

# Research on Improvement Strategies for new product development performance

Yi-Chan Chung

*Department of Business Administration, Yuanpei University of Medical Technology, Taiwan*  
*Corresponding Author: Yi-Chan Chung.*

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**ABSTRACT:** *In the face of the competitive environment, it has been the focus of many companies' business strategies to integrate organizational learning concepts and information technology into innovation activities to provide better new products. This study examined the relationships between organizational learning, information technology, innovation activities, and new product development performance, in order to provide a reference for companies to implement innovation activities.*

**KEYWORDS:** *organizational learning, innovation activities, new product development performance*

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## I. INTRODUCTION

Under the pressure of a highly competitive environment, it is the focus of a company's business strategies to incorporate organizational learning and information technology (IT) into innovation activities to improve new product development performance. Few empirical studies have incorporated the concept of organizational learning and IT input into innovation activities to investigate their effects on new product development performance. Therefore, this study investigated the correlation between them. The results of this study can be used to provide recommendation proposals for the implementation of innovation activities.

## II. LITERATURE REVIEW

### 2.1 Organizational Learning

Templeton et al. (2002) identified organizational learning as a set of activities within an organization that includes information acquisition, information transfer, information interpretation, and organizational memory. Tippins & Sohi (2003) divided organizational learning into four major processes: information acquisition, information dissemination, shared interpretation, and organizational memory. In this study, the four dimensions of organizational learning proposed by Tippins & Sohi (2003) were used as the dimensions of organizational learning activities.

### 2.2 Information Technology Inputs

According to O'Brien (1995), IT refers to computer-based information systems that use software, hardware, telecommunication, database management, and information processing technologies. Miller & Doyle (1987) argue that IT investment must focus on three dimensions: (1) understanding the importance of information; (2) investment in software, hardware, and personnel; and (3) personnel training. In this study, based on the literature review, IT investment was divided into three dimensions: personnel perception, hardware and software investment, and personnel training.

### 2.3 Innovation Activities

Catherine (2004) classified innovation into the product, market, process, behavior, and strategic innovation. Tien et al. (2007) discussed innovation activities in four dimensions: management innovation activities, technological innovation activities, market innovation activities, and cultural activities. In this study, the classification of innovation activities by Tien (2007) was used.

### 2.4 New Product Development Performance

McDonough et al. (2001) measured new product development performance in terms of achievement of project objectives, speed of new product launches, commercialization success, new product quality, and customer demand. Calantone et al. (1995) used return on investment and its growth rate, sales growth rate and its growth rate, and market share and its growth rate as the indicators of new product development performance. This study used the new product development indicators of McDonough et al. (2001).

### III. RESEARCH METHOD

This study investigated the correlation between organizational learning, IT input, and the degree of implementation of innovation activities and new product development performance with the following hypotheses

H1: The degree of organizational learning has a significant positive effect on the degree of implementation of innovation activities.

H2: The degree of IT input has a significant positive effect on the degree of implementation of innovation activities.

H3: The degree of implementation of innovation activities has a significant positive effect on new product development performance.

#### 3.1 Organizational Learning and Innovation Activities

Joaquin & Ricardo (2008) found in their study that organizational learning affected product innovation performance. Weerawardena et al. (2006) suggested that organizational learning had a positive effect on organizational innovation. This study confirmed H1 after the literature review.

#### 3.2. IT Input and Innovation Activities

Turban et al. (2001) suggested that IT input can increase innovation capacity. Dibrell et al. (2008) suggested that IT input is positively related to the degree of innovation. This study confirmed H2 after the literature review.

#### 3.3. Innovation Activities and New Product Development Performance

The study of Gatignon & Xuereb (1997) pointed out that innovation activities can affect the performance of new product development. Kotabe (1990) found that the degree of product innovation had a positive relationship with new product development performance. In light of the literature review, this study confirmed H3.

### IV. CONCLUSION

This study showed that organizational learning and IT investment had a significant positive effect on the degree of implementation of innovation activities: the degree of implementation of innovation activities had a significant positive effect on new product development performance. This study can be used as a reference for manufacturers to implement innovation activities to avoid unnecessary waste of resources and time for exploration.

### REFERENCES

- [1]. Calantone, R., Vickery, S. and Deoge, C., 1995. Business Performance and Strategic New Product Development Activities: An Empirical Investigation. *Journal of Product Innovation management*, 12(3), 214-223.
- [2]. Catherine, L.W. and Pervaiz, K.A., 2004. The development and validation of the organizational innovativeness construct using confirmatory factor analysis. *European Journal of Innovation Management*, 7(4), 303-313.
- [3]. Joaquin, A. and Ricardo, C., 2008, Assessing the impact of organizational learning capability on product innovation performance: An empirical test, *Technovation*, 28(6), 315-326.
- [4]. Dibrell, C., Davis, P. S., and Craig, J. 2008. Fueling innovation through information technology in SMEs. *Journal of Small Business Management*, 46(2), 203-218
- [5]. Gatignon, H. and Xuereb, J.M., 1997. Strategic Orientation of the Firm and New Product Performance. *Journal of Marketing Research*, 34(1), 77-90.
- [6]. Kotabe, M., 1990. Corporate Product Policy and Innovation Behavior of European and Japanese Multinationals: An Empirical Investigation. *Journal of Marketing*, 54(1), 19-33.
- [7]. McDonough, E.F., Kahn, K.B. and Barczak, G., 2001. An Investigation of the Use of Global, Virtual, and Collocated New Product Development Teams. *The Journal of Product Innovation Management*, 18(2), 110-120.
- [8]. Templeton, G.F., Lewis B.R. and Snyder, C.A., 2002. Development of a measure for the organizational learning construct, *Journal of Management Information Systems*, 19 (2), 175-218.
- [9]. Miller, J. and B. A. Doyle, 1987. Measuring effectiveness of computer-based information systems in the financial service sector. *MIS Quarterly*, 11(1), 107-125
- [10]. O'Brien, J.A., 1995, *Introduction to Information System: An End User/Enterprise Perspective*, Richard D. Irwin, Inc
- [11]. Tippins, M.J. and Sohi, R.S., 2003. IT competency and firm performance: Is organizational learning a missing link?. *Strategic Management Journal*, 24(8), 745-761
- [12]. Tien, S.W., Chiu, C.-C., Chung Y.-C. and Tsai, C.-H., 2007. The Impact of Innovation Management Implementation on Enterprise Competitiveness among Taiwan's High-Tech Manufacturers. *International Journal of Technology Management*, 40, Nos. 1/2/3, 7-44.
- [13]. Turban E., Rainer R.K., Potter R. I., 2001. *Introduction to Information Technology*. New York: John Wiley and Sons
- [14]. Weerawardena, J., O'Cass, A. and Julian, C., 2006. Does industry matter? Examining the role of industry structure and organizational learning in innovation and brand performance. *Journal of Business Research*, 59, 37-45.

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