

SPRU - PhD Research Project

Title: Why do firm publish? Trends, incentives and strategies underlying corporate publishing

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The measurement of the contribution of private-sector R&D investments to the growth and employment of modern economies has been a central topic in research as well as in policy discussions and initiatives. As extensively debated and recognized by extant literature on innovation studies, firms' R&D activities could be measured using a range of indicators – these including indicators of R&D inputs (e.g. R&D expenditures) as well as of outputs (e.g. patents and publications). However, among these indicators corporate publications have been relatively understudied.

As previous research in innovation studies has shown (e.g., Hicks, 1995; Li et al., 2015, Rafols et al., 2014), companies tend to publish a considerable amount of their R&D outputs in academic journals. This is especially true in the case of large corporations. For example, Hicks (1995) found that large corporations “such as Philips, Hitachi, ICI, Ciba, Siemens, Sandoz, Roche, Hoechst and Toshiba contribute as much to the public literature as medium sized universities” (p. 403). Youtie and Kay (2014) instead provided evidence that in the emerging field of nanotechnology about 8% of publications have a corporate author. Rotolo and Camerani (forthcoming) found that corporate publishing is not only a prerogative of more knowledge-intensive sectors such as Pharmaceuticals & Biotechnology, and Chemistry, but it is relatively widespread across sectors – e.g. Oil & Gas, Software and Computer Services, Automobile.

However, we have limited understanding of the incentives that may lead firm to be involved in publications activities as well as of how the ‘strength’ of these incentives may vary from one industry to another. On the one hand, publishing may limit the ability of firms to appropriate the value of their R&D efforts through other intellectual property protection mechanisms (e.g., loss of inventions’ originality when applying for patents, Li et al., 2015). On the other hand, the contribution to scientific literature enables firms to be involved in the academic community, which in turn, can provide firms with learning opportunities, access to knowledge and resources, enhance firms’ reputation, legitimate firms’ research work, and favour the retaining of key scientists (e.g., Ding, 2011; Jong and Slavova, 2014).

The project aims to collect empirical evidence in order to provide a substantial contribution to the literature on innovation and corporate publishing and to inform practitioners and/or policymakers. The project could – but does not necessarily have to – build upon a large publication database of the top 2,500 worldwide companies in terms of R&D expenditure – that is available at SPRU as result of a recent project commissioned by IPTS-European Commission.

We seek candidates who intend to work on this topic and we are open to proposal covering different aspects, research questions and methodologies, such as (but not limited to):

- Corporate publishing and innovation strategies (e.g. signalling, talent attraction, open innovation)
- The use of publication-based indicators to generate more granular information on firm’s R&D activities than conventional financial and patent-based indicators.
- The relationship between corporate publishing and firm performance
- Use data on publications co-authorship data to study firms’ R&D collaboration network (such as collaboration with universities or other firms)

Requirements

The ideal candidate will have a background in one of the following areas Economics, Management, Innovation studies, Industrial Engineering; evidence of strong quantitative and/or qualitative skills. Some previous research experience is highly desirable.

References

- Ding, W.W. (2011). The impact of founders' professional-education background on the adoption of open science by for-profit biotechnology firms. *Management Science* 57, 257–273.
- Hicks, D. (1995). Published papers, tacit competencies and corporate management of the public/private character of knowledge. *Industrial and Corporate Change*, 4(2), 401–424.
- Jong, S., & Slavova, K. (2014). When publications lead to products: The open science conundrum in new product development. *Research Policy*, 43(4), 645–654.
- Li, Y., Youtie, J., & Shapira, P. (2015). Why do technology firms publish scientific papers? The strategic use of science by small and midsize enterprises in nanotechnology. *Journal of Technology Transfer*.
- Rafols, I., Hopkins, M. M., Hoekman, J., Siepel, J., O'Hare, A., Perianes- Rodríguez, A., & Nightingale, P. (2014). Big Pharma, little science? A bibliometric perspective on Big Pharma's R&D decline. *Technological Forecasting & Social Change*, 81, 22–38.
- Rotolo D., Camerani R. (forthcoming). *The Scientific Publication Activity of 2014 Scoreboard Companies*. Report for JRC-IPTS, European Commission.
- Youtie, J., & Kay, L. (2014). Acquiring nanotechnology capabilities: role of mergers and acquisitions. *Technology Analysis & Strategic Management*, 26(5), 547-563.