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Perceived fit and satisfaction on web learning performance: IS continuance intention and task-technology fit perspectives

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Abstract

Virtual learning system (VLS) is an information system that facilitates e-learning have been widely implemented by higher education institutions to support face-to-face teaching and self-managed learning in the virtual learning and education environment (VLE). This is referred to a blended learning instruction. By adopting the VLS, students are expected to enhance learning by getting access to course-related information and having full opportunities to interact with instructors and peers. However, there are mixed findings revealed in the literature with respect to the learning outcomes in adopting VLS. In this study, we argue that the link between the precedents of leading students to continue to use VLSs and their impacts on learning effectiveness and productivity are overlooked in the literature. This paper aims to tackle this question by integrating information system (IS) continuance theory with task-technology fit (TTF) to extend our understandings of the precedents of the intention to continue VLS and their impacts on learning. By doing it, factors of technology-acceptance-to-performance, based on TAM (technology acceptance model) and TTF and post-technology-acceptance, based on expectation–confirmation theory, models can be included to test in one study. The results reveal that perceived fit and satisfaction are important precedents of the intention to continue VLS and individual performance. Later, a discussion and conclusions are provided. This study sheds light on learning system design as assisted by IS in VLE and can serve as a basis for promoting VLS in assisting learning.

Keywords: Perceived fit; Satisfaction; Continuance intention; Virtual learning system (VLS); Virtual learning and education environment (VLE)

1. Introduction

A virtual learning and education environment (VLE) is an information system that facilitates e-learning (McGill and Hobbs, 2008). This web-based learning system, as it is referred to a virtual learning system (VLS) in our study, have been widely implemented by higher education institutions to support face-to-face teaching and self-managed learning (Eijl et al., 2005; Lin and Wang, 2011). By adopting the VLS, students are expected to enhance learning by getting access to course-related information and having full opportunities to interact with instructors and peers in VLE. This is referred to a blended learning instruction (Akkoyunlu and Soylu, 2008; Lim and Morris, 2009). However, there are mixed findings revealed in the literature with respect to the learning outcomes in adopting VLS in blended-learning instruction (Hui et al. 2008; Hwang and Arbaught, 2009; Kember et al., 2010). In this study, we argue that the link between the precedents of leading students to continue to use VLSs and their impacts on areas, such as learning effectiveness and productivity, are overlooked and should be taken into consideration. This paper plans to tackle this question by combining information system (IS) continuance theory (Bhattacherjee, 2001) with task-technology fit (TTF) (Goodhue and Thompson, 1995) to further our understandings of the precedents of VLS continuance intentions and their impacts on learning. By doing it, factors of technology-acceptance-to-performance, based on TAM (technology acceptance model) and TTF and post-technology-acceptance, based on expectation–confirmation theory, models can be included to test in one study. Our study introduces the idea that the intention to continue VLS should be affected by the

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perceived fit of in accomplishing assignments and satisfaction with the VLS in satisfying learners' demands for gathering, constructing and sharing knowledge amongst peers. As well, VLS continuance intention should impact learner performance.

Past studies have asserted the importance of continuance intention (Bhattacherjee, 2001, 2008). By involving this concept in investigating user behavior in the adoption of IS as it reveals the true factors of success that depends on continued use rather than first-time use. This thread is adapted from the consumer behavior literature, which investigates post-purchase behavior, such as repurchase or complaining. The model of IS continuance intention has been tested in different cases, such as the continued involvement of open-source software developers (Wu et al., 2007), mobile Internet services (Thong et al., 2006) and web-based learning systems (Liao et al., 2009). Regarding task-technology fit, it was initially proposed by Goodhue and Thompson (1995) that links information systems with individual performance. It has been tested in cases involving group support systems' effectiveness (Zigurs and Buckland, 1998), the adaptation of wireless technology (Yen et al., 2010), users' adoption of mobile banking (Zhou et al., 2010), knowledge management systems (Lin and Huang, 2008), online auctions (Chang, 2010) and e-procurement systems (Chang et al., 2008).

In the domain of VLS, studies reveal the importance of investigating the role of TTF in motivating users to continue to use information systems (Larsen et al., 2009) and the effects of TTF on learning (McGill and Klobas, 2009). However, there is not a complete understanding of the post-technology-acceptance behavior of learners in terms of their intentions to continue to use a VLS and the link with learning impact on learning. This study integrates precedents variables in technology-acceptance-to-performance of perceived fit and satisfaction, and the post-technology-acceptance variable of VLS continuance intention to investigate impacts of utilizing VLS on learning. Research questions addressed in this paper are as follows: (1) how do the precedents variables of perceived fit and satisfaction affect VLS continuance intention; and (2) how do the precedents variables and VLS continuance impact learning as perceived by students? This paper thus aims to shed light on the effect on learner performance of adopting an IS in the virtual environment, which in this case is the VLS.

The remainder of the paper is organized as follows: The next section documents the theoretical background and presents the research model. The third section describes the research methodology, applying the PLS method to empirically test the proposed model. The fourth section presents the results of data analysis. The fifth section discusses research implications for the key findings. The main contributions and suggestions for promoting VLS, with its limitations, in education institutions are given in the last section.

2. Theoretical background and hypotheses

In an effort to add to this boy of research, we propose a conceptual model to examine the impacts of VLS continuance intention (as impacts by perceived fit and satisfaction) on selected user attitudes such as perceived fit (moderated by satisfaction) and perceived impacts on learning. Fig. 1 shows the model relationships and hypotheses. As discussed earlier, the focus of this study was to investigate the link between the precedents of leading students to continue to use VLSs and their impacts on learning effectiveness and productivity. The importance of VLS satisfaction for continuing web-based learning systems has long been noted (Chiu et al., 2007a, 2007b; Limayem and Cheung, 2008; Sørebø et al., 2009). However, we were interested to know the impacts of perceived fit in terms of the usefulness of utilizing VLS in assisting learning on continuance intention. In addition, we extend the post-technology acceptance model with learners' perceived impacts on learning. By doing so, this will expand our understanding of VLS continuance intention and its impact on individual performance as it is the main notion of technology-acceptance-to-performance theory. The individual components are discussed before the related hypotheses are stated.

2.1. Perceived fit

Researchers have empirically tested the positive relationship between perceived fit and utilization (Goodhue and Thompson, 1995). Utilization can be regarded as the behavioral intention to use (Yen et al., 2010) or as user adoption (Zhou et al., 2010). The link between perceived fit and VLS continuance intention is experimentally hypothesized. In our study, the construct is integrated to test the perceived value of satisfaction in terms of adopting VLS to fulfill the needs of gathering, constructing, or sharing knowledge. Therefore, we hypothesize the following:

H1. Perceived fit is positively related to satisfaction.

It is revealed that the perceived value of playfulness, the ease of use and the degree of usefulness are linked to task-technology fit (Chang, 2010). In our study, this construct is integrated to test the perceived value of satisfaction in terms of adopting VLS for fulfilling the needs of gathering,

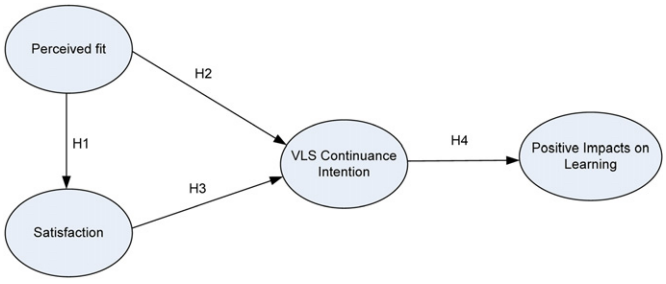

Fig. 1. The research model.