**Academic Entrepreneurship: The Permanent Evolution?**

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**Abstract**

In this commentary I argue that in order to understand the wider social and economic contribution of academic entrepreneurship to society there is a need further research from a historical perspective to explore the combined contributions of both commercial and non-commercial academic entrepreneurship. I outline some directions for further historical research on academic entrepreneurship that explores the longevity and life-cycle of such initiatives, the co-evolution and interactions between the different elements of academic entrepreneurship ecosystems over time, and their heterogeneity between and within institutions.

**Introduction**

Critics of academic entrepreneurship often claim that the commercialization of intellectual property generated by universities does not represent the purpose of universities. A historical perspective shows that the anomaly in much of the current debate is the post-second world war period rather than the period since 1980 (Martin, 2012). The historical perspective special issues of MOH and History and Technology (HT) reinforce this evidence and add further dimensions to the debate about the nature of academic entrepreneurship. The HT special issue introduction adopts the term “full blown entrepreneurship”, which for me as an academic entrepreneurship scholar is not one I would recognize and seems somewhat vague if not pejorative (Mercelis et al., 2017). By extending the definition of academic entrepreneurship to focus on the non-commercial dimensions of the phenomenon, the MOH special issue introduction (Wadhwani et al., 2017) is especially to be welcomed. The wider definition adopted is couched in the language of strategic entrepreneurship which focuses not just on opportunities but also the efforts to access and coordinate the resources to realize those opportunities (Hitt, Ireland, Sirmon and Trahms, 2011).

While ‘non-commercial’ academic entrepreneurship has not been the focus of ‘commercial’ academic entrepreneurship studies, this literature has recognized that there have always been and continue to be entrepreneurial academics of the types analyzed in the MOH special issue (Wright, Mosey and Nokes, 2012). The focus of this literature on a shift in commercial academic entrepreneurship efforts from patenting and licensing to spin-offs needs to be seen in the context of efforts to increase revenues to universities against a policy backdrop of a decline in state and national support of universities (Siegel and Wright, 2015a,b). In arguing for a rethink, Siegel and Wright (2015a) emphasize the importance of the wider *social and economic contribution* of universities to society. I would suggest that this broader approach needs to find ways to combine the contributions of commercial and non-commercial academic entrepreneurship. How then can further research from a historical perspective help in this respect?

**A further historical agenda?**

The studies presented in the special issue make for very interesting reading and the introductory article in the MOH special issue by Wadhwani et al (2017) especially sets out notable directions for further research regarding non-commercial dimensions of academic entrepreneurship. In what follows, I draw on recent research and policy to develop some directions for further historical research on academic entrepreneurship that explore: the longevity and life-cycle of such initiatives, the co-evolution and interactions between the different elements of academic entrepreneurship ecosystems over time, and their heterogeneity between and within institutions.

*Historical life-cycles*

Going back to historical periods to analyze academic entrepreneurship involved in the rise of subject areas, disciplines, departments and centers as covered by the articles in the MOH special issues and regarding individuals in the HT special issue provides a longer term perspective than many recent studies of academic entrepreneurship. But it can risk being disconnected from where we are going now. In my view a historical perspective affords an opportunity to understand how we got here and also to chart the life-cycle of academic entrepreneurship initiatives. That is, rather than focusing only on their rise we should also explore their reinvigoration and decline. Such a longer term perspective would help shed light on why and when the emphasis on commercialization arose and became more ‘professionalized’ through the establishment of, often competing within the same institution, technology transfer offices (TTOs) and research and industry liaison offices. Research on these life-cycle issues at an institutional level might adopt units of analysis relating to university policies towards academic entrepreneurship, the life-cycle of particular initiatives, and the life-cycle of a stream of opportunities that emerge out of a scientific discovery. At the individual level, life-cycle analyses might do more to situate academic entrepreneurship within the overall careers of academics. For example, it is clear from the papers in the HT special issue that many academic entrepreneurs had industry careers before, during and/or after an academic career and these life-cycle insights could be extended.

Adoption of a path dependency perspective over a long period of time might also help researchers understand why particular trajectories emerged and in some cases were maintained. Recent work on path dependencies has also explored the factors that may enable a shift from established path dependencies (Ahuja and Katila, 2004; Rasmussen, Mosey and Wright, 2011). Historical work seems ideally placed to trace these developments and shifts over longer periods of time. For example, to what extent and why did the initiatives analyzed in the papers in the special issue already include at least the seeds of commercial academic entrepreneurship or was this something that only developed subsequently? One might also explore the counter-factual by taking a different perspective that questions why academic entrepreneurship did not develop or was resisted in certain cases. In my view we lack historical analyses that counter critics of a so-called neo-liberal approach (Mercelis et al., 2017) by exploring, say, the impact of (neo)-Marxism in key committees in resisting attempts to engender change in universities. For example, to what extent was this resistance to commercial or non-commercial entrepreneurship masquerading as maintaining a focus on scientific research or protecting entrenched research inactivity?

Building on the specific case of university research centers explore in Mody’s (2017) paper in the MOH special issue, we also know that sustaining research centers over time is challenging. Some centers may deliberately only have a limited time horizon tied to the timescale of a particular funding grant while others, such as multi-disciplinary centers, may be drawn in one direction or another by intra-university institutional pressures that curtail their longevity (Mosey et al., 2012). The more open ended centers need both to develop and adapt a research program that generates new insights over time as well as identifying sustainable funding sources. As things stand, we have little systematic understanding of the drivers of such longevity. Do research programs and funding sources need to become more diversified or policy and practice related? What does this imply about the entrepreneurial expertise of the academic leaders of such centers? What can historical based research that goes beyond the initial establishment of research centers tell us about these factors?

*Co-evolution of different elements of the ecosystem*

Recent developments increasingly focus on the importance of and challenges in the creation of an entrepreneurial ecosystem (Autio et al., 2014, 2018). An entrepreneurial ecosystem approach recognizes the interdependencies between various actors and resources necessary to identify and exploit entrepreneurial opportunities.

The papers in the MOH and HT special issues provide useful insights regarding different elements, notably with respect to institutions, departments, centers and individual faculty. The papers in the MOH special issue by Brandt and Galvez-Behar implicitly discuss ecosystem aspects. Previous research on commercial academic entrepreneurship has explored the evolution of the interaction at the macro-government and university levels and how internal parts of universities can frustrate academic entrepreneurship initiatives (Lockett, Wright and Wild, 2013, 2015). At present, the evolution of the commercial and non-commercial dimensions of academic entrepreneurship have tended to be seen as completely separate. Indeed, the two special issues consider each but appear to be in parallel universes, although the article by Spero (2017) is an exception. Further historical based research is needed that explores the interactions between these interconnected elements of the ecosystem relating to both these dimensions of academic entrepreneurship and their co-evolution over long periods of time. There is also scope for collaborative work between historians and entrepreneurship scholars in this area. For example, the HT special issue focuses on individual faculty scientists as entrepreneurs and Guagnini (2017) discusses motivations. There is quite an extensive literature in entrepreneurship and innovation that focuses on the individual analysis involving faculty (for reviews see e.g. Siegel and Wright, 2015; Balven, Fenters, Siegel, and Waldman, 2018; Hmieleski and Powell, 2018) that offers scope for integration of historical and entrepreneurship research. Further, the special issues could do more to examine the historical roles and evolution of intermediaries in the academic entrepreneurship ecosystem. Such studies could draw on work in the entrepreneurship and innovation field (e.g. Wright et al., 2008).

An additional individual level dimension that also needs to be incorporated concerns the role of students and alumni as regards academic entrepreneurship. Some universities have a long history of academic entrepreneurship by students and alumni, such as Stanford University (Eesley and Miller, 2012), but only more recently are we seeing concerted efforts to establish ecosystems to develop student entrepreneurship (Wright, Mustar and Siegel, 2017). We lack historical studies of the development of entrepreneurial ventures by students and alumni. To what extent were these more closely related to educational programs that were outward-looking to industry than more ‘traditional’ subject areas? Similarly, some entrepreneurship programs date back to at least the middle of the 20th century. The development of student entrepreneurship programs takes several forms, from bottom-up approaches developed by entrepreneurial professors in particular departments through to cross-university initiatives (Wright, Mustar and Siegel, 2018). Historical research approaches could help us understand how these programs evolved initially and how they have evolved to their current state.

*Heterogeneity*

While particular cases of historical development can be very insightful, care needs to be taken regarding the generalizability of findings. This heterogeneity relates to different elements of the ecosystem within a particular country, but also differences between countries (Fini et al., 2016).

Universities are heterogeneous even within the same research-leading grouping, as Holstein, Starkey and Wright (2017) show in respect of how the different development trajectories of two Russell Group universities in the UK influenced their approaches to academic entrepreneurship. Similarly, we know that departments both in the same university and within the same disciplines in different universities vary with respect to their approaches to commercial academic entrepreneurship (Rasmussen, Mosey and Wright, 2014). Research centers are quite heterogeneous in their goals and activities in terms of both disciplines and whether they are academic research only or are teaching and policy research focused (Cassia, DeMassis, Meoli and Minola. 2013). We have little insight into these differences in respect of non-commercial academic entrepreneurship. Historical research could usefully develop more comparative analyses both within and across these different elements. History also seems particularly well suited not only for tracking and documenting heterogeneity but also for understanding how such variations compete with one another over time. Hence, while the papers in both issues provide rich insights, their general approach restricts the kind of comparisons necessary when studying heterogeneity. The papers by Guagnini (2017) and Katzir (2017) are steps in the right direction. However, while Guagnini’s sample clearly covers a heterogeneous set of professors and institutions in terms of their eminence greater general insights might be derived from comparing entrepreneurial behaviours by different eminence/background and institutional context. Further, one might also consider scope for systematic syntheses of single historical case based studies.

In closing, I see academic entrepreneurship as evolving permanent evolution of the phenomenon as economic and social demands as well as opportunities and the realization of those opportunities change over time. Although they have been treated as quite separate, the combined contributions of both commercial and non-commercial academic entrepreneurship are crucial in understanding how wider economics and social challenges can be met by universities. Further research from a historical perspective is central to this process.

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