

Chapter 45

Academic Entrepreneurship and Knowledge Transfer Networks: Translation Process and Boundary Organizations

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ABSTRACT

This chapter underlines contributions that Science and Technology Studies (STS) can give to the analysis of the knowledge transfer process and academic entrepreneurship. The central objective of the chapter is to understand the challenges that an academic entrepreneur has to face to implement an innovative idea. To achieve this goal, the chapter presents two spin-off case studies from the Algarve region (Portugal). The case studies pay attention to academic entrepreneurship in the medical field (F1) and in eco-tourism (E1). It is given attention to the translation phases and to the network creation.

INTRODUCTION

Today there is a major emphasis on university-industry relations. Universities are not only related its two traditional roles: the training of human capital through education and the generation of new knowledge through (basic) research. Today a third role of the university is recognised, the engagement with the community towards regional development (Molas-Gallart; Salter; Patel; Scott & Duran, 2002). Several theoretical frameworks are compatible with this idea of a new role of the university, such as the Mode 2 of Knowledge Production (Gibbons; Limoges; Nowotny; Schwartzman; Scott & Trow, 1994), the

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Triple Helix (Etzkowitz & Leydesdorff, 1997) and the Regional Innovation Systems (Uyarra, 2009; Benneworth; Coenen; Moodysson & Asheim, 2009). This new mission lacks of an efficient and stable framework of relationships with the actors in their environment, particularly with firms. Initiatives such as the knowledge transfer offices (KTOs) try to create linkages between the academy and business, supporting spin-off and start-up creation, collaborative research projects, and industrial property rights registration and licensing. These new hybrid organizations gain new support schemes and instruments, from the regional scale to nation-wide initiatives or even at the international level. KTOs seem to have an important role in consolidating relations between researchers and entrepreneurs to ensure an alignment of interests, speeches and timings in order to promote an effective transfer of knowledge.

In this context, academic entrepreneurship has assumed a growing importance as a mechanism to promote employment and social cohesion and plays a central role in economic regeneration and competitiveness of the territories. In knowledge and technology intensive regions, the relation between academic entrepreneurship and regional development is clear. In territories where the main economic activities have less evident technological content, the role of universities may seem less relevant and academic entrepreneurship itself may be considered less critical.

This chapter underlines contributions that Science and Technology Studies (STS) can give to the analysis of the knowledge transfer process and academic entrepreneurship. The central objective of the chapter is to understand the challenges that an academic entrepreneur has to face to implement his innovative idea. To achieve this goal, the chapter presents two spin-off case-studies from the Algarve region (Portugal). The case studies pay attention to academic entrepreneurship in the medical field (F1) and in eco-tourism (E1). It is given attention to the translation phases and to the network creation. The Actor-Network-Theory (ANT) uses the idea of translation between different collectives to facilitate the understanding of the phases of the process, detecting what went well - and especially and often forgotten - what went wrong. Social Network Analysis (SNA) is briefly introduced to present the strength of this method to map social capital and knowledge relations.

The chapter is organised as follows. In the next section, knowledge transfer and academic entrepreneurship are briefly introduced, underlining the emergence of these notions as of crucial relevance as an inducer of economic dynamics. A second section regards the case studies. ANT is debated as a qualitative approach to study translation processes. The academic spin-offs are presented in terms of their innovative character, a chronology with the moments of translation until the stabilisation of the actor-network and its transformation in an obligatory passage point in their regional context. Firms' social ties are represented using the SNA. The chapter closes with some conclusions and implications.

BACKGROUND

Knowledge and the New Roles of University

Knowledge can be understood as the capacity acquired by individuals by their experiences, education and training, the practical and theoretical understanding about a particular phenomenon. Scientific knowledge is one of the types of knowledge that prevails over the other types due to its outstanding impacts in the development of human society. Knowledge can be understood as the stock component of science, while research is the flow in the creation of new knowledge. The importance of learning processes to knowledge production is discussed by Lundvall & Johnson (1994) who differentiate four types of learning channels,

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