Chapter XIII

A Customer Analysis-Based Methodology for Improving Web Business Systems

Choongseok Lee
Samsung, SDS Co., Korea

Woojong Suh
Inha University, Korea

Heeseok Lee
Korea Advanced Institute of Science and Technology, Korea

Abstract

The Web has enabled many companies to create new business from individual customers in a variety of forms, as well as to expand their traditional contact points with them into virtual workplaces dramatically. For the success of customer-oriented businesses on the Web, it is necessary to make a continuous effort to adapt Web business systems to ever-changing customers' needs. For this challenge, this chapter proposes a customer analysis-based improvement methodology (CAIM) to help evolve customer-oriented Web business systems; this methodology employs scenario-based and object-oriented approaches. The methodology consists of five phases: customer analysis, value analysis, Web design, implementation design, and construction. Scenarios are used to analyze

Copyright © 2005, Idea Group Inc. Copying or distributing in print or electronic forms without written permission of Idea Group Inc. is prohibited.
customers’ needs in a natural fashion. A real-life community Web site is illustrated to demonstrate the usefulness of the methodology.

Introduction

Web technologies have enabled many companies to take various beneficial opportunities for their business; the Web business makes possible commercial exchanges that cross physical, temporal, cultural, and legal boundaries on a scale that was technically complicated (Jarvenpaa & Tiller, 1999; Bajaj & Siau, 2000). It is even pointed out that successful players use Web technologies in every aspect of their business operations (Aissi, Malu, & Srinivasan, 2002; Barua, Whinston, & Yin, 2000). Accordingly, many companies have conceived Web business systems as a critical instrument for their business success and have made a lot of efforts to develop and maintain them. Especially through constructing the Web business systems, many companies have expanded their traditional contact points with individual customers into virtual workplaces dramatically and even created a variety of new business to them.

Under this Web business environment, individual customers are getting much smarter, and their needs are changing much faster than ever before. The customers can compare products and services with a variety of rich information, so that they can easily move to new products or services (Afuah & Tucci, 2000). As a result, companies tend to be more customer-oriented (Bishop, 2000; Cravens, Greenley, Piercy, & Slater, 1997); from this aspect, it is also addressed that companies should first analyze customers’ experiences, and then respond to their needs online environment (Novak, Hoffman, & Yung, 2000). Even though a Web business system is developed (successfully from the customer aspects) in the well-suited forms to customers’ needs, the companies should evolve for the business success their Web business systems agilely to meet the ever-changing customers’ needs. On the other hand, the maintenance process generally requires a longer period and much more organizational resources than development process. Already, most companies with their Web business systems have spent a lot of time and money improving their Web business systems.

Nevertheless, the companies have not been supported by a systematic methodology for the improvement activities; most previous methodologies concerning Web business systems have focused on development rather than maintenance or improvement (Artz, 1996; Abels, White, & Hahn, 1997, 1999; Chen & Heath, 2001; Isakowitz, Stohr, & Balasubramanian, 1995; Isakowitz, Kamis, & Koufaris, 1997; Takahashi & Liang, 1997; Schwabe & Rossi, 1995; Faternali & Paolini, 2000; Bichler & Nusser, 1996a, 1996b; Troyer & Leune, 1998). Unlike the methodologies, Atzeni, Mecca, and Merialdo (1998) and Standing (2002) considered the maintenance as well as development, but their methodologies did not incorporate tightly the analysis of customers’ needs into their major design phases. On the other hand, among the methodologies focusing on development, only Artz (1996), Troyer and Leune (1998), Abels et al. (1997, 1999), and Chen and Heath (2001) emphasized the importance of the analysis of customers’ needs. However, these methodologies did not specify systematic steps for capturing the customers’ needs. As customers’ needs change dramatically, reflecting them is critical for sustaining competitive advantages. Accordingly, a customer-oriented methodology is required to support...