

## 摘要

伴隨著企業的成长與競爭，許多不同的企業動機都會促使企業朝向垂直整合發展。技術能力是企業研發活動與商業活動的連結，過去許多的研究認為垂直整合對技術能力與創新活動具有高度的連動性。然而，在垂直整合的模式，對於不同設計的整合方式，相對獲取資源與創新的需求就會不同，將反應在其技術能力與創新績效的發展。為了解垂直整合策略對於企業技術能力與創新績效的作用，並檢視研發能力與垂直整合策略的交互作用，本研究以我國 207 家公開發行的製造業廠商為例，收集其在 2005-2018 年的廠商經營資訊與我國專利資料，將垂直整合形式、技術能力與創新績效依其操作型定義進行變數編譯，建構一追蹤資料庫，進行實證研究。研究結果顯示低研發能耐的公司進行向下游內部垂直整合策略，應用能力增加，探索能力減少。反之，對於上游垂直整合策略具有相反的作用。高研發能耐公司進行內部上游垂直整合策略，應用能力增加，探索能力減少。反之，對於下游垂直整合策略具有相反的作用。此外，公司上游垂直整合策略與內部下游垂直整合策略會增加產品創新。但高度研發能力公司從事內部上游整合或是低研發能力公司從事下游整合產品創新會減少。整體而言，研發能力的差異會影響企業從事不同形式的垂直整合策略對技術能力與創新的影響。對於企業在進行垂直擴張，可能存在不同的目的，對技術能力與創新的調整亦造成不同作用。

**關鍵詞：**垂直整合、研發強度、技術能力、產品創新

# Abstract

Upstream and downstream vertical integration has become a general approach for firms facing growth and competitive pressures. However, as businesses expand, firms need to be able to adjust their technological capabilities and innovation accordingly. In addition, a firm's R&D capabilities may interfere with the adjustment of technological capabilities and innovation required in firms pursuing vertical integration strategies. Therefore, this study aims to understand the influence of vertical integration strategies on a firm's technological capabilities and innovation performance, and to examine the interactions between R&D capabilities and vertical integration strategies. We selected a sample of 207 listed companies from the top 500 manufacturing companies in Taiwan. We observed the business behavior of each firm from 2005 to 2018. From the annual reports, we compiled the direction of internal vertical integration, the scale and organizational form, the R&D intensity, the company's characteristics, and the product innovation performance. From the firm's patent filings in Taiwan, we measure the development of the firm's technological exploitative and explorative capabilities. We combine the data into a panel dataset and use panel regressions for analysis. The study results show that firms with low R&D capability have increased exploitative technological ability and reduced exploratory ability when they pursue a downstream internal vertical integration strategy. The opposite effect is observed for upstream vertical integration strategies. Firms with high R&D capability have a reverse effect with the firms with low R&D capability. Moreover, the firm's upstream and downstream vertical integration strategy will increase product innovation. However, product innovation will be reduced for firms with a high level of R&D capability that engage in internal upstream integration or for firms with a low level of R&D capability that engage in downstream integration. Overall, the difference in R&D capability affects the impact of different forms of vertical integration strategies on technological capabilities and innovation. Firms employing vertical integration may have different strategic intentions, affecting technological capability and innovation adjustment.

**Keywords: Vertical integration, R&D Intensity, Technological Capability, and Product Innovation**