

# The creation and development of university-based companies. Evidence from Spain

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## **Abstract**

In this doctoral dissertation I study the phenomenon of university-based companies (UBC) in Spain. UBC are recently created companies founded by university members (faculty, researchers, students and staff) with the aim of commercially exploiting some knowledge or technology originally developed inside Parent Universities (PU). Based on the Triple Helix model developed by Etzkowitz in the nineties, most research universities started to transfer knowledge and technology developed in-house to the private sector (markets and industries). In this sense, during the last three decades research universities around the globe have become important poles of new venture creation. Moreover, UBC have proven to be significant agents of local socio-economic development and in some cases they become the drivers of regional technological progress. In chapter one, I have undertaken a comprehensive bibliometric study and a detailed literature review including 328 UBC-related documents published and accessible at Google Scholar database. The results show that the UBC have raised the attention of scholars during the early seventies and that there was a rampant increase in the number of published documents, authors and journals treating the UBC phenomenon during the last four decades. Moreover, following a quantitative methodology I have been able to classify the UBC literature in three main streams: (i) seminal UBC studies, (ii) mainstream UBC literature and (iii) new avenues in UBC research. In chapter two, I first draw on the literature reviewed in the previous chapter to develop an eclectic definition of UBC. Moreover, in chapter two I also developed a coherent UBC taxonomy and obtained four main types of UBC: (i) academic spin-offs (ASO), (ii) academic start-up (ASU), (iii) non-academic spin-off (USO) and (iv) non-academic start-up (USU). In the second part of this chapter, I draw on an empirical analysis of 94 UBC created with the support of ten Catalonian universities to characterize the profile of the different UBC types identified in the first part of the chapter. In chapter three we undertake a longitudinal study to evaluate Parent University (PU) determinant factors of UBC creation. Our results show that PU's start-up resources, start-up capabilities and start-up institutions are significant predictors of UBC creation rates. In particular, we have found that while physical and human university start-up resources do not affect the rate of UBC creation by PU, technological and social university start-up resources are positively associated with the rate of UBC creation by PU. In chapter four I have done a multiple case study of eleven UBC created with the support of two Catalonian universities (UAB and UdG) to understand how UBC overcome obstacles (critical junctures) in their development process. The results show that UBC use a variety of resources, capabilities and institutions in order to overcome different critical junctures during their development process. In the final chapter of this doctoral dissertation I assess the influence of founders' human capital characteristics over UBC survival. Drawing on the Human Capital Theory and extending the Threshold Model of Entrepreneurial Exit developed by Gimeno et al. (1997), I found that while UBC founders' entrepreneurial human capital and university human capital enhance the probability of firm survival, industry human capital of founders is negatively related to UBC survival.