

User's Segmentation on Continued Knowledge Management System Use in the Public Sector

Chi-Cheng Huang, Aletheia University, Taipei, Taiwan

ABSTRACT

Knowledge management systems (KMS) can help an organization support knowledge management activities and thereby increase organizational performance. This study extends the expectation-confirmation model for predicting mandatory continued KMS use in the public sector. The models are assessed using data from a sample of 627 employees of the Kaohsiung City government in Taiwan and analyzed using the finite mixture partial least squares (FIMIX-PLS) method. The results of this study indicate that (1) data heterogeneity (i.e., educational level) segments two specific groups that show different perceptions toward continued KMS use; (2) the results of aggregate-based data analysis are different from the results of group-specific data analysis; (3) compatibility, relative to confirmation, has larger impact on perceived usefulness regardless of groups; (4) the effect of user satisfaction on continued usage behavior is significant different between the two groups; (5) cognition-driven continued use and emotion-driven continued use are identified in the two groups.

KEYWORDS

Continued KMS use, FIMIX-PLS, expectation-confirmation model

1. INTRODUCTION

Although characterized as conservative and inefficient, the government has begun to improve performance in recent years (Karwan & Markland, 2006). Inspired from the private sector, the public sector has begun to introduce the IS to offer better citizen services and increase organizational performance. Introducing IS into public sector organizations is a process of digital government (or e-government) implementation. The e-government explores how governments can use information and communication technologies to implement government principles and achieve policy goals (OECD, 2016). In Taiwan, the government has implemented e-government since 1998. In 2011, the National Development Council launched the phase IV e-government program (2012–2016) with funding of approximately US\$288.33 million (NDC, 2016). According to the report of Waseda University's international e-government ranking of 2015, which surveyed the e-government implementation of 63 countries, Taiwan is ranked 17th (Waseda University, 2016). From these perspectives, Taiwan may be a benchmark for understanding IS implementation in the public sector. Particularly, introducing knowledge management system (KMS) to improve government processes may be an important step toward good governance. KMS is composed of KM-related tools, such as data management system, intranet, groupware and other technologies that are associated with the organizational practice of KM (Kuo & Lee, 2011). KMS may improve organizational excellence if it is properly implemented and fully comprehended by users (Matayong & Mahmood, 2012). In Taiwan, Kaohsiung City government

DOI: 10.4018/JOEUC.2020010102

This article, originally published under IGI Global's copyright on January 1, 2020 will proceed with publication as an Open Access article starting on January 20, 2021 in the gold Open Access journal, Journal of Organizational and End User Computing (converted to gold Open Access January 1, 2021), and will be distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and production in any medium, provided the author of the original work and original publication source are properly credited.

has introduced a knowledge management system (KMS) for attaining performance since 2003. KMS is a mandatory IS and the Kaohsiung City government requires its employees to use it. Generally speaking, a voluntary system is defined as one where users perceive adoption of the system as non-mandatory (Venkatesh & Davis, 2000). In a voluntary use environment, users perceive that they have willful choices to use the system. In terms of voluntary continued IS use, users have volitional control to decide whether or not to continue using the system. In contrast, a mandatory system is defined as one where users perceive that they are organizationally compulsory to use the system (Agarwal & Prasad, 1997; Brown et al., 2002; Venkatesh & Davis, 2000). In a mandatory use environment, users are required to use a specific system in order to keep and perform their jobs (Brown et al., 2002; Koh et al., 2010) regardless of whether they intend to use it. In terms of mandatory continued IS use, users are forced to continue using the system. A number of studies regarding the notion of mandatory versus volitional usage behavior have been widely discussed in the IS literature. Prior studies (e.g., Karahanna et al., 1999; Moore & Benbasat, 1991; Rawstorne et. al., 1998) argued that contexts of IS adoption range between two poles: one end by voluntary adoption and the other by mandatory adoption. That is, a given IS adoption decision may seem more or less voluntary on a continuum of voluntariness. Though there can be wide variability in user perceptions of voluntariness (Agarwal & Prasad, 1997; Karahanna et al., 1999; Venkatesh & Davis, 2000), Reinders et al. (2015) mentioned that mandatory use of the IS leads to reduced perceptions of freedom of choice and increased levels of feeling manipulated.

Researchers have attempted to develop and empirically examine models of continued IS use (e.g., Bhattacharjee, 2001; Bhattacharjee & Barfar, 2011; Cheng, 2014; Chen et al., 2012; Liao et al., 2009; Limayem & Cheung, 2011). Specifically, Bhattacharjee's (2001) expectation-confirmation model (ECM) in an IS context was developed to understand users' continued IS use. Since Bhattacharjee (2001) proposed the ECM model, voluntary continued IS use has been widely examined in the private sector (e.g., Bhattacharjee et al., 2008; Chen et al., 2012; Hsu & Lin, 2015; Kim, 2011; Lee & Kwon, 2011; Stone & Baker-Eveleth, 2013; Valvi & West, 2013). Recently, empirical studies (e.g., Lin & Rivera-Sánchez, 2012; Sørebo & Eikebrokk, 2008; Wang & Hsieh, 2006; Wang et al., 2008) have begun to use the ECM in predicting mandatory continued IS use. Hossain and Quaddus (2012) suggested that mandatory use of IS is an interesting area of future research using ECM or their modified versions. We recognized Hossain and Quaddus's (2012) perspective and we also explained why ECM is equally appropriate to use in the mandatory setting and why our modified ECM model (see Figure 1) is suitable for examining mandatory continued use of the IS. First, mandatory IS uses may be largely determined by organizational expectations and may not reveal users' real perceptions about the system (e.g., satisfaction). Even when IS use is obligatory, user satisfaction may capture the user's own mental acceptance of the system and can engender different extent of use (Hsieh et al., 2012). Thus, user satisfaction has a unique and potentially critical role in influencing system success in mandatory settings (Brown et al., 2002; Chan et al., 2011; Hsieh et al., 2012). Second, as user satisfaction is widely recognized as a critical role of mandatory IS use, understanding factors that influence user satisfaction may have important implications for organizations (Brown et al., 2008; Chan et al., 2011) because this understanding may provide managers or system designers with information to heighten user satisfaction and thereby create continued use for new systems. ECM suggests that the two core determinants—i.e., perceived usefulness and expectation confirmation are general beliefs that influence user satisfaction. We suggest that compatibility as mentioned later may also be an important belief to assess user satisfaction. Third, the focus on mandatory use is problematic for the application of ECM because continuance intention has little meaning when users are required to use a system. In a mandatory environment, users must perform the system regardless of whether or not they have continuance intentions to use the system. Thus, the relationship between user's satisfaction and continuance intention may be meaningless in the ECM. Nah et al. (2004) indicated that intention is not appropriate for users to assess their mental acceptance of the system in mandatory settings. Hartwick and Barki (1994) argued that compulsive IS usage behavior is variable

20 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/article/users-segmentation-on-continued-knowledge-management-system-use-in-the-public-sector/241955

Related Content

Authoring of Adaptive Hypermedia Courseware Using AHyCO System

Natasa Hoic-Bozic and Vedran Mornar (2008). *End-User Computing: Concepts, Methodologies, Tools, and Applications* (pp. 699-714).

www.irma-international.org/chapter/authoring-adaptive-hypermedia-courseware-using/18216

An Overview of Acquiring Cognitive Skills While Receiving Spreadsheet Training

S. E. Kruck, John J. Maher and Reza Barkhi (2004). *Advanced Topics in End User Computing, Volume 3* (pp. 303-314).

www.irma-international.org/chapter/overview-acquiring-cognitive-skills-while/4469

Mobile User Data Mining and Its Applications

John Goh and David Taniar (2008). *End-User Computing: Concepts, Methodologies, Tools, and Applications* (pp. 52-70).

www.irma-international.org/chapter/mobile-user-data-mining-its/18170

Survivability Enhancing Techniques for RFID Systems

Yan Jun Zuo (2013). *Mobile and Handheld Computing Solutions for Organizations and End-Users* (pp. 37-53).

www.irma-international.org/chapter/survivability-enhancing-techniques-rfid-systems/73205

The Transfer Strategy of Digital Information Technology for Heterogeneous Manufacturers

Xianglong Li, Qingjin Wang, Shuai Huang, Renbo Shi, Changlin Han and Yang Gao (2022). *Journal of Organizational and End User Computing* (pp. 1-22).

www.irma-international.org/article/the-transfer-strategy-of-digital-information-technology-for-heterogeneous-manufacturers/306248