

## Chapter 5

# Transforming Consumer Decision Making in E-Commerce:

### A Case for Compensatory Decision Aids

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#### ABSTRACT

*To facilitate online consumer decision making, a number of e-commerce businesses are augmenting their Web site features. The Web-based decision support for consumers is often provided by eliciting consumer preferences directly or indirectly to generate a set of product recommendations. The software that captures consumer preferences and provides recommendations is called a Web-based decision support system (WebDSS). It is important for WebDSS to support consumers' decision strategies. These decision strategies could be compensatory or non-compensatory in nature. Based on a synthesis of previous research, the authors argue that compensatory based WebDSS are perceived by consumers to be better than non-compensatory WebDSS in terms of decision quality, satisfaction, effort, and confidence. This chapter presents a study that examined the level of online support provided to the consumers' execution of compensatory and non-compensatory strategies. The results based on investigating 375 e-commerce websites indicate that moderate levels of support exists for consumers to implement non-compensatory choice strategies, and virtually no support exists for executing multi-attribute based compensatory choice strategies. The results of this study suggest that there is an opportunity in waiting for e-commerce businesses to implement compensatory WebDSS to improve the decision making capabilities of their consumers.*

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## INTRODUCTION

The last decade has witnessed a substantial growth in both Internet penetration and e-commerce activities. As of 2006, the Internet is used by 73% of all American adults (Pew Internet and American Life, 2006). Similarly, according to a report from Forrester research, sales from e-commerce activities are expected to reach \$331 billion by 2010 with online sales expecting to account for 13% of total retail sales in 2010, up from 7% in 2004.<sup>1</sup> The growth of e-commerce has resulted in electronic markets offering a wide variety of product choices, elaborate product related information, and great convenience for consumers. Consequently, ever greater numbers of individuals are interacting with online environments to search for product related information and to buy products and services (Xiao & Benbasat, 2007). In fact, searching for product or service related information was the next most popular activity on the Internet in 2003 after email or instant messaging (US Department of Commerce Report, 2004). These statistics suggest that the growth in Internet penetration and e-commerce resulted in increased consumer reliance on the Internet for a variety of decision making processes ranging from searching for products, comparing them, and often resulting in making a final purchase.

Although increased access to information has been a blessing to consumers, the online environment has also resulted in an overabundance of information (Haubl & Murray, 2003). For instance, a search for products on Google shopping reveals that there are more than 3000 options available for a 42 inch LCD television and more than 6000 options available for women's handbags.<sup>2</sup> This amount of information is guaranteed to overwhelm the limited information processing capabilities of human beings (Simon, 1955). Therefore, many web retailers are incorporating **web-based decision support systems** (WebDSS from here on) to assist consumers with their decision making process (Grenci & Todd, 2002). Web-based decision

support systems capture individual user preferences for products either explicitly or implicitly, and provide recommendations based on such preferences (Xiao & Benbasat, 2007). WebDSS have the potential to ease consumers' information overload and to reduce search complexity in addition to improving their decision quality (Haubl & Trifts, 2000).

Improving consumer decision making in online environments has been the subject of interest for researchers in a number disciplines. Researchers from computer science, library sciences, social psychology, marketing, management, and information systems have been making important contributions to this area of research. Consequently, the array of decision support tools implemented on e-commerce websites is known with different terminology although they all refer to the same tool to be used by the consumers. Examples include intelligent agents, electronic product **recommendation agents**, recommendation systems, and web-based decision support systems. In their extensive review of electronic recommendation agents, Xiao and Benbasat (2007) categorized recommendation agents (RA) into three types. The first type of recommendation agents includes content-filtering, collaborative-filtering, and hybrid agents. The second type includes feature-based and need-based recommendation agents. Finally, the third type of recommendation agents includes compensatory and non-compensatory based systems.

We consider only compensatory and non-compensatory WebDSS in this chapter. We present a synthesis of literature concerning the effectiveness of implementing compensatory versus non-compensatory DSS, and then examine whether or not such findings have made their way into the design of commercial websites. We do so by examining the level of consumer support provided on commercial websites to execute compensatory or non-compensatory strategies. We believe that understanding the reality of the extent to which e-commerce websites support compensatory

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