: Integrating Innovation Diffusion Theory and UTAUT to Explore The Influencing Factors on Teacher Adopt E-learning Syste

E-mail: 9606901@ mail.dyu.edu.tw

ABSTRACT

With the maturity of information technology and the prevalence of the Internet, network-based E-learning is leading the teaching activity to a broader boundary.In comparison with the traditional teaching activity, network-based E-learning is unlimited by time and space, thus enables more adaptability and flexibility in learning.However, the progress in technology is by no means the guarantee of success. Whether teachers adopt this approach(network-based E-learning) is the critical factor. This research combined the Innovation Diffusion Theory (IDT) by Rogers and Unified Theory of Acceptance and Use of Technolog(UTAUT) by Venkatesh et al. to establish the framework of our theory, and applied open-source MOODLE as E-learning platform to explore factors that affect teachers' adopting network-based E-learning sys-tem. The research subjects in this study are teachers in Changhua County; the investi-gation is carried out in three stages – holding MOODLE-related workshops, holding E-learning curricula establishing contests and conducting questionnaire surveys.Results in our research show that the perceived attributes of innovation in network-based E-learning system, such as relative advantage, ease of use, compatibility, public image, self-efficacy, and communication channels... etc., all have significant effects on behav-ior intention, while user behavior is directly influenced by behavior intention and com-munication channels.Furthermore, using moderators such as genders, age, experience and voluntariness of use as effecting factors in our study shows that only age and vol-untariness of use have impact on behavior intention. The research finds out in addition that teachers generally show inclinations to adopt network-based E-learning system in their teaching. However, the actual user be-havior is somewhat low. This indicates that teachers are usually overworked, thus have more desire than energy to adopt innovative network-based E-learning system in their teaching activity.

Keywords: Innovation Diffusion Theory ; UTAUT ; MOODLE ; E-learning

Table of Contents

REFERENCES

Rogers, E. M. (2003) ( ) : (2004) LDAP

(2000)

(1999)

43-60　　　(1998)

(2005)　SPSS　　　　　　　　　　：　　　　　　　　　　　　　　　：

(2001)　　　　　-　　　　　　　　　　　　　　　253　　128-131　　　(2005)

(　)　　　　　　　　　　　　　　　：　　　　　　　　(2005)

(2002)　　　　　　　　　　　　65-85

(1996)　　　　　　　　　：　　　　　　(2004)

(2005)

(1998)　　　　　　　　Web - based

(2005)　　　　　　　　　　　　350-359　　　(2004)　　　　e-Learning

(2003)　SCORM

21　　　(2005)

(2005)

Agarwal, R. & Prasad, J. (1997). The Role of Innovation Characteristics and Perceived Voluntariness in the Acceptance of Information Technologies, Decision Science, Vol.28 Iss.3, pp.557-582. Ash, J. & Goslin, L.N., (1997) Factors Affecting Information Technol-ogy Transfer & Innovation Diffusion in Health Care. Portland In-ternational Conference on Management and Technology, pp. 751-754. Barbara, H. P. (2005). A Theoretical Integration of User Satisfaction and Technology Acceptance. Information Systems Research, Vol. 16, No. 1, pp 85-102. Brooks, D. W., Nolan, D. E., & Gallagher, S. M. (2001). Web-teaching: a guide to designing interactive teaching for the World Wide Web(2nd ed). New York: Plenum Pulishers Press. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989) User acceptance of computer technology: A comparison of two theorical models. Management Science, 35(8), 982-1003. Davis, F.D. (1986). A technology acceptance model for empirically test-ing new end-user information system: theory and results. Ph. D. dissertation, MIT Sloan School of Management, Cambridge, MA. Davis, F. D. (1989). Perceived userfulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13, pp. 319-340. DeVellis, R. F. (1991). Scale development —Theory and applications. Newbury Park, California:Sage Publications, Inc. Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intentions and behav-ior: an introduction to theory and research. Boston: Addi-son-Wesley. Goodhue, D.L.(1998). Development and Measurement Validity of a Task-Technology Fit Instrument for User Evaluations of Infor-mation Systems., Decision science, Vol. 29, No. 1, pp. 105-137. Hall, B. (1997). Web-based Training Cookbook, New York, Wiley. Hair, J. F., R. E. Anderson, R.L. Tatham, & W.C. Black (1998). Multi-variate data analysis with reading. (5rd ed). New York: Macmil-lan Publishing Company. Hubona, G.S., & Geitz, S. (1997). External variables, beliefs, attitudes and information technology usage behavior. Proceeding of the Thirtieth Hawaii. Jonasson, D. H., Peck, K. L., & Wilson, B. G. (1999). Learning with technology: Aconstructivist perspective. Upper Saddle River, NJ: Prentice Hall. Kang, S. (1998). Information technology acceptance: evolving with the changes in the network environment. Proc.31st Annual Hawaii In-ternational Conference on System Sciences, 413-423. Karakas, R. (1995). Teachers and technology: The need for training andsupport. Orbit,26(2), 40-41. Kearsley, G. (2000). Online education: Learning and technology in cy-berspace. Toronto, Canada: Wadsworth. Liao, S., Shao, Y. P., Wang H. & Chen, A. (1999) The Adoption of Vir-tual Banking:an Empirical Study. International Journal of Infor-mation Management, 19, 63-74. Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. Information Systems Research, 2, 192-222. Moore, M. G. (1989). Tree types of interaction. The American journal of Distance Education, 3(2), 1-6. Moore, M. G. (2003). Learner Support. The american journal of distance educaion, 17(3) 141-143. Nunnally, J. (1978), Psychometric Theory, 2nd editon, New York:McGraw-Hill. Relan, A. & Gillani, B. B. (1997). Web-based instruction and the tradi-tional classroom: Similarities and difference. In B. H. Khan, Ed., Web-based instruction, pp. 41-66. Rogers, E. M. (2003). Diffusion of Innovation (5th ed.). New York : The Free Press. Rogers, E. M. (1995). Diffusion of Innovation (4th ed.). New York : The Free Press. Taylor, S., & P. Todd, 1995, Assessing IT usage: the role of prior ex-perience, MIS Quarterly, 12, pp.561-570. Thompson, R.L., Higgings, C.A. and Howell, J. M. (1991). Personal Computing: Toward a conceptual Model of Utilization. MIS Quarterly, 15:1, pp. 124-143. Trace, A.U., & Cornelia, C. W. (2000). Corporatee-learning:Exploring a new fronter. WR Hambrecht + Co. Venkatesh, V. & Davis, F.D. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. Management Science, 46, pp. 86-204. Venkatesh, V., and M. G. Morris.(2000). Why Don'tmen Ever Stop to Ask for Directions Gender,Social Influence and Their Role in Technology Acceptance and Usage Behavior., MIS Quarterly Vol.24 pp.115-139. Venkatesh, V., Morris, V. M., Davis, G.B. and Davis, F. D. (2003). User Acceptance of Information Technology: Toward A Unified View. MIS Quarterly, 27, 425-478.