

# Chapter 15

## The Technology Acceptance Model: A “Localized” Version to Predict Purchasing Behavior in Internet Shopping

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### ABSTRACT

*This chapter examines the factors affecting consumer purchasing behavior in Internet shopping. Multiple group analysis and structural equation modeling were applied to investigate whether the existing model of Consumer Acceptance of Virtual Stores is able to identify those factors in Japan and South Korea. The results of online questionnaires completed by 1,111 Japanese online customers and by 998 Korean online customers revealed that the model failed. Therefore, localized models for Japan and South Korea were developed. According to the localized models, perceived trust is the most important factor affecting purchasing behavior of Japanese customers. In South Korea, purchasing behavior is highly related to perceived usefulness and perceived service quality. These differences in the ways that online customers of different nationalities perceive purchasing through the Internet will yield insights that can help e-commerce vendors increase the number of customers in different world market segments.*

### INTRODUCTION

Since Electronic Commerce (EC) emerged in cyberspace, Business-to-Customer (B2C) EC has become a way for consumers to purchase products or services through the Internet. B2C

is commonly perceived as Internet shopping and was introduced as an EC application in the early 1990s (Turban et al., 2002). It is rapidly extending its coverage to most business sectors among countries around the world. The United States (US) is the world's earliest and largest adopter of EC, but Japan and South Korea are the dominant markets for EC in Asia. Despite the wide accep-

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tance and development of advanced technology in Japan, the EC market in Japan is still lagging behind that of the US. According to a survey on B2C EC markets in Japan and the US (Ministry of Economy, Trade, and Industry, 2006), customer support services in the US EC market is slow and its EC system is unsafe. The EC market in Japan needs improvement of connections between the EC system and other systems in a company, and the Japanese EC system lacks customer relationship management. In 2006, the B2C EC market size of Japan was smaller than that of the US, and the B2C EC growth rate of Japan was two times slower than that of the US (Ministry of Economy, Trade, and Industry, 2007). On the other hand, South Korea has played an important role in the global EC market. As South Korea's high-speed infrastructure continues to grow, along with the new government's initiatives to promote digital convergence, demand for EC transactions is increasing. According to statistics, Korean EC transactions in 2008 totaled USD 524 billion, an increase of 17 percent from USD 423 billion in 2007 (Ahn, 2009). Although the government of South Korea is actively promoting EC industries, the total volume of B2C EC increased from 11,359 billion Korean won in 2008 to 12,043 billion Korean won in 2009, an increase of 6 percent (Statistics Korea, 2010).

Because a better understanding of the factors affecting purchase decisions can provide a crucial grasp of consumer behavior in cyberspace (Limayem et al., 2000), the government and/or business sectors should consider an appropriate model for identifying these factors in order to increase the growth rate of the B2C EC market. However, the existing EC model, based on the Technology Acceptance Model (TAM), might not be able to identify perfectly the factors influencing the purchasing behavior of online customers. It is vital to demonstrate whether the existing EC model is applicable to investigate online customers in any country. If not, a localized model will be further developed.

The objectives of this chapter are to investigate whether the existing EC model is able to identify the factors affecting consumer purchasing behavior in Internet shopping in Japan and South Korea by conducting a comparative study and to develop localized models of purchasing behavior for Internet shopping in Japan and South Korea if the existing EC model turns out to be inapplicable. The next section provides background information on the theoretical model of consumer behavior and discusses the literature in the domain of EC consumer behavior. The third section describes the methodologies applied in this chapter. The fourth section presents the findings of a comparative study and demonstrates the localized models. The last section contains conclusions and future research directions.

## **Theoretical Models OF EC Markets**

To study and analyze consumer behavior in the use of EC, most researchers have applied several theories used in information system research. In this section, background information and a review of the state-of-the-art related theories will be discussed. Recently, predictors of consumer behavior in purchasing through the Internet have been investigated. In studies of consumer behavior, several theories have been applied. These include the theory of planned behavior (TPB), the theory of reasoned action (TRA), and TAM.

The model frequently employed to conduct such investigations is the TAM (Kwong et al., 2002). TAM was designed to explain the determinants of user acceptance of a wide range of end-user computing technologies (Davis, 1986). TAM is an adaptation of TRA to the field of information systems. TAM posits that perceived usefulness (PU) and perceived ease of use (PEOU) are the primary determinants of an individual's intention to use a system. The usage intention serves as a mediator of actual system use. PU is defined as "the prospective user's subjective probability that using a specific application system will increase

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