

## Chapter 4

# A Comparative Study of the Effects of Low and High Uncertainty Avoidance on Continuance Behavior<sup>1</sup>

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### ABSTRACT

*This study examines the effects of uncertainty avoidance (UA) at the individual level on continuance behavior in the domain of mobile data services (MDS). It proposes a research model for post-expectation factors and continuance behavior that considers the moderating effect of UA, and verifies the model with online survey data gathered in Korea and Hong Kong. Post-expectation factors are classified as either intrinsic or extrinsic motivational factors, while respondents are classified according to their propensities into low-UA and high-UA groups. The results indicate that UA has substantial effects not only on the mean values of the post-expectation factors studied but also on the strength of those factors' impact on satisfaction and continuance intention. The effects of intrinsic motivational factors on satisfaction and continuance intention are stronger for the high-UA group than for the low-UA group. In contrast, the effects of extrinsic motivational factors are generally stronger for the low-UA group.*

### INTRODUCTION

The rapid development of information communication technology (ICT) has spawned a variety of new products and services for business and communication among which users may select

according to their preferences. An ICT user is thus frequently in a position to decide whether to keep using a given current service or to switch to another (Parthasarathy & Bhattacharjee, 1998). His or her decision to continue or discontinue use of a service is referred to as post-adoption

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behavior (Parthasarathy & Bhattacharjee, 1998). This paper specifically focuses on post-adoption continuance behavior, that is, the choice whether to keep using products and services presently in use. Continuance behavior is an important factor for service providers to understand, simply because the cost of acquiring new customers—searching for them, setting up new accounts, and initiating them to the information systems—is five times that of retaining existing customers (Bhattacharjee, 2001; Parthasarathy & Bhattacharjee, 1998).

Studies of post-adoption behavior have found that cultural characteristics play an important role (De Mooij, 2004; Straub, 1994; Van Slyke, Lou, Belanger, & Sridhar, 2004; McCoy, Everard, & Jones, 2005), because culture has a strong effect on how a user interprets a system's content and functions (Hiller, 2003). A system feature appropriate for users in one culture may not be appropriate for users in others without significant adaptation.

Uncertainty avoidance (UA) is one cultural factor known to exert a strong influence on post-adoption behavior (Frank, Sundqvist, Puumalainen, & Taalikka, 2001). UA is a measure of how well individuals tolerate unpredictable and unstructured situations or contexts (Hofstede, 1997; Veiga, Floyd, & Dechant, 2001). In the context of current ICT, two factors make it especially important to examine the impact of UA on post-adoption behavior. First, UA has been found to influence substantially users' initial adoption behaviors with new services or products (Veiga et al., 2001). People with high UA tend to stick with traditional technologies and to be slow in accepting new ones. Conversely, people with low UA tend to adopt new technologies quickly and easily (Hofstede, 1997). This distinctive effect of UA on *initial adoption* behavior strongly suggests that UA may also influence *post-adoption* behavior significantly (Lippert & Volkmar, 2007). Second, newer ICT services, including mobile data services (MDS), are part of a ubiquitous computing environment, and are thus used in a far broader range of contexts than traditional ICT services, which

are restricted to relatively familiar environments like offices and houses (Evers & Day, 1997). This diversity of use and circumstance entails greater uncertainty in the use of information technologies; new and complicated connection methods, abstract or unfamiliar icons, and high usage fees further increase the uncertainty (Albers & Kim, 2000; Chae, Kim, Kim, & Ryu, 2002). The trend of growing uncertainty in the ICT environment suggests UA may have substantial effects on post-adoption behavior with current ICT services.

The goals of this study are, first, to construct a theoretical model to analyze the impact of UA on continuance behavior at the level of the individual user in the MDS domain, and, second, to identify specific effects of UA by conducting empirical tests through the proposed model. While many studies have examined UA at the *national* level, the present study focuses on UA at the level of the *individual* user. UA heterogeneity within countries differs significantly from that between countries, and understanding the former will be more helpful to service providers who want to identify homogeneous market segments in a given country.

We have selected mobile data services (MDS) among the many ICT-based services currently available as our research domain. MDS may be defined relatively narrowly as the range of digital data services accessible from a mobile device specifically through a mobile communications network (e.g., CDMA, TDMA, GPRS, or GSM) (Hong & Tam, 2006). The present study adopts this definition of MDS, and further confines its research to MDS accessed through cellular phones. Thus access to the Internet through the wireless LAN (Wi-Fi) capability of laptop computers is not considered in this study.

MDS are selected as the target ICT for two reasons. First, MDS in some countries, including those considered here, Korea and Hong Kong, are services in which users determine both the extent and duration of subscription. Conventional phone services require up-front acquisition of new

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