Chapter 38
E–SERVCON and E–Commerce Success:
Applying the DeLone and McLean Model

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ABSTRACT

Convenience has become an important indicator of e-commerce systems success. Based on the information systems management and marketing literature, this study explores how customer convenience in using functions and services affects e-commerce systems success. It proposes and analyzes a re-specified e-commerce system model based on the updated DeLone and McLean Information Systems Success Model with a new variable, e-commerce/electronic service convenience. The proposed model re-specifies and validates e-commerce systems success where continuance intention is proposed as a dependent variable and its relationship with independent variables such as information quality, system quality, e-service convenience, perceived usefulness and satisfaction are discussed. Partial least squares structural equation modeling technique is employed to analyze data collected by 210 users of business-to-consumer e-commerce systems in Taiwan. Findings indicate that continuance intention was found to be influenced by both satisfaction and perceived usefulness, which were found to be significant precursors of information quality, system quality, and e-service convenience. These results strongly support our contention that e-service convenience is an important factor affecting e-commerce systems success. They also offer practitioners and managers deeper insights into successful e-commerce systems implementation as well as aid researchers interested in testing related theories.

INTRODUCTION

The rapid advancement of information communication technology (ICT) and electronic commerce (e-commerce or EC) has enabled consumers to purchase products and services online. The massive growth of online shopping has driven intense competition among e-commerce venders, who increasingly see the customer experience as vital. Technology induced competition is so intense that it has shifted the power balance from quality of service to convenience of service, exhibiting a

tradeoff between consumers' perceived quality of service and convenience (Capps, 2009). This is because consumers not only seek convenience but truly require it, due to their limited resources (Seiders, Berry, & Gresham, 2000). In recent years, a number of studies have extended and empirically investigated the concept of convenience into e-commerce (Hu, Brown, Thong, Chan, & Tam, 2009; Scheffelmaier & Vinsonhaler, 2004; Tsai, Huang, Liu, Tsaur, & Lin, 2010). Scheffelmaier et al. (2004) studied the impact of web convenience on consumer satisfaction. Tsai et al. (2010) elucidated the role of convenience in the e-payment industry. Hu et al. (2009) acknowledges convenience as a salient determinant of service quality and intention to continue using online self-service technology.

We argue that consumers' perception of service convenience delivered by e-commerce systems will affect consumer satisfaction and continuance intention with e-commerce systems, a surrogate measure of e-commerce systems success. Therefore, understanding the importance and impact of service convenience on e-commerce systems success is imperative for practitioners and researchers. In investigating the success of information systems (IS) or e-commerce systems, a multitude of studies have extensively explored concepts such as service quality, service relationship, and service profitability in the economics, marketing, and service management disciplines. However, service convenience construct has received limited attention (Dai & Salam, 2009). The original/updated DeLone & McLean (D&M) IS Success Model (DeLone & McLean, 1992; DeLone & McLean, 2003) has been used for assessment of IS success (Jennex, 2008; Molla & Licker, 2001; Rai, Lang, & Welker, 2002; Sabherwal, Jeyaraj, & Chowa, 2006; Seddon, 1997; Seddon & Kiew, 1994) and EC systems success (DeLone & McLean, 2004; Schaupp, Bélanger, & Fan, 2009; Wang, 2008). It appears to be a useful approach to exploring the factors affecting e-commerce systems success. Based on the IS success and marketing literature,

the main purpose of this paper is to incorporate a new variable, electronic service convenience (e-service convenience or E-SERVCON), into the proposed updated D&M IS success model (2003) and explore how it affects the success of e-commerce systems.

This paper is organized as follows. First, it provides a rationale for the use of the updated D&M IS Success Mode by reviewing the original D&M, the re-specified D&M, and the updated D&M IS success models. Second, three refinements consisting of e-service convenience, perceived usefulness, and continuance intention, are identified after reviewing IS success and marketing literature. A re-specified e-commerce success model based on the updated D&M model is proposed. The methodology, data analyses, and results are then presented. The final section consists of conclusions along with a discussion of the managerial implications of this study. We hope that the proposed framework and findings of this study will help managers and researchers better understand how to implement successful e-commerce systems.

BACKGROUND AND LITERATURE REVIEW

The Original D&M and Its Re-Specified IS Success Models

The concept of user satisfaction (US) as a surrogate measure for assessing IS success or effectiveness was first proposed by Cyert and March (1963). Currently, user satisfaction is the most commonly-used surrogate measure of management information systems (MIS) success/effectiveness (Bailey & Pearson, 1983; Doll & Torkzadeh, 1988; Melone, 1990; Tojib & Sugianto, 2007). Two major elements of user information satisfaction (e.g., Doll & Torkzadeh, 1988), content/useful content and ease of use, are also widely recognized as crucial factors affecting technology acceptance. Perceived

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