

Chapter 64

Customer Decision Making in Web Services

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ABSTRACT

Web services play an important role in successful business integration and other application fields such as e-commerce and e-business. Customer decision making (CDM) is an indispensable factor for e-business and Web services. This chapter examines customer decision making in Web services. More specifically, it first looks at decision making in Web services, and proposes a novel P^6 model for CDM in Web services, which consists of 6 Ps: privacy, perception, propensity, preference, personalization, and promised experience. This model integrates the existing 6 P elements of marketing mix as the environment of customer decision making in Web services. The new integrated P^6 model deals with the inner world of the customer for decision making (DM) and incorporates what the customer sees and thinks during a DM process. The purpose of this novel P^6 model is to assist customers in the decision process to acquire the most satisfactory Web service. This chapter also examines case-based decision making in Web services and provides a theoretical foundation for case-based decision making under the condition of one problem with multiple solutions in Web services. The proposed approach will facilitate research and development of e-business, Web services, decision support systems, intelligent systems, and soft computing.

INTRODUCTION

Decision making (DM) is essential for the success of both e-commerce and web services (Sun, Wang, & Dong, 2010). Web services continue to play an important role in the success of business

integration and other application fields such as e-commerce and e-business (Yao, Yang, & Su, 2006). Customer decision making (CDM) is an indispensable factor for web services, because customer decisions are critical factors for successful web services. Helander et al have analyzed the customer decision-making process in e-commerce (Helander & Khalid, 2000). The dramatic develop-

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ment of e-business and web services have enabled engaged customers to have a more informed process of DM in regards to selecting and purchasing goods and services online. Customers can now use web-based decision support tools such as search engines and infomediaries to break through the traditionally physical and geographical limitations associated with an international market and to reach globally provided products and services. This provides customers with a stronger bargaining position over prices of goods and the quality of services owing to the price and information transparency. However, there is also a big challenge for customer decision making in web services, that is, how to make decision under the condition of too many services or goods that are available online. O'Keefe and McEachern (1998) studied what parts of a customer decision process can be supported by web tools and customer decision support systems (DSSs). However, they did not discuss the inner world of the customers in decision making.

Customer decision making (CDM) is closely related to marketing and web based marketing systems (O'Keefe & McEachern, 1998). Marketing has usually been modelled by using the existing P6 model consisting of 6 Ps: price, people, place, process, product and promotion (Booms & Bitner, 1981; Chaffey, 2009). This P6 model evolved from the original P4 model of the marketing mix introduced by McCarthy in 1960. McCarthy (1960) proposed that the marketing mix consists of 4Ps: product, price, place and promotion. McCarthy considered the marketing mix as an essential part of developing a marketing strategy (Chaffey, 2009:448). The existing 6 Ps are the external environment for CDM in web services from a system viewpoint, in other words, whenever a customer makes a decision on purchasing goods or services from on-line or e-services, she or he (for brevity, we use he to represent she/he hereafter) must consider or "see" some if not all of these 6 Ps. However, the weakness of these 6 Ps is symptomatic of a push approach to marketing

and importantly does not recognise the needs of customers and the intrinsic role of participation of customers. In order to mitigate this weakness, Lantenborn (1990) integrated 4Cs which are a mixture of customer's perception (Cost, Convenience), behaviour (Communication) and customer itself (Customer) to replace the P4 model. However, Lantenborn did not consider the relationship between CDM and the above-mentioned 4 Ps or 6 Ps. Sun et al proposed a C6 model by examining the 6 Cs for DM in web services, and argued that the 6 Cs: communication, competition, coordination, cooperation, collaboration and control play an important role in DM for all web service players (brokers, providers and requesters) in web services (Sun, Meredith, & Jia, 2009). The core idea behind the C6 model is to address what the web service players should "do" when they make decisions in web services. In other words, the 6 Cs in the C6 model are the activities that main players should do whenever they make decisions in web services. However, the existing models of e-business and e-services, at least to some extent, ignore what customers think when they make decisions in web services, although thinking and feeling are critical factors for customers to make any decision (Myers, 1962). Therefore, two issues arising from the above discussion are below:

- What do customers face or "see" in the decision environment when they make decisions on selecting and purchasing goods via online and or in web services?
- What do customers "think" when they make decisions on selecting and purchasing goods via online and or in web services?

This chapter addresses these issues by examining customer decision making in web services, proposing a novel P⁶ model for CDM in web services and looking at case-based decision making in web services. The rest part of this chapter is organized as follows: After providing a background on web

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