

創新來源、創新產出與公司績效間關係之探討：
台灣半導體產業之實證研究

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摘要

創新能力除可透過內部研發投入及人力資本累積，亦可透過與外部研發合作與技術移轉來獲得具價值的新知識及技術，本研究將創新流程區分為創新來源與創新產出，蒐集 2003 年至 2009 年台灣上市及上櫃半導體廠商創新來源、創新產出及經營績效資料，並考量創新來源之遞延效果。實證結果發現，透過研發人力資本增加會增加創新產出數量及品質，與其他企業間研發合作及技術合作則會增加創新產出品質。企業透過技術移轉及學術與研究機構合作會增加創新能力，然而，過多創新產出數量反而會侵蝕經營績效，高創新產出品質則會提升經營績效。企業在從事創新活動過程中，不僅要創造創新價值，更要獲得創新價值以提升企業價值。最後，創新來源與經營績效呈現非線性 U 型關係，起初由於廠商投入較多研發支出，未有較高預期績效，會造成經營績效下降，到達最低點後，經由組織學習能力、創新能力提升，此時增加少量創新投入反而會使經營績效有效提升。

關鍵詞：創新能力、研發合作、技術合作、經營績效

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Innovation Sources, Innovation Outputs and Firm Performance: The Evidence from Taiwan's Semiconductor Industry

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Abstract

The firms' innovation capability can be promoted either from the internal R&D inputs and human capital efforts or from the external collaborative research and technology transfers. This study verifies the impacts of innovation inputs and innovation outputs on firm performance. The research employed the sample of the semiconductor firms listed on the Taiwan Stock Exchange and Taiwan's Over the Counter market for their innovation inputs, innovation outputs, and performance of firms from 2003 to 2009. The results showed that the internal inputs can promote the innovation quantity and quality, and the external input can only promote the innovation quality. Even though the more innovation quantity cannot stimulate the firm performance, the more innovation quality can significantly upgrade the performance. The challenges are not only creating value from innovations, but capturing that value also. Specifically, the relationship between the R&D inputs and firm performance appears a nonlinear U-shape relationship.

Keywords: innovation capability; R&D collaboration; technology transfer; firm performance

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