

# Chapter 5.19

## Product Customization on the Web:

### An Empirical Study of Factors Impacting Choiceboard User Satisfaction<sup>1</sup>

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#### ABSTRACT

Choiceboards are Web-based systems that allow consumers to customize their orders. The study investigated factors that affect consumers' intention to use choiceboards. The research is based on Masons' theory and DeLone and McLean's model of information system use. It was found that intention to use is affected by overall satisfaction. In turn, these two factors are positively impacted by factors such as system quality and information quality. In spite of support from theory, the evidence for the factor, information presentation was weak.

#### INTRODUCTION

E-commerce is coming of age (Markillie, 2004). Sales in the year 2003 exceeded \$55 billion, and revenues in 2004 are expected to be at least 20% higher (Syre, 2004). The total impact of e-commerce, however, cannot be expressed in simple sales figures; rather, it lies in changing consumer behavior. Increasingly, consumers visit the Web site of a company to familiarize themselves with the firm's offerings and prices before deciding to buy. A Web site is becoming the gateway to a firm's brand, even in the case of off-line firms. Companies that realize the importance of their Web sites use technologies such as e-mail, FAQ, online customer support, bulletin boards, and search

engines to assist customers in the buying decision process and, obviously, to persuade a purchase of their product.

The choiceboard is a recent addition to this repertoire of technologies, aiding consumers in the decision-making process (Andal-Ancion, Cartwright, & Yip, 2003; Bharati & Chaudhury, 2004a; Collins & Butler, 2003; Liechty, Ramaswamy, & Cohen, 2001; Slywotzky, 2000). A choiceboard is a system that allows customers to design their own products by choosing from a menu of attributes, components, prices, and delivery options (Slywotzky, 2000). For example, in the automobile industry ([buyatoyota.com](http://buyatoyota.com)), users can “build” or customize a Toyota and then follow up with a local dealer. In the construction industry ([kitchens.com](http://kitchens.com)), users can get help to design a kitchen and actually place an order. In the apparel industry ([acustomtshirt4u.com](http://acustomtshirt4u.com)), users can select color, fabric, and a suitable logo and lettering. In the entertainment industry ([www.apple.com/itunes](http://www.apple.com/itunes)), customers at the iTunes music store can build customized CDs by selecting individual tracks from existing CDs. Finally, in information technology, the Web sites of most computer firms (e.g., [www.ibm.com](http://www.ibm.com)) present individuals with a basic configuration defined by a processor and then flesh out the full configuration with choiceboards, offering hard-drive size, memory, and add-ons such as CD/DVD drive, monitors, and printers.

Although choiceboard technology is being used widely to enhance the customer’s experience, very little is known about the actual impact of this technology on overall user satisfaction or on the intention to use the choiceboard. Similar concerns have been expressed for Web-based decision support systems (Bharati & Chaudhury, 2004b). In particular, it remains unclear how the provision of more information, facilitation of decision making through what-if analysis, and choice comparisons through the use of choiceboard technology affects user satisfaction and the intention to use. In this research, the relationships

are developed and operationalized between system-level factors (i.e., quality of the system and information in choiceboards and presentation of information) and user’s decision making and interface satisfaction. Furthermore, the analysis investigates the relationship between information and decision-making satisfaction, with overall satisfaction and intention to use. The statistical analysis consists of path analysis, assessing a pattern of predictive relationships among the measured variables. This research employs the Structural Equation Modeling (SEM) technique to analyze the data and then to assess the pattern of predictive relationships.

The research views information systems’ success in the new domain of e-commerce and, in particular, in the context of choiceboard systems. It attempts to understand how choiceboards facilitate user decision making in the Web-based environment. It then develops a conceptual model that relates system-level factors, user satisfaction factors, and use factors. Specifically, it investigates interrelationships between components of user satisfaction (i.e., interface satisfaction, decision satisfaction, and overall satisfaction) and their combined impact on intention to use.

## **LITERATURE REVIEW**

The research is related to multiple theories such as the consumer decision-making model (Mowen, 1995), consumer information processing model (Bettman, 1979), cognitive decision-making model (Simon, 1955), and information systems (IS) success model (Delone & McLean 1992, 2002). According to Mowen (1995), a consumer transits through several phases, such as problem recognition, a search for alternatives, and an evaluation of alternatives, before making a choice; that is, there is an information-processing phase and then a decision-making one. In this process, a consumer tries to minimize the cognitive effort required to make a decision and yet maximize

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