

**The Determinants of R&D Outsourcing and its Effect on Firm's Performance:  
Firm Level Evidence from Korean Manufacturing**

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This paper examines the determinants of R&D outsourcing and its effect on firm's performance. R&D outsourcing has become prevalent under the paradigm of open innovation. However, due to the data availability there have been few previous studies on what triggers R&D outsourcing and whether or not R&D outsourcing contributes to firm's performance.

Heckman two-stage model is used to estimate the determinants of R&D outsourcing allowing for sample selection effects. The model is tested on data from a sample of over 3,500 Korean manufacturing firms during 2002-2007. In order to obtain rich data on R&D activity, we combine financial statement data with R&D Activity Survey conducted by government following OECD's Frascati manual.

Four types of R&D outsourcing are distinguished according to its target: government, public, private and foreign research organization. With reference to determinants, corporate governance, market competition, R&D affordability and industry specific characteristics are considered. Findings suggest that market competition and each firm's R&D affordability are main factors for R&D outsourcing and R&D outsourcing contributes to firm's performance with time lag.

*Keywords:* R&D outsourcing, Heckman two-stage, Korean manufacturing