Chapter 2.18
Evaluating the Usability and Content Usefulness of Web Sites:
A Benchmarking Approach

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ABSTRACT

Although benchmarking technique has been widely used in various aspects of organisations and businesses, there is no clear framework on how the technique can be applied for Web evaluation. This article presents a framework for evaluating the usability and content usefulness of Web sites by using the benchmarking approach. It describes the purpose of evaluation, metrics to be used, and processes through which Web benchmarking can be carried out. Several methods were used which include content analysis of literature and expert review. A total of 46 criteria were identified that can be used as the benchmarking metrics. The framework was tested for its applicability by evaluating four political Web sites in Malaysia. The results proved that the framework is easy to implement and would be particularly valuable for those who intend to benchmark the overall usability and content usefulness of their Web sites against those of their competitors.

INTRODUCTION

Benchmarking is a measuring method widely used by companies to improve many areas of activities including human resource management, information systems, customer processes, quality management, purchasing, and supplier management (Elmuti, 1998). The common goal of this approach is to identify the 'best practices' of other organisations so that it can be implemented in one's own operation. In Web evaluation, benchmarking could be used to measure the performance of one's

Web site against others, especially its competitors. By doing this, strengths and weaknesses of one's Web site can be identified, and the quality and usefulness of the Web site could be improved accordingly. For many years, the benchmarking technique has proven its success and widely been used in business (Government Centre for Information Systems, 1995) and various aspects of organisations. However, *very little information* is available on how this approach can successfully be implemented in Web site evaluation.

With this in mind, a framework was developed on how the benchmarking technique can be applied to measuring Web sites in terms of their usability and content usefulness. This framework is aimed at both technical and non-technical people who are involved in Web site design and evaluation. Some empirical work was conducted to test the applicability of the framework which will be presented in this article.

The article will first describe some existing Web evaluation methods, followed by the definition of the concept of Web usability and content usefulness. Then methods used in this study will be explained briefly. Next, the findings and the proposed benchmarking framework are then discussed in detail. Finally, the article ends with some suggestions for future studies.

EXISTING WEB SITE EVALUATION METHODS

Despite the lack of Web evaluation studies that use the benchmarking technique, many studies on Web evaluation have been carried out for many years which employ conventional methods, including usability testing (e.g., Nielsen, 1993; Zimmerman, 1998), expert review (e.g., Shneiderman, 1998; Zhang & Dran, 2000), case study (e.g., Smith, Newman, & Parks, 1997), and automated assessment (e.g., Tuasher & Greenberg, 1997; NetMechanic, 2000).

However, several attempts were made to measure Web sites using the benchmarking approach.

Simeon (1999), for example, performed a study on how benchmarking techniques can be used to compare the Attracting, Informing, Positioning, and Delivering (AIPD) strategies of commercial Web sites in order to clarify strategic opportunities and advantages. In this study, he used the AIPD approach to compare Web site strategies of 68 American and 54 Japanese banks. Nonetheless, this approach has its limitations in that there is no clear explanation on how the AIPD elements were identified and grouped into the four (AIPD) categories. In addition, the AIPD model is only applicable to banking Web sites, and no attempts have been made yet to test it on other types of Web sites. Another study was carried out by Misic and Johnson (1999), where four factors of Web site effectiveness (functions, navigation, content, and contact information) were used to benchmark the Web site of the College of Business (COB) at Northern Illinois University (NIU) against 45 other business schools. The main limitation of this study is the lack of items used in the metrics. It only covers limited aspects of functional/navigational issues, content and style, and contact information. Other important aspects of Web evaluation, such as proper use of multimedia elements and issues of accessibility, are not included.

There are also attempts to design methodologies for benchmarking and assessing the quality of Web sites. A good example is WebQual, a method for measuring the quality of an organisation's e-commerce site (Barnes & Vidgen, 2002). WebQual uses an index that gives an overall rating of a Web site based solely on customer perceptions of quality weighted by importance. The index was designed according to three dimensions — usability, information quality, and service interaction quality. Although the measures were claimed to be valid and reliable, the main limitation of WebQual is that the results heavily rely on the Internet users' perceptions. Other actors — for example, designers, business partners, suppliers, and related governmental organisations — are not considered. In addition, the method has so far

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