EXPLORING THE RELATIVE IMPORTANCE OF CONTRACT RESEARCH, PATENTING AND SPIN-OFF CREATION AS KNOWLEDGE TRANSFER MECHANISMS (INTERACTIVE PAPER)

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Recommended Citation

Moray, Nathalie; Clarysse, Bart; and Mustar, Philippe (2007) "EXPLORING THE RELATIVE IMPORTANCE OF CONTRACT RESEARCH, PATENTING AND SPIN-OFF CREATION AS KNOWLEDGE TRANSFER MECHANISMS (INTERACTIVE PAPER)," *Frontiers of Entrepreneurship Research*: Vol. 27: Iss. 22, Article 12.  
Available at: http://digitalknowledge.babson.edu/fer/vol27/iss22/12

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INTERACTIVE PAPER SESSION

EXPLORING THE RELATIVE IMPORTANCE OF CONTRACT RESEARCH, PATENTING AND SPIN-OFF CREATION AS KNOWLEDGE TRANSFER MECHANISMS

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Principal Topic

Despite a general consensus about the economic impact of research conducted at universities, the mechanisms through which this is realised remain less clear. Scholars have focused on particular “output” measures as indicators of economic success such as patents, licenses and the creation of spin-off companies. However, it is argued that such indicators hardly measure 10% of the knowledge transfer that takes place. This means that most of the knowledge is transferred in various other forms of collaborations between university labs and industry, usually labeled as ‘contract research’. This paper attempts to put formal transfer mechanisms in context with contract research performed by university labs. Two main questions are of particular interest: First, what is the relative importance of contract research, licensing and spin-off creation, both strategically and in terms of actual output? Second, how has the nature of contract research evolved given the strong professionalisation trend at the technology transfer offices?

Method

This paper analyses the four largest universities in one particular region (Flanders, Belgium) and draws on both qualitative and quantitative data from four sources: (1) Year reports from the public research organisations, (2) Semi-structured interviews with senior TTO staff at the universities, (3) Regional Observatory R&D Statistics for longitudinal data on A1 publications and patents, (4) Regional Observatory Enterprises, Entrepreneurship and Innovation for data on research-based spin-offs.

Results and Implications

Our research suggests that in terms of strategic importance, contract research, patenting and the creation of research-based spin-offs are equally valued. However, contract research still represents the building block as technology transfer mechanism. Second, although the universities vary in the absolute output of the different formal technology transfer mechanisms, the ‘relative productivity’ of publishing, patenting and the creation of spin-offs is quite similar. However, for research expenditure financed by industry both the absolute output and the relative productivity differs substantially, in favour of the university that is least professionalised. More specifically, we hypothesise that when technology transfer offices professionalise their activities substantially, a downward trend in informal service contracts towards industry can be expected, which is not compensated by formal contracts, resulting in a net decrease of total research expenditure financed by industry.

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