

A Cross Country Comparison of Knowledge Protection Capabilities and their Effects on Resource Creation and Exploitation

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Abstract

The resource based view of the firm emphasizes that the basis for firms' competitive advantage is based on a set of unique, and difficult to imitate firm level resources and capabilities. The knowledge based view extends this perspective by focusing on unique knowledge as the most valuable resource. It provides firms with a platform for deciding which resources to develop, combine or discard. Hence, management decisions on research and development activities become crucial for developing unique knowledge. An important element of this management of R&D activities is how to protect this knowledge and prevent it from spilling over to competitors enabling them to free-ride on the firm's R&D investments. We provide a comprehensive perspective on these knowledge protection capabilities encompassing both formal (legal) instruments (such as patents or copyrights) as well as strategic ones (such as secrecy or lead time). We argue conceptually that both elements of a firm's knowledge protection capability influence management decisions on the investments into developing new resources (through R&D investments) as well as exploiting existing ones distinctively. Besides, we suggest that these effects differ significantly with regard to the technological challenges and opportunities as part of a country's appropriability regime. This distinction seems to be especially relevant as major parts of the empirical literature focus either solely on patenting for knowledge protection or investigate only high-tech countries such as the USA, Germany, Switzerland or Belgium.

We test our hypotheses empirically for a large, harmonized survey of almost 1,800 heads of R&D departments and innovation management from both Portugal and Germany. We estimate simultaneous, empirical models on the effects of formal and strategic knowledge protection capabilities on both innovation input decisions and output effects. Our preliminary results show that the established view in the literature of formal and strategic knowledge protection capabilities influencing R&D investments (resource creation) and exploitation positively can only be supported in Germany. In Portugal this effect is limited to strategic knowledge protection. What is more, this type of knowledge protection capability can only influence the exploitation of existing resources positively but not the decisions to invest in R&D and hence develop new knowledge. We relate these findings back to both countries technological opportunities and challenges as part of their appropriability regime and develop management recommendations.