

# Chapter V

## Effective Product Customization on the Web: An Information Systems Success Approach

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### **ABSTRACT**

*Product customization is an important facility that e-commerce offers to its users. On the Web, choiceboard systems have become quite prevalent as the means by which users are able to customize their products. These systems allow customers to configure products and services by choosing from a menu of attributes, components, delivery options, and prices. In the context of a choiceboard environment, this research examines the impact of system and information quality and information presentation on interface satisfaction and decision satisfaction. Further, it examines the impact of the latter two satisfaction factors on overall user satisfaction and intention to use. The research reveals that improved system quality, vis-à-vis choiceboards, leads to better information and decision satisfaction on the part of the users. This in turn leads to higher overall satisfaction and intention to use. The research uses an experiment for data collection and examines these relationships using the structural equation modeling (SEM) approach.*

## INTRODUCTION

E-commerce continues to grow, and its iconic companies, such as Amazon, Yahoo, and Google, are now all billion-dollar firms employing thousands of people. 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 (<http://buyatoyota.com>), users can "build" or customize a Toyota and then follow up with a local dealer. In the construction industry (<http://kitchens.com>), users can get help to design a kitchen and actually place an order. In the apparel industry (<http://acustomtshirt4u.com>), users can select color, fabric, and a suitable logo and lettering. In the entertainment industry (<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., <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 widely used to enhance the customer's experience, very little is known about the actual impact of this technology on overall user satisfaction or 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 (such as 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 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—interface satisfaction, decision satisfaction, and overall satisfaction—and their combined impact on intention to use.

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