

# 供應鏈風險評估架構發展與分析之探討

李昀育、陳欽雨

E-mail: 9415981@mail.dyu.edu.tw

## 摘要

當前企業營運趨勢傾向結構緊密之動態網絡關係發展，網絡關係雖然具有分享資源、互補資源、減少交易成本、專注核心能力等優勢，但卻必須承擔複雜網絡關係所伴隨的各種風險與不確定性。而供應鏈之不確定性因素來源、類別及影響，尚缺乏有系統地探討。本研究的目的是在探討供應鏈整合環境下，企業的供應鏈風險之意涵及類別，針對供應鏈風險類別之因素，發展評估工具，衡量其風險值，並建立整體的供應鏈管理風險評估架構。本研究藉由文獻探討建構一供應鏈風險評估架構，以較客觀之方式去區分整體供應鏈風險之類別，並探討其風險來源。本研究採用兩階段專家問卷，以電子業中物流部門之主管人員或對供應鏈流程具決策權之人員作為研究樣本。第一階段問卷中，採用模糊德爾菲法進行風險來源因素之重要性分析，篩選出重要之供應鏈風險來源，其結果再作為第二階段問卷之基礎，並以模糊AHP進行嚴重性之權重分析。再採用模糊德爾菲法之觀念，進行風險來源發生可能性估算，求得各類風險來源之風險值，並藉此發展供應鏈風險評估架構與風險矩陣，其結果可供企業管理者作為評估風險決策參考之用。

關鍵詞：供應鏈風險、風險評估、模糊層級程序法

## 目錄

封面內頁 簽名頁 授權書	iii	中文摘要	v	英文摘要	v
要	vi	誌謝	viii	目	viii
錄	ix	圖目錄	xii	表目	xii
錄	xiii	第一章 緒論	1	1.1 研究背景	1
景	1	1.2 研究動機	2	1.3 研究問題	2
題	4	1.4 研究目的	5	第二章 文獻探討	6
討	6	2.1 供應鏈與供應鏈管理	6	2.2 供應鏈風險分析	6
析	8	2.2.1 風險	8	2.2.2 供應鏈風險	8
險	10	2.3 風險評估工具	16	2.4 研究方法理論基礎	16
礎	20	2.4.1 AHP法	20	2.4.2 模糊理論	20
論	21	2.4.3 模糊分析層級程序法	22	第三章 研究方法	24
法	24	3.1 研究樣本及限制	24	3.1.1 研究範圍	24
圍	24	3.1.2 研究限制	24	3.2 供應鏈各類風險來源	24
源	25	3.2.1 外部供應鏈風險說明與來源	25	3.2.2 內部供應鏈風險說明與來源	25
源	26	3.2.3 相關網絡風險說明與來源	28	3.3 研究架構	30
構	30	3.4 研究方法	31	3.4.1 相關文獻整理	31
理	31	3.4.2 模糊德爾菲法	33	3.4.3 模糊分析層級法	35
法	35	第四章 研究結果	41	4.1 第一階段問卷分析結果	41
果	41	4.2 第二階段問卷分析結果	45	4.2.1 相對嚴重性程度之評估	45
估	45	4.2.2 發生風險來源可能性之評估	48	4.2.3 評估各項風險來源之風險值	50
值	50	4.3 供應鏈風險評估架構及風險矩陣	51	第五章 結論與建議	55
議	55	5.1 研究結論	55	5.2 建議及未來研究	56
究	56	參考文獻	57	附錄	62
錄	62				

## 參考文獻

1. 王立志 (民88), 「系統化運籌與供應鏈管理」。滄海書局。
2. 汪仲祥 (民92), 「模糊層級分析法應用於IC產業政策選取之研究」。國立中山大學公共事務管理研究所碩士論文。
3. 陳永牲 (民91), 「供應鏈管理之探討」, 品質月刊, 第38卷, 第12期, 頁60。
4. 陳屏國 (民92), 「供應鏈中個別廠商風險評估模式研究」。長榮大學經營管理研究所碩士論文。
5. 陳建南 (民91), 「電子商務、夥伴關係、供應鏈管理與競爭優勢關係之研究——以台灣高科技產業為例」。長榮大學管理經營研究所碩士論文。
6. 黃貝玲 (民92)

, 「供應鏈管理之概念解析與發展趨勢」, 電子化企業經理人報告, 第31期, 頁8。7.黃建勝(民92), 「製造商之採購管理行為對採購風險及生產績效之影響」。銘傳大學管理科學研究所碩士論文。8.葉奕欣(民92), 「台灣線上遊戲廠商與遊戲軟體供應商策略聯盟風險之評估」。銘傳大學傳播管理研究所碩士論文。9.鄭燦堂(民84), 「風險管理:理論與實務」。五南圖書出版有限公司。10.謝劍平(民91), 「財務管理新觀念與本土化」。智勝文化事業有限公司。11.蘇盈守(民89), 「政治風險對於國際快遞業營運影響之研究」。國立高雄第一科技大學運輸與倉儲營運系碩士論文。

二、西文文獻

1. Baird, I. S. and Thomas, H., 1990. What is risk anyway? In Bettis, R. A. and Thomas, H. edited, *Risk, Strategy, and Management*, JAI Press, Greenwich, CT, pp. 21-52.
2. Brenchley, R., 2000. Project report to understand how trade compliance risk should be identified, assessed and managed in increasingly dis-integrated global supply networks at Hewlett Packard. Part Time Executive MBA, University of Bath.
3. Cavinato, J. L., 2004. Supply chain logistics risk: From the back room to the board room. *International Journal of Physical Distribution & Logistics Management*, Vol. 34, No. 5, pp. 383-387.
4. Christopher, M. and Towill, D. R., 2002. Developing market specific supply chain strategies. *International Journal of Logistics Management*, Vol. 13, No. 1, pp. 1-14.
5. Christopher, M. G., 1998. *Logistics and supply chain management: Strategies for reducing costs and improving services*, Pitman Publishing, London.
6. Christopher, M. and Lee, H. L., 2004. Mitigating supply chain risk through improved confidence. *International Journal of Physical Distribution & Logistics Management*, Vol. 34, No. 5, pp. 388-396.
7. David L. S., Kaminsky P. and Edith L. S., 2003. *Designing and managing the supply chain*. The McGraw-Hill Companies, Inc., 2ed.
8. Disney, S. M. and Towill, D. R., 2003. On the bullwhip and inventory variance produced by an ordering policy. *OMEGA: The International Journal of Management Science*, No. 31, pp. 157-167.
9. Finch, P., 2004. Supply chain risk management. *Supply chain management: An International Journal*, Vol. 9, No. 2, pp. 183-196.
10. Giunipero, L. C. and Eltantawy, R. A., 2004. Securing the upstream supply chain: A risk management approach. *International Journal of Physical Distribution & Logistics Management*, Vol. 34, No. 9, pp. 698-713.
11. Hallikas, J., Karvonen, I., Pulkkinen, U., Virolainen, V. M., and Tuominen, M., 2004. Risk management processes in supplier networks. *International Journal of Production Economics*, No. 90, pp. 47-58.
12. Hallikas, J., Virolainen, V. M., and Tuominen, M., 2002. Risk analysis and assessment in network environments: A dyadic case study. *International Journal of Production Economics*, No. 78, pp. 45-55.
13. Harland, C., Brenchley, R., and Walker, H., 2003. Risk in supply networks. *Journal of Purchasing & Supply Management*, No. 9, pp. 51-62.
14. Johnson, M. E., 2001. Learning from toys: lessons in managing supply chain risk from the toy industry. *California Management Review*, Vol. 43 No. 3, pp. 106-24.
15. Jüttner, U., Peck, H. and Christopher, M., 2002. Supply chain risk management: outlining and agenda for future research. In Griffiths, J., Hewitt, F. and Ireland, P. (Eds), *Proceedings of the Logistics Research Network 7th Annual Conference*, pp. 443-50.
16. Kasouf, C. J. and Celuch, K. G., 1997. Interfirm relationships in the supply chain: The small supplier's view. *Industrial Marketing Management*, No. 26, pp. 475-486.
17. Larson, P. D. and Kulchitsky, J. D., 1998. Single sourcing and supplier certification performance and relationship Implications. *Industrial Marketing Management*, No. 27, pp. 73-81.
18. Mitchell, V. W., 1995. Organizational risk perception and reduction: A literature review. *British Journal of Management*, No. 6, pp. 115-133.
19. Möller, G., 2003. A typology of supplier relations: From determinism to pluralism in inter-firm empirical research. *Journal of Purchasing & Supply Management*, No. 9, pp. 31-41.
20. Norrman, A. and Jansson, U., 2004. Ericsson's proactive supply chain risk management approach after a serious sub-supplier accident. *International Journal of Physical Distribution & Logistics Management*, Vol. 34, No. 5, pp. 434-456.
21. Oliver, R. K. and Webber, M. D., 1982. Supply chain management: Logistics catches up with strategy. Outlook, Booz, Allen and Hamilton Inc, New York.
22. Romano, P., 2003. Co-ordination and integration mechanisms to manage logistics processes across supply networks. *Journal of Purchasing & Supply Management*, No. 9, pp. 119-134.
23. Roselius, T., 1971. Consumer rankings of risk reduction methods. *Journal of Marketing*, No. 35, pp. 56-61.
24. Stevenson, J. W., 2002. *Operations Management*. The McGraw-Hill Companies, Inc., 7ed.
25. Svensson, G., 2004. Key areas, cause and contingency planning of corporate vulnerability in supply chains. *International Journal of Physical Distribution & Logistics Management*, Vol. 34, No. 9, pp. 728-748.
26. Van der Vorst, J. G. A. J. and Beulens, A. I. M., 2002. Identifying sources of uncertainty to generate supply chain redesign strategies. *International Journal of Physical Distribution & Logistics Management*, Vol. 32, No. 6, pp. 409-430.
27. Waring, A. and Glendon, I. A., 1998. *Managing Risk*. International Thomson Business Press, UK.
28. Zsidisin, G. A., 2003. A grounded definition of supply risk. *Journal of Purchasing & Supply Management*, No. 9, pp. 217-224.
29. Zsidisin, G. A., Ellram, L. M., Carter, J. L., and Cavinate, 2004. An analysis of supply risk assessment techniques. *International Journal of Physical Distribution & Logistics Management*, Vol. 34, No. 5, pp. 397-413.
30. Zsidisin, G. A., Panelli, A., and Upton, R., 2000. Purchasing organization involvement in risk assessments, contingency plans, and risk management: An exploratory study. *Supply Chain Management: An International Journal*, Vol. 5, No. 4, pp. 187-197.