. Any EC activity fits within these three classifications. The *pre-sales* phase includes a company's efforts to attract customers by advertising, public relations, new product or service announcements, and other related activities. Customers' electronic purchasing activities occur in the *on-line* sales where orders and charges are placed electronically through Web facilities. Kotler [33] stressed that trustworthy, dependable, and reliable characteristics are important to trigger business transactions. The *after-sales* phase includes customer service, problem resolution etc. This phase should generate or obtain customer satisfaction by meeting demand and pleasing customers. Thus, a successful Web site, in the context of EC, is one that attracts customers, makes them feel the site is trustworthy, dependable, and reliable and generates customer satisfaction.

## 3. Theoretical framework

As EC on the Web deals with both IS and marketing activities, literature from both areas is appropriate in the research context. In the marketing arena, consumer information search strategies and measuring service quality were investigated. In the IS arena, a search was made of IS management, measuring IS success, and end-user computing.

### 3.1. Information quality

Prior research employed various measures of IS success, including user satisfaction [2,28,35,52], business profitability [13,44], improved decision quality and performance [42,49,54,62], perceived benefits of information systems [20,30,51], and the level of system usage [21,22]. All of them stressed the importance of information quality. This leads to the following hypothesis:

**H1.** Information quality is directly related to Web site success.

### 3.2. Learning capability

EC is an interactive function between customers and business enterprises [9]. Many studies have emphasized the importance of the two-way on-line communication between customers and firms (e.g., [5,9,16,41]). Such knowledge will not only facilitate building relational markets but also increase customers' abilities to learn how to browse and to find relevant information on the Web. Business on-line can profit from the interactive culture on the Web [6].

For many potential customers, using Web technology for EC activities is a new experience. Also, providing interactive learning tools is necessary since consumers need to develop and apply their abilities through exploratory behavior [60]. Thus, we propose:

**H2.** Learning capability is directly related to Web site success.

### 3.3. Playfulness

The importance of playfulness has been emphasized by Web site designers. A study by Rice [53] suggests that the likelihood of a repeat visit to a Web site is enhanced when the visitors find the visit enjoyable.

In the context of marketing, hedonic value reflects shopping's potential entertainment and emotional worth [15]. A satisfied customer not only comes from an extrinsic reward of purchasing products or services but also from personal and emotional reward from purchasing-derived pleasure [29]. This suggests that shopping on the Web produces both hedonic and utilitarian outcomes.

There is a need for Web designers to cultivate hedonic pleasure in site design by motivating customers to participate, promoting customer excitement and concentration, and including charming features to attract customers and to help them enjoy the visit. This will lead to increased customer activities [55]. Therefore, another hypothesis is:

**H3.** Playfulness is directly related to Web site success.

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