Chapter 7
The Role of University as Institutional Entrepreneur in Regional Innovation System: Towards an Analytical Framework

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ABSTRACT
Recent literature has moved from a primarily economic perspective to awareness of the institutional role of a university in a regional innovation system. This chapter contributes to the scholarly discussions by combining the theories of institutional entrepreneurship and institutional logics to provide an analytical framework for understanding how universities can support institutional change in a regional innovation system. In particular, the authors consider the university as an institutional entrepreneur that not only initiates diverse changes in the institutional environment, but also actively participates in the implementation of such changes. The analytical framework is used to analyse the case of Tongji University in a regional innovation system in Shanghai, China.

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INTRODUCTION

Contemporary social changes have recently been described as a transformation from a knowledge society 1.0 to a knowledge society 2.0 (Cai, 2018a; Rutten & Boekema, 2012). The assumption of the knowledge society 1.0 is that “learning and knowledge creation as the principal drivers of regional development” (Rutten & Boekema, 2012, p. 982). The core assumption of the knowledge society 2.0 is that learning is a highly contextualized process and as such social capital plays a key role in learning and knowledge creation (ibid). The upgrading of knowledge-based society is connected with a shift from innovation system to innovation ecosystem (Jackson, 2011, p. 2; Oh, Phillips, Park, & Lee, 2016). The innovation ecosystem shares most of its features with the innovation system, which consists of complex functions and interactions amongst various organisations and institutions (Edquist, 1997; Lundvall, 1992). What is new in the innovation ecosystem is its ecological aspect, characterised by the interdependency among different collaborative actors and the co-evolution/co-creation that binds them together over time, along with the sustainable development dimension (Oh et al., 2016; Smorodinskaya, Russell, Katukov, & Still, 2017; Walrave, Talmar, Podoyntysyna, Romme, & Verbong, 2017). Due to the features of “interconnectedness” (everything is connected to everything) and “multi-locational” (knowledge flows and innovation processes take place in multiple geographical locations) in innovation ecosystem (Sotarauta, Heinonen, Sorvisto, & Kolehmainen, 2016, pp. 31-32), the social or institutional context of various innovation actors across geographical areas are becoming more important in analysing innovation process even at the regional level.

In such context, Cai (2018a, 2018b) calls for a new conceptual framework of socially responsible entrepreneurial university to replace entrepreneurial university. One of his major arguments is that in an innovation ecosystem, universities not only serve as a primary engine for economic growth through knowledge transfer as emphasized in the concept of entrepreneurial university (Clark, 1998; Etzkowitz, 2004) but also play an increasingly prominent role in transforming social values and shaping future society. As stated by the Chief of UNESCO for Higher Education, Peter J. Wells: “Perhaps never before in recent history has the role of higher education been so intricately tied to the economic, social and environmental fabric of the modern world” (Wells, 2017, p. 31). This paper aims to theoretically and empirically explore the role of universities in facilitating institutional conditions that are conducive to innovation ecosystems.

In a knowledge society 1.0 or innovation system, the university has been transformed from a secondary to a primary institution for economic growth (Etzkowitz, 2008), and economic growth is increasingly dependent on the cooperation of industry and knowledge production organisations, including universities (Lundvall, 1992). Hence, the main studies tend to explore universities’ economic contributions (Audretsch, 2014; Leisyte & Horta, 2011; Pinheiro, Langa, & Pausits, 2015), seeing universities as economic entities, commoditised knowledge producers, shapers of human capital, and crucial actors in networks (Boucher, Conway, & Van Der Meer, 2003). For instance, a number of concepts, such as those of the entrepreneurial university (Clark, 1998; Etzkowitz, 1983), academic capitalism (Slaughter & Leslie, 1997), Mode 2 knowledge production (Gibbons, 1998), and the third mission (Etzkowitz, Webster, Gebhardt, & Terra, 2000), all examine universities’ economic functions.

Nevertheless, an innovation system is not only economic and technological, but also concerned with institutional change or institutional innovation, because innovation systems consist of complex functions and interactions among various organisations and institutions (Edquist, 1997; Lundvall, 1992). Institution is a central concept in sociological institutionalism (Scott, 2001) and is generally understood as social