Predictors of E-Learning Satisfaction among the Malaysian Secondary School Teachers

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Abstract: This study will explore key drivers of teachers'e-learning satisfaction. 400 respondents will complete a survey questionnaire measuring their self-reported responses to twelve constructs [perceived usefulness (PU), perceived ease of use (PEOU), flexibility (FLEX), interaction (INT), attitude (ATT), anxiety (ANX), self-efficacy (SE), training (TRN), management support (MS), technical support (TS), usage (U), and satisfaction (S)]. The quantitative descriptive research data will be analysed using structural equation modeling. This study hopes to provide a predictive framework, whereby scholars and practitioners could examine the explanatory power of the framework to further explain teachers' satisfaction towards the e-learning use. Past studies have concluded that teachers who are satisfied with their e-learning system will continue to use the system extensively. So by having a model that can help us assesses teachers' satisfaction, stakeholders are in a better position to understand and develop appropriate policies to both sustain and increase satisfaction.

Keywords: Satisfaction, e-learning, secondary school teachers

1. Introduction

Malaysian Education Blueprint is a detailed plan of action that maps out the education landscape for the next 13 years (2013-2025). It emphasizes efforts to leverage ICT in order to improve the quality of learning across the country. One of the many initiatives identified under the first wave of the Malaysian Education Blueprint (2013-2015) includes providing 1BestariNet and softwares for schools. 1BestariNet is a project led by the Ministry of Education (MOE), to provide access to cloud-based virtual learning platform known as the FROG VLE and a high-speed connectivity by June 2014 to all its 10,000 schools. Its implementation is expected to run over 13 years and is hoped to transform education in the country by seeing more technology use in the classrooms. E-learning in the Malaysian context will only be used as a supplement to the face-to-face approach. This is often defined as blended learning (BL), which is a thoughful integration of classroom face-to-face with online learning experiences (Garrison & Kanuka, 2004).

Local assessment is needed to assess the effectiveness of the learning management system (LMS); the FROG VLE which is adopted from the United Kingdom. Inconsistent and improper introduction of technology into a system may result in failure to successfully use and integrate technology into the teaching and learning environment. As a large amount of funding and resources have been allocated and given to educational and corporate organisations to increase access to technology, there is a mounting pressure placed on educators to transform schools. However, studies have shown that even with well-developed and widely available technology systems, many countries are still experiencing challenges related to technology integration in their teaching and learning process (World Bank, 2008). There is still gap between technology's presence and its effective integration in academic institutions regardless of location (Eteokleous, 2008; Keengwe, Onchwari & Wachira, 2008). As such among the many ways of assessing an Information System's effectiveness and success, end-users' satisfaction is one of the most widely used measures (Delone & McLean, 1992). This is partly because this method is empirically easy to validate and it has a high degree of face validity (Doll & Torkzadeh, 1995). As teachers are the link between the Ministry of Education and the general student population, teachers' satisfaction will naturally link to better performance at work, hence increased implementation of any innovation in education. A large amount of research have been done in the past on the measurement of end-user IS satisfaction (Bailey & Pearson, 1983; Ives et al, 1983; Doll & Torkzadeh, 1988, Chin & Lee, 2000). These results provide practical value for organisations to evaluate whether a particular aspect of an Information System (IS) needs to be improved. There are limited studies that clearly identify educators' satisfaction for e-learning system (Yengin, Karahoca & Karahoca, 2011). Most studies

focused on students instead of the instructors (Devetak & Vogrinc, 2010). Hence, we need a study on user satisfaction that focuses on social aspects of interaction with the system. This study will explore three key dimensions (i.e. user quality, LMS quality and organisation quality) that predict satisfaction towards e-learning among teachers and usage as the mediating variable. This study provides a predictive framework, whereby scholars and practitioners could examine the explanatory power of the framework to further explain teachers and their satisfaction towards the FROG VLE.

2. Review of the Literature

2.1 Theoretical Framework

A number of empirical studies have shown that Technology Acceptance Model (TAM) by Davis (1989) to be an essential predictor of user satisfaction (Yeh & Li, 2009). TAM postulates two main variables as antecedents to individual technology acceptance; perceived usefulness (PU) and perceived ease of use (PEOU). These variables are the independent variables (IV) whereas the dependent variable in this model is system use. These two IVs determine the attitude toward using the system. Attitude and behavioural intention to use the technology act as the mediating variables of TAM. The use of technology will be high if users believe that by using the system, it will improve their job performance and if they think the system is easy to use. Constructs of behavioural intention and attitude as the mediating variables will not be included in this study, instead system use will be the mediating variable and attitude studied as an independent variable. In this study, besides the three independent variables taken from TAM which are the PU, PEOU and attitude, eight other external variables are added to the study in examining predictors of satisfaction among the teachers. The second theory adapted in this study is the Information System (IS) Success Model by DeLone and McLean (1992) which is one of the most widely cited models in examining various IS contexts including knowledge management (Kulkarni, Ravindran & Freeze, 2006). It is also one of the most established and frequently used theories that facilitate the examination of success and user satisfaction (DeLone & McLean, 1992, 2002, 2003, 2004). DeLone &McLean Information Success model posits that Use of a system will bring benefit to both individuals and organisations. The benefit in this study is defined as the satisfaction.

This study proposed that the ten IV mediated by usage of the LMS system will affect satisfaction among the secondary school teachers. It posits that beliefs formed through the eleven variables will have a direct impact on satisfaction towards the LMS and that the ten variables also have an indirect impact on satisfaction through the mediation of the LMS usage as shown in Figure 1.0. This study proposed that users will use a system and then evaluate it on the basis of being satisfied or dissatisfied. The positive relationship between user satisfaction and usage has been validated in empirical studies (Torkzadeh & Doll, 1999; Gelderman, 1998; Baroudi, Olson & Ives, 1986). Zhang (2010) found in his study that user satisfaction predicted continued usage and satisfaction was identified as the variable with the most prominent influence on usage. Thus, it makes sense to assume that the more satisfied the teachers are with the system; the more likely they are going to use the system more frequently. With increased use of LMS among teachers, this would hopefully then lead to reduced drop-out rates, improved exam passing rates and raised students' grades (Lopez-Perez, Perez-Lopez & Rodriguez-Ariza, 2011; Vaughan, 2010).

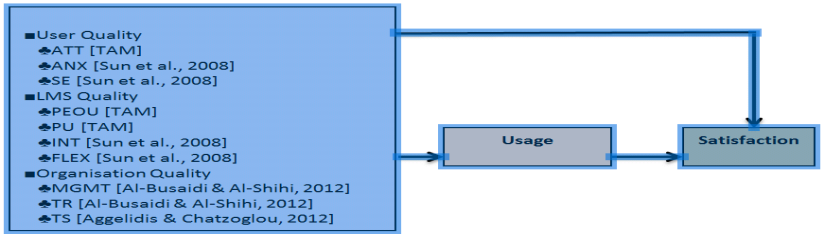

Figure 1.0: Proposed Conceptual Framework of Study

2.2 Satisfaction among Teachers as End-Users

Literature has shown that satisfaction can be affected by various factors. This study will be studying satisfaction from teachers' perceptions of themselves as users, how supportive is their environment in preparing and supporting them, and their perceptions towards the LMS which they are required to adopt in their classrooms. It hopes to develop and empirically tests a new model of End-User Information System Satisfaction (EUISS) that is based on DeLone and McLean IS Success Model and TAM Davis. Though EUISS assessment is one of the most widely used measures of IS effectiveness due to its high degree of face validity and easy to validate, previous measures have not captured the underlying reasons for the satisfaction or dissatisfaction among the teachers in schools. Besides, there has been limited empirical research done to determine the antecedents of website satisfaction beyond e-commerce settings and the classical contexts (Schaupp, 2010). Previous available measures may not be relevant to the Malaysian context, thus can hardly provide practical insights and value as to the current situation success rate. Satisfaction has been modified and applied from the customers' satisfaction concept. User satisfaction is defined as an attitudinal construct. According to Torkzadeh & Doll (1999), satisfaction is defined as an affective attitude one has toward a computer system after interacting with the system directly. It is a result of many external variables which can be viewed as an individual's emotional consideration based on experiences and beliefs. Satisfaction is studied as a dependent variable in this study as it informs how the LMS is received, accepted, and valued and a reflection of the learning experience quality. The collected and measured information on teachers' satisfaction towards the LMS can be used to have a better understanding as to what our teachers need, what can and should be done to increase satisfaction, thus use of the system.

3. Methodology

3.1 Research Design

This study will be based on a quantitative approach as the researcher aims to test the hypotheses of the proposed research model. Descriptive survey method was deemed most appropriate and suitable for this study with two rationales that support and strengthen its selection. Firstly, past studies had utilized survey design as the research methodology to determine factors that influenced end-user satisfaction (Sun, Tsai, Finger, Chen & Yeh, 2008; Deng, Doll, Al-Gahtani, Larsen, Pearson, & Raghunathan, 2008; Ong & Lai, 2007; Arbaugh, 2000; Ives, Olson, & Baroudi, 1983). Secondly, the survey design is appropriate as it allows the researcher to gather information from a larger sample quickly and cheaply. This permits generalization to a larger population (Creswell, 2008). According to Fraenkel, Wallen, & Hyun (2012), a descriptive survey's sample if taken from a large population, permits findings to be generalized. It aims to gather information on secondary school teachers' satisfaction towards the LMS implementation. Thus, quantitative descriptive survey design to be used in this investigation is fully justified.

The following hypotheses were formulated based on the objectives of the study and the literature review and will be tested in the study.

Hypotheses: Objective 1

H1 Organisation Quality; technical, training and management have a significant influence on teachers' satisfaction towards the learning management system

H2 User Quality; attitude, anxiety and self-efficacy has a significant influence on teachers' satisfaction towards the learning management system

H3 Learning Management System Quality; perceived usefulness, ease of use, interaction and flexibility have a significant influence on teachers' satisfaction towards the learning management system

Hypotheses: Objective 2

H4 Usage mediates teachers' satisfaction towards the learning management system

Hypotheses: Objective 3

H5 Gender moderates teachers' satisfaction towards the learning management system

3.2 Procedures and Instruments

The instrument used in this research study is a set of questionnaire. According to Fraenkel, Wallen and Hyun (2012), advantages of questionnaires are they can be mailed and distributed to large numbers of people at the same time. However, the setback remains whereby unclear or ambiguous questions cannot be clarified and there will be no oppurtunity for the respondents to react verbally or expand their responses to the questions. A follow-up future study beyond the scope of this paper will be a possible solution. As the research model was developed by the researcher, no one existing instrument was found to be suitable. Items were adapted from previously validated instruments in numerous published studies, according to the constructs studied. They will be subjected to exploratory and confirmatory factor analyses to ensure that their psychometric properties are acceptable for measurement purposes (Teo & Wong, 2013). Participants will respond to the self-reported instrument using a five-point Likert-scale of strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). The scores from the items on each section will be aggregated to provide individual scores on each part. In this study, the negative items are reversed coded for meaningful analyses at the sub-scale level.

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