

The Influence of Market Orientation and Organizational Learning on New Product Development Performance of the Software I

盧財慶、封德台

E-mail: 9805460@mail.dyu.edu.tw

ABSTRACT

Under the trend of global manufacturing, the issue that market orientation will improve performance. Organizational learning positively affects what knowledge can be acquired. In addition, the manufacturing firms invest more and more efforts and resource on development and research. New product development performance (NPD) is an important strategic issue. The study presents a conceptual framework of the interrelationships among market orientation, organizational learning and new product development performance.

The study proposed 4 assumptions and to prove them by questionnaires and verified the dimensions' relationships. The samples of the study include 126 companies from the software industry in the Scientific Industry Parks. Among them, 371 copies were replied. When the 42 invalid copies were deducted, we got 329 valid copies. The retrieve of valid questionnaires is 18.63%.

The finding shows that (1) Market orientation has a positive and direct impact on organizational learning and new product development performance (NPD). (2) Organizational learning has a positive and direct impact on new product development performance (NPD). (3) The organizational learning was proved as an important intervening variable within the model. Finally, researcher pointed out some academic and practical conclusions and a few future research topics.

Keywords : market orientation、organizational learning、new product development performance (NPD)

Table of Contents

中文摘要	iii
英文摘要	iv
誌謝辭	v
內容目錄	vi
表目錄	viii
圖目錄	x
第一章 緒論	1
第一節 研究背景與動機	1
第二節 研究問題與目的	4
第三節 研究流程	4
第二章 文獻探討	7
第一節 資訊軟體產業之界定及其概況	7
第二節 市場導向	10
第三節 組織學習	15
第四節 新產品開發績效	21
第三章 研究方法	28
第一節 研究架構	28
第二節 研究假設	29
第三節 變項之操作定義與衡量	30
第四節 研究設計	33
第五節 資料蒐集與分析方法	36
第四章 資料分析與研究結果	39
第一節 樣本資料結構分析	39
第二節 信度與效度分析	52
第三節 相關係數分析	57
第四節 迴歸係數分析	58
第五節 經路分析	60

第五章 結論與建議	64
第一節 研究結論	64
第二節 研究意涵與建議	65
第三節 研究限制	68
第四節 後續研究與建議	69
參考文獻	71
附錄A 問卷設計版	86
附錄B 問卷發放版	90

表目錄

表 3- 1 市場導向構面及衡量	31
表 3- 2 組織學習構面及衡量	32
表 3- 3 新產品發展績效構面及衡量	33
表 3- 4 預試問卷樣本回收與結構	34
表 3- 5 預試問卷樣本變數之信度分析	34
表 3- 6 正式問卷樣本回收與結構	35
表 3- 7 正式問卷樣本變數之信度分析	36
表 4- 1 廠商基本資料統計表	41
表 4- 2 市場導向變項統計資料分析表	43
表 4- 3 組織學習變項統計資料分析表	45
表 4- 4 新產品開發績效變項統計資料分析表	46
表 4- 5 職銜與各變數之差異性檢定表	47
表 4- 6 企業規模與各變數之差異性檢定表	48
表 4- 7 專案開發時間對各變數單因子變異數分析表	49
表 4- 8 專案開發金額對各變數單因子變異數分析表	50
表 4- 9 公司成立年資對各變數單因子變異數分析表	51
表 4-10 KMO統計量的判斷	52
表 4- 11 「市場導向」檢驗信度與效度表	53
表 4- 12 「組織學習」重新命名檢驗信度與效度表	55
表 4- 13 「新產品開發績效」檢驗信度與效度表	57
表 4- 14 各研究變項間之相關係數表	58
表 4- 15 「市場導向」對「組織學習」之迴歸分析	59
表 4- 16 「組織學習」對「新產品開發績效」之迴歸分析	60
表 4- 17 「市場導向」對「新產品開發績效」之迴歸分析	60
表 4- 18 「新產品開發績效」模式徑路分析各項效果說明	61
表 4- 19 修正後研究假設檢定結果表	62

圖目錄

圖 1-1 研究流程圖	6
圖 3-1 研究架構圖	28
圖 4-1 修改後研究架構圖	62

REFERENCES

一、中文部分:Drucker, P. F. (2004), 彼得 杜拉克的管理聖經(齊若蘭譯), 台北:遠流出版, 原文於1954年出版。Robbins, S. P. (2006), 組織行為學(李青芬, 李雅婷, 趙慕芬譯), 台北:華泰文化, 原文於2006年出版。方世榮, 方世杰(2004), 關係導向、市場導向及組織學習對新產品開發績效之影響, 交大管理學報, 24(2), 61-86。方世杰, 林麗娟(2005), 參與科技專案廠商之組織學習、社會資本與技術移轉之實證研究, 管理學報, 22(3), 295-315。王存國, 魏小蘭, 陳小芬(2006), 全面品質管理之市場導向、學習導向與品質導向三者配合的重要性 以軟體產業為例, 中山管理評論, 14(2), 429-449。王俊人, 謝明宏, 黃仕杰(2008), 回應性市場導向、預應性市場導向與產品創新程度對新產品績效影響之研究 以台灣酒類產業為例, 行銷評論, 5(1), 57-80。中華民國資訊軟體協會(2007), 資訊服務產業科技人才供需調查研究, 台北:行政院科技顧問組編製。白如?, 廖英伶, 曾常豪(2008), 組織學習活動滿意?調查, 管?實務與??研究, 2(1), 52~61。?元墩, 吳濟民, 艾昌瑞, ?嘉峪(2007), 組織學習、知?分享與新產品開發績效關係之研究:台灣知?密集產業之實證, 科技管?學刊

, 12(1), 55-86。李城忠(2008), 應用統計學SPSS完全攻略, 台北縣:新文京開發。杜佩?, 曾榮豐, 黃英忠, 施瑞峰(2009), ?導??、組織學習與組織認同關係之研究, 管理實務與理論研究, 3(1), 45-67。林義屏, 黃俊英, 董玉娟(2004), 市場導向、組織學習、組織創新與組織績效間關係之研究, 管理評論, 23(1), 101-134。林文寶, 吳萬益(2005), 以組織學習觀點探討知識整合及運作特性對核心能力影響之研究, 台大管理論叢, 15(2), 165-197。林明杰, 蔣宜哲, 黃錦華(2007), 新產品開發加速機制與新產品開發績效指標對專案成功影響之研究, 科技管理學刊, 12(4), 101-144。林明杰, 黃依珮, 黃耀輝(2008), 主動式、被動式市場導向與新產品發展績效之研究:探討產品創新度的調節效果, 科技管理學刊, 13(1), 67-100。林隆儀, 方業溥(2005), 市場導向、行動商務應用與組織績效關係之研究-以台灣流通業為例, 電子商務研究, 34(4), 25-450。邱世寬, 陳明謹(2008), 新產品開發之組織間控制機制設計與開發績效關係之實證研究, 創新與管理, 5(1), 1-31。封德台(2000), 技術學習與技術能力關係之研究-國內資訊軟體產業之實證, 國立政治大學企業管理學系未出版之博士論文。連雅慧(2002), 學習型組織構面與組織績效-以台灣一科技公司為例, 商管科技季刊, 3(4), 337-358。資策會MIC, 經濟部ITIS計畫(1999), 資訊服務業區位選擇之研究, 台北:資策會。桑國忠(2008), 資訊技術、整合與組織學習能力對績效之影響 - 以台灣地區第三方物流為例, 電子商務學報, 10(3), 665-688。張愛華, 曾忠蕙(2008), 電子商務業者的顧客導向、市場導向與經營績效之研究, 電子商務學報, 10(3), 727-756。黃義俊(2004), 市場導向的文化與生態創新的探行之實證研究:以產業為控制變數, 台大管理論叢, 15(1), 97-130。黃識銘, 方世榮(2006), 市場導向、關係行銷能力與顧客知識管理能力對企業資本之影響, 管理評論, 25(2), 29-60。經濟部統計處(2006), 中華民國九十四年資訊工業年鑑, 台北:委託財團法人資訊工業策進會執行。謝安田(2006), 企業研究方法論(三版), 彰化縣:著者發行。鐘以勇(2009), 知識密集型產業之學習型組織、學習型態與經營績效關係之研究, 電子商務學報, 11(1), 51-94。顧萱萱, 蘇禎涵(2004), 製造商市場導向對其彈性績效與供應鏈關係穩定性之影響, 台灣管?學刊, 4(1), 25-42。

二、英文部分

Argyris, C., & Schon, D. (1978). *Organizational learning: A theory of action perspective*. Massachusetts: Addison-Wesley.

Atuahene-Gima, K., Slater, S. F., & Olson, E. M. (2005). The contin-gent value of marketing review responsive and proactive market orientations for new product program performance. *The Journal of Product Innovation Management*, 22(6), 464-482.

Baker, W. E., & Sinkula, J. M. (1999). The synergistic effect of market orientation and learning orientation on organizational performance. *Academy of Marketing Science Journal*, 27(4), 411-427.

Bhatnagar, J. (2006). Measuring organizational learning capability in Indian managers and establishing firm performance linkage: An empirical analysis. *The Learning Organization*, 13(5), 416-433.

Bohmer, R. M., & Edmondson, A. C. (2001). Organizational learning in health care. *Health Forum Journal*, 44(2), 32-35.

Brown, S. L., & Eisenhardt, K. M. (1995). Product development: past research, present findings, and future directions. *Academy of Management Review*, 20(2), 343-378.

Brown, W. B., & Karagozoglu, N. (1993). Leading the way to faster new product development. *Academy of Management Executive*, 7(1), 36-47.

Charles, A. B., & James, D. (1989). Hlavacek, numbers you can 't do without. *Sales and Marketing Management*, 141(4), 54-58.

Cooper, R. G. (1994). Perspective third-generation new product processes. *Journal of Product Innovation Management*, 11, 3-14.

Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of Marketing*, 58(4), 37-52.

Dean, J. W., Jr., & Bowen, D. E. (1994). Management theory and total quality: improving research and practice through theory development. *Academy of Management Review*, 19(3), 392-418.

Deshpande, J. U. F., & Webster, F. E., Jr. (1993). Corporate culture, customer orientation, and innovativeness in Japanese firms: A quadrad analysis. *Journal of Marketing*, 57(January), 23-37.

Dodgeson, M. (1993). Organizational learning: A review of some literature. *Organization Studies*, 14(3), 375-394.

Edmondson, A. C. (1999). The view through a different lens: Investigating organizational learning at the group level of analysis. Paper presented at the Proceedings of 3rd International Conference on Organizational Learning Lancaster, New York.

Ernst, D. (2000). Inter-organizational knowledge outsourcing: What permits small Taiwanese firms to compete in the computer industry? *Asia Pacific Journal of Business Logistics*, 17(2), 223-255.

Fiol, M., & Lyles, M. (1985). Organizational learning. *Academy of Management Review*, 10(4), 803-813.

Gebhardt, G. F., Carpenter, G. S., & Sherry, J. F., Jr. (2006). Creating a market orientation: A longitudinal, multiform, grounded analysis of cultural transformation. *Journal of Marketing*, 70(4), 37-55.

Gherardi, S., & Nicolini, D. (2000). The organizational learning of safety in communities of practice. *Journal of Management*, 9(1), 7-18.

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17, 109-122.

Gunasekaran, A. C., Patel, E., & Tirtiroglu, E. (2001). Performance Measures and Metrics in a Supply Chain Management. *International Journal of Operations and Production Management*, 21(1/2), 71-87.

Hammer, M. (1990). Reengineering work: Don 't automate, obliterate, Harvard Business Review, 68(4), 104-112.

Han, J. K., Kim, N., & Srivastava, R. K. (1998). Market orientation and organizational performance: Is innovation a missing link? *Journal of Marketing*, 62(October), 30-45.

Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly*, 44(1), 82-111.

Hargadon, A., & Sutton, R. I. (1997). Technology brokering and innovation in a product development firm. *Administrative Science Quarterly*, 42, 716-749.

Harris, L. C., & Piercy, N. F. (1999). A contingency approach to market orientation: Distinguishing behaviors, systems, structure, strategies and performance characteristics. *Journal of Marketing Management*, 15, 617-646.

Hartley, J. L., Zirger, B. J., & Kamath, R. R. (1997). Managing the Buyer-Supplier Interface on-Time Performance in Product Development. *Journal of Operations Management*, 15, 57-70.

Hill, C. W. L., & Jones, G. R. (1998). Strategic management: An integrated approach (4th Ed.). Boston: Houghton Mifflin Company.

Homburg, C., & Pflessner, C. (2000). A Multiple-layer model of market-oriented organizational culture: Measurement issues and performance outcomes. *Journal of Marketing Research*, 37, 449-462.

Horng, S. C., & Chen, A. C. H. (1998). Market orientation of small- and medium-sized firms in Taiwan. *Journal of Small Business Management*, 36(3), 79- 85.

Hsu, C. C., & Pereira, A. (2008). Internationalization and performance: The moderating effects of organizational learning. *Omega*, 36(2), 188-205.

Huber, G. P. (1991). Organizational learning: The contributing processes and the literatures. *Organization Science*, 2(1), 88-115.

Hult, G. T. M., Ketchen, D. J., Jr., & Nicols, E. L., Jr. (2003). Organizational learning as a strategic resource in supply management. *Journal of Operations Management*, 21, 541-556.

Hunt, S. D., & Morgan, R. M. (1995). The comparative advantage theory

of competition. *Journal of Marketing*, 59(April), 1-15.Hurley, R. F., & Hult, G. T. M. (1998). Innovation, market orientation and organizational learning: An integration and empirical examination. *Journal of Marketing*, 62, 42-54.Inkpen, A. C. (1998). Learning and knowledge acquisition through in-ternational strategic alliances. *The Academy of Management Executive*, 12(4), 69-80.Jaworski, B. J., & Kohli, A. K. (1993). Market Orientation: Antece-dents and Consequences. *Journal of Marketing*, 57(3), 53-70.Jerez-Gomez, P., Cespedes-Lorente, J., & Valle-Cabrera, R. (2005). Organizational learning capability: A proposal of measurement. *Journal of Business Research*, 58(6), 715-725.Jimenez-Jimenez, D., & Cegarra-navarro, J. G. (2007). The perfor-mance effect of organizational learning and market orientation. *Industrial Marketing Management*, 36(6), 694-708.Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrics*, 39, 31-36.Kessler, E. H., & Chakrabarti, A. K. (2002). Innovation speed: A con-ceptual model of context, antecedents and outcomes. *Academy of Management Review*, 21(4), 1143-1191.Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: The con-struct, research propositions and managerial implications. *Journal of Marketing*, 54(April), 1-18.Kumar, K., Subramanian, R., & Yauger, C. (1998). Examining the market orientation-performance relationship: A context-Specific study. *Journal of Management*, 24(2), 201-233.Langerak, F. (2001). The relationship between customer and supplier perceptions of the manufacturer ' s market orientation and its business performance. *International Journal of Market Research*, 43(1), 43-62.Langerak, F., & Hultink, E. J. (2006). The impact of product innovativeness on the link between development speed and new product profitability. *Journal of Product Innovation Management*, 23(3), 203-214.Li, T., & Calantone, R. J. (1998). The impact of market knowledge competence on new product advantage. *Journal of Marketing*, 62, 13-29.Liu, M. H. (1999). Cross-functional interaction across product development stages: the moderating role of product innovativeness. Unpublished master ' s thesis of department of business administration, National Central University, Taiwan.Lukas, B. A. (1999). Strategic type, market orientation, and the balance between adaptability and adaptation. *Journal of Business Research*, 45(2), 147-156.Madhavan, R., & Grover, R. (1998). From embedded knowledge to embodied knowledge: new product development as knowledge management. *Journal of Marketing*, 62(4), 1-12.Mavondo, F. T., & Farrell, M. A. (2000). Measuring market orientation: Are there differences between business markets and consumer marketers? *Australian Journal of Management*, 25(2), 223-244.Menon, A., & Menon, A. (1997). Enviropreneurial marketing strategy: The emergency of corporate environmentalism as market strategy. *Journal of Marketing*, 61(January), 51-57.Menon, A., & Varadarajan, P. R. (1992). A model of marketing knowledge use within firms. *Journal of Marketing*, 56, 53-71.Menon, A., Chowdhury, J., & Lukas, B. A. (2002). Antecedents and outcomes of new product development speed an interdiscipli-nary conceptual framework an interdisciplinary conceptual framework. *Industrial Marketing Management*, 31(4), 317-328.Mohr-Jackson, I. (1998). Conceptualizing total quality orientation. *European Journal of Marketing*, 32(1/2), 13-22.Morgan, J., & Monczka, R. M. (1995). Alliances for new products. *Purchasing*, 118(1), 103-109.Narver, J. C., & Slater, S. F. (1990). The effect of a market orienta-tion on business profitability. *Journal of Marketing*, 54(4), 20-35.Narver, J. C., Slater, S. F., & MacLachlan, D. L. (2004). Responsive and proactive market orientation and new product success. *Journal of Product Innovation Management*, 21(5), 334-347.Niedrich, R. W., & Swain, S. D. (2004). The influence of pioneer sta-tus and experience order on consumer brand preference: A me-diated-effect model. *Journal of the Academy of Marketing Sci-ence*, 31(4), 468-80.Nijssen, E. J., Arbouw, A. R. L., & Commandeur, H. R. (1995). Accelerating new product development: A preliminary empirical test of a hierarchy of implementation. *Journal of Product Innovation Management*, 12(2), 99-109.Nonaka, I., & Takeuchi, H. (1995). The knowledge creating company. New York: Oxford University Press.Olson, E. M., Walker, O. C., & Ruekert, R. W. (1995). Organizing for effective new product development: The moderating role of product innovativeness. *Journal of Marketing*, 59(1), 48-62.Pelham, A. M. (1998). Mediating influences on the relationship be-tween market orientation and profitability in small industrial firms. *Journal of Marketing Theory and Practice*, 5(3), 55-76.Popper, M., & Lipshitz, R. (1998). Organization learning mecha-nisms: A structural and cultural approach to organizational learning. *Journal of Applied Behavioral Science*, 34, 167-179.Prieto, I. M., & Revilla, E. (2006). Learning capability and business performance: A nonfinancial and financial assessment. *The Learning Organization*, 13(2), 166-185.Rindfleisch, A., & Moorman, C. (2001). The acquisition and utilization of information in new product alliances: A strength-of-ties perspective. *Journal of Marketing*, 65, 1-18.Ruekert, R. W. (1992). Developing a market orientation: An organizational strategy perspective. *International Journal of Research in Marketing*, 9(January), 225-245.Sarin, S., & Mahajan, V. (2001). The effect of reward structures on the performance of cross-functional product development teams. *Journal of Marketing*, 65(2), 35-53.Senge, P. M. (1990). The fifth discipline - the art and practice of the learning organization. New York: Publishing Doubleday.Shapiro, B. P. (1988). What the hell is market oriented? *Harvard Business Review*, 66(November/December), 119-125.Sinkula, J. M., Baker, W. E., & Noordewier, T. (1997). A framework for market-based organizational learning: Linking values, knowledge, and behavior. *Academy of Marketing Science Jour-nal*, 25(4), 305-318.Sitkin, S. B., Sutcliffe, K. M., & Schroeder, R. G. (1994). Distin-guishing control from learning in total quality management: a contingency perspective. *Academy of Management Review*, 19(3), 537-564.Slater, S. F., & Narver, J. C. (1995). Market orientation and the learning organization. *Journal of Marketing*, 59(3), 63-74.Terwiesch, C., Loch, C., & Niederkofer, M. (1998). When product development performance makes a difference: A statistical analysis in the electronics industry. *Journal of product Innovation Management*, 15(1), 3-15.Vickery, S., Calantone, R., & Droke, C. (1999). Supply chain flexibil-ity: An empirical study. *Journal of Supply Chain Management*, 35(3), 25-33.Voss, G. B., & Voss, Z. G. (2000). Strategic orientation and firm performance in an artistic environment. *Journal of Marketing*, 64(1), 67-83.Watkins, K. E., & Marsick, V. J. (1996). In action: Creating the learning organization. Alexandria: American Society for Training and Development.Webster, F. E., Jr. (1988). Rediscovering the marketing concept. *Business Horizons*, 31(May/June), 29-39.Wren, B. M., Souder, W. E., & Berkowitz, D. (2000). Market orientation and new product development in global industrial firms. *Industrial Marketing Management*, 29(6), 601-611.