
Editorial

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1 Introduction

More than 15 years after the concept of the ‘entrepreneurial university’ was introduced by Etzkowitz (2003, 2004), in connection with the ‘triple-helix model’ of late ‘90s for development in knowledge-driven economies (Leydesdorff and Etzkowitz, 1998; Etzkowitz and Leydesdorff, 2000), its implementation has been spread around many countries and regions (Etzkowitz, 2014) and has induced certain policies, directives and monitoring (e.g., European Commission, 2012; Etzkowitz, 2016). Early notions of ‘academic capitalism’ elicited by global political and economic changes (Slaughter and Leslie, 1997) initiated a critical discussion for the emergence of the entrepreneurial university and its advantages and disadvantages (e.g., Mautner, 2005; Audretsch, 2014). Drawing upon MIT as a lead example, Etzkowitz (2001) introduced ‘entrepreneurial science’ in the concept of a ‘second academic revolution’ where universities undertake new roles and processes connected with the industry and the innovation process. Shane (2004) has also discussed the role of the university spin-offs in academic entrepreneurship. Paul Romer’s 2018 Nobel Prize in Economics is a milestone on how his ‘endogenous growth’ theory and the knowledge-driven economy encompass innovation as a core component towards economic impact and growth. Universities are known to be principal agents of innovation in the support of innovation clusters (Audretsch and Feldman, 1996). Nonetheless, the entrepreneurial university is more than spin-offs, or innovative entrepreneurship (Kakouris and Ketikidis, 2012), and generally follows the academic ‘third mission’ (i.e., beyond teaching and research) that pertains to active involvement in socio-economic development and technology transfer. As described by Etzkowitz (2013), the entrepreneurial university performs:

- a interaction with social agents
- b independence as an institution
- c hybridisation based on the previous two
- d reciprocity towards industry and government.

The present volume seeks contemporary exemplified evidence for the emergence of entrepreneurial universities in different regions.

2 The underlying concepts and research questions

The development of entrepreneurial universities has appeared a challenging endeavour since it does not only concern specific tasks, sporadically tackled, but the whole culture of these organisations. Entrepreneurial spirit and entrepreneurship education have to penetrate all core units and activities of such academic institutes (e.g., Clark, 2001; Kirby, 2005; Gibb and Hannon, 2006). Entrepreneurial universities are closely related with the concepts of innovation clusters, knowledge spillover and entrepreneurial ecosystems whilst the relevant consensus about their role and processes is increasing and converging. O’Connor (2013), for instance, discusses how entrepreneurialism, with its social component included, is now incorporated in policies and guidelines for academic education in Australia. Furthermore, Walter and Block (2016) adopted the institutional perspective to show that entrepreneurship education becomes a crucial supportive means

for entrepreneurial behaviour in entrepreneurship hostile environments across the globe. These contemporary approaches illustrate that entrepreneurial universities are currently systematically institutionalised in order to accommodate the emerging needs of the society and of the economy.

Seen from many perspectives, e.g., higher education management, educational policy, regional development, sustainability, sociology, etc. the entrepreneurial university appears a new form of institution that embraces modern social needs and the current paradigm of the economy but also forsakes unanswered questions. For instance, how entrepreneurial universities reveal their identity? How they differ from the traditional ones? Under which means and measures entrepreneurial universities can be considered distinct from the rest educational institutes? Is their emergence a transformation of existing organisations? Does their appearance need specific policies or support? How they serve in entrepreneurial ecosystems and in regional development? Further to innovations, applied research and spin-offs, is there a role for entrepreneurship education within entrepreneurial universities (Rae, 2010)? Who are the beneficiaries and the stakeholders of entrepreneurial universities? And finally, how has the entrepreneurial university evolved in different countries and regions? As the whole concept is quite new, rigorous research to address the previous questions has been limited or undergoes its infancy phase. Public and private agencies have just started to monitor the evolution of entrepreneurial universities around the world under certain processes and metrics (European Commission, 2012; Etzkowitz, 2016).

The present special issue of *IJIRD* encompasses articles which confront the evolution of the entrepreneurial university in different regions around the world (Europe, Latin America and Africa). Research presented in the current volume provides a synthesis of complementary aspects for entrepreneurial universities within the contexts of academic entrepreneurship, regional development, entrepreneurial ecosystems and knowledge-driven economy.

3 Contributions of the present volume

Articles of the present volume were invited from presentations during the ECIE 2017 conference in Paris. Some others were also invited to extend the topic in other geographical regions. Overall, they examine the concept of entrepreneurial universities in different directions, i.e., from the examination of their profiles to the connection with the triple helix innovation, the society and sustainability.

Firstly, the article of Fowle and Vassaux copes with how entrepreneurial universities promote their degrees, their values and their visions online. How they also enter competitions and win prizes. Through content analysis of their websites and the entrepreneurial vocabulary used, universities across the UK are examined on how they reveal their entrepreneurial identity that appears crucial in attracting prospective students and in finding alternative ways of funding. Their findings show that higher-ranked universities generate more new businesses, and lower-ranked universities win more awards. This difference is connected with the tradition, the strategy and the structure of these organisations.

Furthermore, the article of Davies, Roderick and Williams discusses knowledge-based regional economic development through a specific effort at Swansea Bay City

Region in the UK. The driver of the specific initiative has been technology transfer from a local entrepreneurial university specialising in regional innovation systems. The role of the university in the formation of a local cluster of knowledge-intensive firms is presented along with the corresponding rise in employment rates within the region. This is a concrete example indicative for how various post-industrial regions tend to react for growth given the lack of other resources used in the past (e.g., EU structural funds).

Sequentially, Molina and Maya conceptually address entrepreneurial ecosystems as complex adaptive systems. The authors adopt the systemic view and design to discuss these ecosystems as fourth-order design artefacts with social potential. As an example they discuss 'Manizales Más' – an entrepreneurial ecosystem in the city of Manizales, Colombia. This article adopts the sociological perspective to analyse the fundamental terms and concepts of an entrepreneurial ecosystem, a metaphor borrowed and transferred from biology domain.

Adelowo's contribution discusses the notion of academic entrepreneurship in selected Nigerian universities. He adopts the knowledge spillover theory of Audretsch and associates along with Etzkowitz' perspectives to define the term and deduce the factors that are expected to influence academic entrepreneurship. In this way, he surveys 13 (private and public) Nigerian universities towards the background of the faculty members and their entrepreneurial activity. Adelowo's results are indicative for the evolution of academic entrepreneurship in Nigeria and his findings offer a base to discuss further improvements towards empowering academic entrepreneurship in the country.

In a different context, Apostolopoulos, Moon and Walmsley conceptually connect the notion of the entrepreneurial university with the concept of sustainability. Specifically, they examine the United Nations Higher Education Sustainability Initiative (HESI) perspectives and the role of entrepreneurial universities as agents in the social transformational process. They present a survey conducted to 307 higher education institutes around the world that appear committed to HESI (also signatories of HESI) with 90% of them aligned with the SDG#4 target of 'education'. It appears that these institutes have a crucial role to promote and empower social entrepreneurship as a component of their entrepreneurial activity. Therefore, there is a call not to simply become entrepreneurial universities but to also actively embrace the SDG agenda of UN and prepare their students to work innovatively in the future green economy.

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