

Voodoo Institution or Entrepreneurial University? The Role of Spin-out Companies in the Entrepreneurial System

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Principal Topic

Governments increasingly consider the higher education sector as having a significant role to play in national and regional economic development, and the formation of spin-out companies to commercialise university research and intellectual property is identified as the archtypical manifestation of commercialisation in the entrepreneurial university. However, this increased attention has been accompanied by growing concerns that the focus of universities and the policy making community has been on the number, rather than the quality and commercial viability, of these start-up ventures, with correspondingly less attention given to their wider and longer term impact. In this paper we argue that the benefits are overstated: most university spin-outs start small and remain small, in part reflecting founder aspirations, capabilities and resource endowments. We conclude that, for the most part, these companies are technology lifestyle businesses not dynamic high-growth potential start-ups, and suggest that the prominence given to spin-outs is misplaced.

In this paper we develop a framework for examining the process of university spin-out creation which elaborates the idea of the entrepreneurial system as the "complexity and diversity of actors, roles, and environmental factors that interact to determine the entrepreneurial performance of a region or locality" (Spilling, 1996: 91). Within this context we review the processes governing the origins, establishment and growth of university spin-out ventures. Specifically, we explore the growth dynamics of university spin-out companies using data gathered from in-depth semi-structured interviews with the founders and/or CEOs of a population of spin-out companies in one university within the UK.

Methodology/Key Propositions

The paper is structured as follows. First, we review the concept of the entrepreneurial system and identify the role of the university, and of the spin-out company formation process in particular, within this. Second, we consider the recent trends in spin-out activity within the UK. Third, we summarise the case study methodology adopted in this paper and profile the research site. Fourth, based on an analysis of the data gathered we suggest that university spin-outs, with a few notable exceptions, do not represent a major source of entrepreneurial dynamism in a regional economy, and do not therefore operate as a central element in an entrepreneurial system. Accordingly, we explore the extent to which what we term 'technology lifestyle' businesses exist within the spin-out population and identify the key dimensions on which high-growth entrepreneurial and low-growth entrepreneurial technology lifestyle business differ. Finally, we identify the implications of this phenomenon of technology lifestyle businesses for universities, technology entrepreneurs and policy makers with an interest in regional and national economic development.

Results and Implications

Based on this discussion we conclude that the widespread reliance on university spin-outs (as part of the wider university commercialisation agenda) is misplaced. Specifically, we argue that the economic impact of university spin-out activity outside the unique environment of technology intensive core regions is likely to be very much less than advocates of this activity believe. As such, the belief in the efficacy of the university spin-out is based less on substantive rationality than on voodoo, the "melange of superstitious beliefs used for deceptive purposes" (Bartkowski, 1998: 559).

Our analysis has implications in three domains: for the university sector, for academic research into the spin-out phenomenon, and for policy makers interested in technology transfer and economic development.

From the university sector point of view, spin-outs are not likely to be a major source of income, as compared to licensing or other technology transfer activities, and our evidence suggests that the formal involvement of

the university, in terms of an equity position in return for assignment of IP rights to the new venture, may be counter-productive: in seeking to maximise its return from the spin-out process, the university may in fact be diminishing that return. In other words, there is the possibility that there is an Akerlof-type adverse selection process in operation, such that universities do not retain involvement in the 'best' spin-outs, which implies that although they are closer to the technology and the founders than other potential investors and surrogate entrepreneurs, they gain no substantive information advantages from this.

From a research point of view, the initial evidence on the development and performance of university spin-out ventures suggests that the identification of the determinants of the overall performance of university spin-outs over the long run, and of variations in that performance, is an important area for further more detailed research. In so doing, and in the light of the evidence on the services provided by the university to spin-outs, that research could usefully focus on the resource acquisition strategies of spin-out companies: access to adequate resources in terms of finance, skilled personnel, advice and business development support and entrepreneurial capital are crucial to venture development.

From a public policy perspective, finally, our analysis suggests that spin-out companies are at best only going to make a minor contribution to economic development: they do not, on present evidence, represent a platform for sustained economic transformation at either national or regional level. Specifically, universities and the university spin-out company formation process do not appear to be well connected into the regional entrepreneurial system. While it may be necessary outside of technology intensive regions to see the university as playing a surrogate economic development agency role, this is a situation which constrains rather than supports the development of these companies. As Lester (2005) has recently argued, if the basic unit of observation and analysis is the local industrial economy (or entrepreneurial system, in our terms) rather than the 'university itself or the flows of people, technology, and ideas that emerge from it, we can deal more straightforwardly with situations in which the university is only a minor supporting player in a larger industrial development process'

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