

# 臺灣 IC 產業的創新機制： 以 2001 年、2005 年臺灣 IC 產業 專利的發明人網絡為例\*

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IC（積體電路）產業是臺灣過去三十多年來發展最完整、且在世界上最具有競爭力的創新型產業。研發與技術專利成長快速，也代表這個產業的技術創新成果。臺灣 IC 產業技術創新和專利的研究累積了一些成果，但較缺乏使用研發創新發明人網絡所做的分析。本研究使用 IC 產業專利發明人網絡資料，從結構洞（structural holes）和地位訊號（status signal）這兩個過去西方半導體和生物科技等創新產業研究中，最能解釋創新行動者與網絡系統和創新表現理論機制的學術研究累積成果出發，並反省臺灣特有 IC 產業分工技術利基位置，發展出專利發明人網絡對專利發明成果影響機制之模型。

關鍵字：IC 產業、專利、發明人網絡、結構洞、地位訊號

# **Innovation Mechanisms in Taiwan IC Industry: The Case of the Patent-Based Inventor Networks in 2001 and 2005**

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## **ABSTRACT**

The IC (integrated circuit) industry has been the most complete, competitive and innovative industry in Taiwan over the past three decades. The rapid growth of patents in this field demonstrates the marvelous outcomes of technological innovations. A huge amount of patent-based research has been accumulated in this industry, but only a little is related to the inventor network. Structural holes and status signal are two competing perspectives in explaining the dynamic mechanisms between innovative actors and network systems of the most innovative industries, semiconductor and biotechnology, in advanced countries. We use these two theories and network data of patent-based inventors to discuss the specific niche of vertical disintegration in Taiwan IC industry, and develop models on mechanisms of how inventors' networks affect the outcome of inventors' patents.

**Key Words:** IC industry, patent, inventor network, structural holes, status signal