Chapter 10

Investigation into Factors That Influence the Use of the Web in Knowledge-Intensive Environments

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The paper develops a set of hypotheses regarding the relationship between the TAM (Technology Acceptance Model) constructs and external variables such as individual differences, organizational factors, and risk factors. It uses TAM as a basis to hypothesize the effects of each external variable on the use of the Web as knowledge-transfer tool in the university context. The sample of this study will be professors in a university. The contributions of this chapter are twofold. First of all, this study may give an insight regarding the question of when and who is an eager user of new technologies for learning. Secondly, this chapter is the first one to use technology acceptance model in the context of knowledge-management systems.

INTRODUCTION

With the proliferation of the Internet, professors develop their own websites to communicate with students and colleagues. Typical examples of these sites are previously published in Managing Information Technology in a Global Economy edited by Mehdi Khosrow-Pour, Copyright © 2001, Idea Group Publishing. This chapter appears in the book, Intelligent Support Systems: Knowledge Management by Vijayan Sugumaran.

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Silva Rhetoricæ developed by Dr. Burton of Brigham Young University (http://humanities.byu.edu/rhetoric/silva.htm) and American History 102, Civil War to Present, developed by Dr. Schultz (http://us.history.wisc.edu/hist102/). Dr. Burton employs the metaphor of a forest, trees, and flowers to guide users to classical and Renaissance rhetoric. Dr. Schultz incorporates comprehensive lists of information related to the history class. These websites primarily focus on the teaching aids for students, although some websites are helpful to researchers.

Recently, learning over the Web became an issue that all universities are concerned with. Web-based training is also a major issue in companies’ employee training. These phenomena can be understood in the context of the university role and knowledge management. The main role of the university lies in research and teaching, and these roles, among knowledge management processes, correspond to knowledge creation and transfer, respectively. Some researchers (Grant, 1996; O’Dell and Grayson, 1998) contend that knowledge transfer and integration are fundamental to an organization’s ability to create and sustain competitive advantage. The Internet provides the online environment and an interactive method between teachers and students, which makes the Web the main alternative to materials in paper.

The degree of acceptance of the Web as a teaching tool, however, varies from professor to professor, even in the same university environment. What are the factors that influence the adoption of the Web as a teaching tool and how are the factors related to each other? Knowing these factors will help to provide the right sort of environment where professors are inclined to use the new tool. The question that we can focus on in this chapter is how can we predict the extent of the web-support developed by individual instructors?

Given the importance of the study of the factors leading to the Web usage as a knowledge transfer tool, there are very few papers that have studied the technology acceptance model with individual/demographic and organizational factors in the context of knowledge management.

The contributions of this chapter are twofold. First of all, this study may give an insight regarding the question of when and who is an eager user of new technologies for learning. Secondly, this chapter is the first one to use technology acceptance model in the context of knowledge-management systems. The results of it are of interest to researchers in two fields: knowledge-management systems and the technology acceptance researchers.

The chapter is organized as follows: in the next section, we describe the general concept of Technology Acceptance Model (TAM) as the theoretical background and individual and organizational factors. Then, we propose the research model of this chapter including TAM and its external factors that influence the beliefs (perceived usefulness and ease of use). In the final section, we discuss future works and summarize the research model.
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Marcello Cinque, Antonio Coronato and Alessandro Testa (2013). *Pervasive and Ubiquitous Technology Innovations for Ambient Intelligence Environments* (pp. 146-155).

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