

# **THE DETERMINANTS OF HUMAN RESOURCE MANAGEMENT INNOVATION - A PERSPECTIVE FROM TECHNOLOGY ACCEPTANCE MODEL**

*Huei-Fang Chen, Soochow University, 56 Kwei-Yang Street, Section 1, Taipei, Taiwan, 10001, R. O. C.  
Tel: 886-2-23111531 ext. 3431, E-mail: [hfchen@mail2.scu.edu.tw](mailto:hfchen@mail2.scu.edu.tw)*

## **ABSTRACT**

This research provided an empirical of 96 Taiwan's major enterprises to test a technology acceptance model, which was used to explain the determinants of human resource management innovation. It is evidenced that the major determinants of the process including individual characteristics and system quality have significant impact on the perception of the innovation's usefulness and ease of use. However, organizational supports only have weak relationships with both of the perception of usefulness and the ease of use concerning the innovation. The perception of usefulness has significant impacts on the preference and intention toward the innovation, and the perception of ease of use only has a significant influence on the preference of the innovation. Besides, these perceptions play as a mediator between the determinants and the attitude toward the innovations.

## **INTRODUCTION AND RESEARCH HYPOTHESES**

In the development of human resource management, the application of web technology has become a trend of innovative process. It is regarded as one kind of human resource management innovation. According to the report of Watson Wyatt Worldwide [10], the use of web-based human resource related services have increased gradually in these years. The related services included human resource information system through firms' intranet or the Internet, interactive voice response systems, call centers etc. The major benefits of the innovations come from improvement of employees' communication, enhancement of the quality of internal services, promotion of corporate culture, addition of strength to human resource units' strategic roles, and reduction of cost of human resource management. It is evidenced that many companies have adopted the web-based human resource management systems and generated a lot of benefits through these applications [2] [4] [5]. However, there is little research focused on the examination of human resource management innovation and its determinants and impacts. Based on the technology acceptance model (TAM) originated from Davis [3], it is claimed that the perceptions of usefulness and ease of use in human resource management innovation will affect the preference and intention of use of the web-based system. Besides, the external factors, including personal characteristics, organizational supports, and systems quality, will play determinant roles on the process of usage.

The major purpose of this article is to propose a research framework to explore the determinants of human resource management innovation and their impacts on the users' reactions, i.e. attitudes and intentions.

Based on the researches related to the technology acceptance model, many researchers have confirmed the effects of personal differences, systems quality, and organizational supports on the acceptance of technology [1] [6] [7] [8] [9]. In the field of human resource management, it is proposed that the personal experiences and training records will strengthen the understanding of the new functions and utilities of related systems. Therefore they will have positive impacts on the perceptions of usefulness and ease of use in the systems. Secondly, the organizational supports of technology and top management's commitments will also create positive confidence on the innovations of human resource

management. Thirdly, fine systems will disperse good information quality and response to users quickly as expected. Therefore, they will all have positive influences on the perceptions of the systems' users.

Hypothesis 1 External factors (including personal differences, organizational supports, and system quality) have positive impacts on the users' perceptions (of usefulness and ease of use) of human resource management innovations.

According to theory of reasoned action, perceptions influence attitudes, which in turn shape intentions, which then guide or dictate behaviors. It is claimed in this research, that the users' perceptions of usefulness and ease of use in the systems will influence the attitudes toward human resource management innovation. The attitudes in turn will affect the intentions of the usage of the systems. Besides, the perceptions of the systems will have direct influences on the intentions of usage as well [1] [6] [7].

Hypothesis 2 Users' perceptions of usefulness and ease of use of the systems have positive impacts on the attitudes and intentions of human resource management innovations.

Hypothesis 3 Users' attitudes toward human resource management innovation have positive impacts on the intentions of use.

With the combination of the technology acceptance model and theory of reasoned action, it is proposed that the users' perceptions of the systems will play as a mediator between the determinants (including personal differences, organizational supports, and system quality) and the result variables (including attitudes and intentions).

Hypothesis 4 Users' perceptions of systems have a mediating effect between the external factors and attitudes (and intentions) toward human resource management innovations.

## **RESEARCH METHOD AND RESULTS**

The data for this research was collected through a cross-section survey. The major targets of this survey are ranked in top 1000 firms in Taiwan, since big companies have a greater opportunity to implement web-based and other human resource management innovations. The sample companies included manufacturers, services companies, and financial institutions. Quantitative methods including correlation analysis, factor analysis, and LISREL analysis are applied to test the hypothesized relationships among the major variables of the research model in this article.

The empirical results reveal that personal characteristics have significant impacts both on the perceptions of ease of use and usefulness of the innovation. System quality also has significant positive effects on both the perceptions of ease of use and usefulness. However, organizational supports have failed to prove the impacts on both of the perceptions of ease of use and usefulness in the innovation. In this case, hypothesis 1 is partly supported. Both of the perceptions of ease of use and usefulness of the innovation have significant influences on innovation preferences, but only the perception of usefulness has significant influence on the intention of use, therefore hypothesis 2 is partial supported as well. As predicted by the theory of planned action, the preference to innovations has direct impact on the intention of use of systems, so hypothesis 3 is supported. Concerning to the mediating effects of the perceptions of the systems, it shows that the mediating model has the mostly fit index comparing with the other five structural models', therefore hypothesis 4 is supported as well.

## **CONCLUSION AND IMPLICATIONS**

The major contribution of this research is two-sided. On the one hand, it combined theory of reasoned action and technology acceptance model to explore the relationships of major variables concerning human resource management innovations and their determinants. The result gives a positive direction for future researches concerning to all these two theories to study related innovation systems. On the other

hand, the testing results provide implications for practitioners to refocus on the importance of employees' perceptions and attitudes and intentions toward the innovation, which will play influential roles on the implementation process. Besides, it highlights the importance of precedent determinants, such as personal differences, organizational supports, and system quality, and shows that they have significant influences on the process of human resource management innovations.

The major limitation of this research is that it did not consider the performance of the innovations. Owing to the short time of implementation of this innovation in Taiwan, it seems inappropriate to examine the effectiveness of the systems for the time being. Besides, the sample under study is not big enough to analyze the impact of different industry. We proposed that an extended research concerning the effectiveness of the web-based human resource management innovation can be evaluated after a reasonable time of usage. Examinations of influences from other external factors, such as social interaction, opinion feedback, and the use of cross-functional team, are also encouraged in the future researches.

## REFERENCES

- [1] Agarwal, R. & Prasad, J. (1999), "Are individual differences germane to the acceptance of new information technologies?" *Decision Sciences*, Vol.30, No.2, Spring pp.361~391.
- [2] Cranney, K. (2000), "Boston Scientific implements a revenue-generating self-service model." *HR Focus*, January, pp.7~8.
- [3] Davis, F. D. (1989), "Perceived usefulness, perceived ease of use, and user's acceptance of information technology." *MIS Quarterly*, September, pp.319~340.
- [4] Greengard, S. (2000), "Site unseen?" *Workforce* May pp.46~54.
- [5] Hays, S. (1999), "Capital One is renowned for innovative recruiting strategies." *Workforce* April pp.92~94.
- [6] Igarria, M., Guimaraes, T. & Davis, G. B. (1995), "Testing the determinants of microcomputer usage via a structural equation model.", *Journal of Management Information Systems*, Spring Vol.11, No.4, pp.87~114.
- [7] Lin, J. C. C. & Lu H. (2000), "Towards an understanding of the behavioral intention to use a web site." *International Journal of Information Management*, 20, pp.197~208.
- [8] Taylor, S. & Todd, P. (1995), "Assessing IT usage: The role of prior experience." *MIS Quarterly*, December, pp.561~570.
- [9] Venkatesh, V. & Morris, M. G. (2000), "Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior.", *MIS Quarterly*, March, Vol. 24, No.1, pp.115~139.
- [10] Watson Wyatt Worldwide (2000), "The truth about leveraging HR information services." *HR Focus*, June, pp.11~13.