

Spin-offs and spin-outs: Organisation building and the employment system resource endowments of universities

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Principal Topic

New firms founded to exploit university-based intellectual property have become an important international economic phenomenon. The rapid rise of spin-out companies at many universities around the world signifies an increase in interest by these universities in exploiting their technology. This reinforces the importance of understanding the dynamics and development of university spin-offs. While much of the recent research on university spin-offs have focused on resource endowments, business capabilities, capital, and environmental munificence of universities and their spin-off companies, little attention has been paid on the organisation building efforts and activities of the university-based entrepreneur or entrepreneurial team who initiate these start-up firms. Recent research suggests that as designers of these organisations (Burton 2001, Sarasvathy 2004), the role of the founders will be important in determining the organisation and form of the spin-offs. The majority of research-based spin-offs are founded by professional scientists and these organisations are characterised by high human capital density. As a result, the key imperative for these university entrepreneurs or entrepreneurial teams is to assemble and organise the human capital of their spin-offs. This paper examines the organisation building activities of founders in the building of the employment system of research-based university spin-offs.

Methodology/Key Propositions

Following calls to examine the creation of new enterprises at multiple levels of analysis (Davidsson & Wiklund 2001), this study focuses on the organisation building cognitions and activities of founders and the firm-level employment system of their spin-offs within a specified industrial and regional sector. This study builds on an in-depth multi-method case study approach, examining founders' mental models of the employment system and the organisations that they have built. The use of case studies increases our insight into the founders' models of employment systems as well as their organisation building. The study comprised three human pharmaceutical spin-off firms in the emerging biotechnology industry of New Zealand. The research design utilises two main approaches. Firstly, it utilises cognitive mapping methods to provide insights into founders' cognitions and uncover founders' employment system mental models. The second main approach focuses at the organisational level of analysis with detailed case studies, drawn from archival data collection, observation, interviews, and documentation. In order to explicate founders' organisation building efforts, data collection was aimed at collecting any and all information of the evolution of the employment system in each organisation as well as the organisational features of each organisation.

Results and Implications

The three case studies represent university spin-offs with varying linkages with their university origins. Alpha is a full commercial independent "spin-out" company that has severed links with its university origins, while Beta is quasi-independent with formal linkages between the company and its university origins. Chi is a spin-off company which is legally independent but co-located within the laboratories of its university. The findings of this research suggest that employment systems that emerge from the organisation building activities of the founders are often moderated by organisational variables that include key stakeholders (such as legal advisors and venture capitalists) and inter-institutional arrangements. Key environmental variables such as rival firms competing for the limited pool of talent, the resource dependencies between the new venture and

the firm's institutional origins, and the initial resource endowments of the new venture all significantly affect the final form and design of the employment system that emerges within the spin-off company. These variables impact on the employment system mental models of the university entrepreneurs and direct their organisation building activities. Cross-case analyses reveal that the extent of linkage between the spin-off companies and their university origins impacts on the employment resource endowments of the spin-offs and differentiates employment systems' abilities to capture the resources required for viability. This suggests that adopting North American ICT "spin out" strategies which require full separation from universities may not suit other regional contexts which are relatively poor in commercial resources. In addition, the results of the study suggests that professional attachment models that build on life science 'laboratory' or 'institute' models may be more robust in commercialising university based research in biotechnology.

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