Factors Affecting Learners’ Knowledge Sharing Intentions in Web-based Learning

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Abstract—In this study, a framework based on the theory of planned behavior was proposed to find out the major factors which could have influences on learners’ knowledge sharing intentions. A field survey has been conducted with 150 learners who had experiences in web-based learning. The proposed hypotheses were examined by structural equation modeling. According to the analysis results, we have found that: 1) the knowledge sharing attitude is mainly influenced by subjective norms, expected contribution, and expected loss; 2) the knowledge sharing attitude is secondarily influenced by disincentives and altruism; 3) the subjective norm is mainly influenced by instructors’ expectation; 4) the perceived behavioral control is mainly influenced by the abilities of learners in using information technologies; 5) the knowledge sharing intention is mainly influenced by knowledge sharing attitude and subjective norms. We hope this study is helpful to instructors for designing good teaching strategies to improve knowledge sharing among learners and enhance learning performance in web-based learning.

Keywords—web-based learning; knowledge sharing; theory of planned behavior; structural equation modeling

I. INTRODUCTION

Due to the rapid development of information technology in recent years, web-based learning has become an important trend in education. Moore and Kearsley [1] argued that distance is not determined by geography, but by the way and to what extent instructors, learners and the learning environment interact with one another. Transactional distance is the psychological and communication gap that results from the geographical separation among the participants of online courses. There are three necessary interactions in web-based learning environments, learner-content, learner-instructor, and learner-learner interactions. Therefore, the online chat room, electronic whiteboard, video conferencing, instant message, discussing forum, and email are popularly applied in web-based learning environments. Learners can engage in both asynchronous and synchronous interactions in order to participate in various learning activities. Interaction is important for advancing the learning process and is also essential for internalizing the learning.

Knowledge sharing is a critical part of the learning process and benefits the learning performance. In the web-based learning environment, any desired information must transform it into the readable display form from the information or knowledge providers, for examples, the text, the sound, the picture or the video image. Learners must have certain abilities to share their knowledge with the application of information technologies. If the learners are not willing to share their knowledge, then it is difficult to achieve the main purpose of web-based learning. Therefore, how to enhance knowledge sharing intentions of learners is an important issue for web-based learning.

This study attempted to explore what factors have influences on knowledge sharing in order to help instructors plan compatible teaching strategies to encourage learners’ knowledge sharing behaviors. The theory of planned behavior [2] was used as the theoretical foundation. The purposes of this study are as follows:

1) What are the exogenous variables which could affect learner’s knowledge sharing attitude?
2) What are the endogenous variables which could affect learners’ knowledge sharing intentions from the theory of planned behavior?
3) Providing some suggestions for instructors to promote learners’ knowledge sharing behaviors.

II. RESEARCH METHODS

The behavioral occurrence and its accomplishment need both external and internal factors. Individual wants to establish the intended behavior is only a way to achieve one’s goal, however this intended behavior can be seen as plans of action. In the plans of action, it shows that the intention is affected by three major elements, the attitude, subjective norms, and perceived behavioral control. When individual’s intention is strong, in reality the opportunity to accomplish the behavior is higher.

Eleven hypotheses were proposed in this study. The detail description is shown as follows.

Hypothesis 1: In web-based learning, if a learner’s altruistic characteristic is stronger, as the result it brings the positive influence upon knowledge sharing attitude.

Hypothesis 2: In web-based learning, positive encouragement is stronger that shows to bring more positive knowledge sharing attitude.

Hypothesis 3: In web-based learning, when the disincentive is stronger, it is positively influence upon knowledge sharing attitude.

Hypothesis 4: In web-based learning, when the learner’s expectation for interpersonal relationship is higher, the positive influence for knowledge sharing attitude is higher.

Hypothesis 5: In web-based learning, learner’s contribution expectation is higher, as the result, it is more likely to have positive knowledge sharing attitude.