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<i>Leonida Correia, CETRAD, Universidade de Trás-os-Montes e Alto Douro, Portugal</i>	
<i>Maria da Conceição Rego, CEFAGE, Universidade de Évora, Portugal</i>	

The chapter addresses the main challenges that higher education institutions face in the 21st century as key actors for regional development. The chapter emphasizes their entrepreneurial dimension, as well as new approaches about this subject as it rethinks the scope of the studies about the role of universities in regional development and research on academic entrepreneurship, resulting from the finding that there have been huge expectations on the role of higher education institutions in development, while evidence suggests that the benefits of third mission approaches on society are not as successful as anticipated. In sum, the chapter tackles simultaneously the role of universities in regional development, human capital formation, knowledge formation and diffusion and activation for citizenship, in other words, this chapter contributes to a better understanding of the role of higher education institutions, especially given its relationship with society and the need for a more effective contribution to socioeconomic development.

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The chapter focuses on measures and indicators of universities activities through a bibliometric and a critical review of the existing literature. It aims to provide not only an overall picture of the state-of-art of literature on universities’ missions and roles in regional development, but also a systematisation of the contributions on performance measures and indicators of universities activities. The authors highlight that the empirical assessment of social and cultural impact of the university in a community has been largely overlooked.

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Entrepreneurial Universities' Strategic Role in Accelerated Innovation for Regional Growth 51

Nibedita Saha, University Institute, Tomas Bata University in Zlin, Czech Republic

Tomáš Sáha, University Institute, Tomas Bata University in Zlín, Czech Republic

Petr Sáha, University Institute & Centre of Polymer Systems, Tomas Bata University in Zlín, Czech Republic

The chapter intends to provide a conceptual framework of the strategic role of entrepreneurial universities which has been viewed as an operational approach of promoting innovation – driven regional growth. Entrepreneurial universities' strategic role and research institutions' innovative capabilities are distinguished as a significant knowledge facilitator for regional economic development, due to their adding value through knowledge creation and the entrepreneurial discovery process. This chapter intends to exemplify entrepreneurial universities strategic perspectives and its impact on regional innovation systems that enables a region to be more creative and innovative, especially new European Union member states territories in order to create their pioneering business opportunity with worldwide competency.

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The Impact of Universities on Regional Competitiveness: A Review of the Main Theoretical and Methodological Approaches 67

Aurora Amélia Castro Teixeira, CEF.UP, Faculdade de Economia, Universidade do Porto, Portugal & INESC TEC, OBEGEF, Portugal

Ana Oliveira, CEF.UP, Faculdade de Economia, University of Porto, Portugal

Ana Dias Daniel, Departamento de Economia, Gestão, Eng.ª Industrial e Turismo, GOVCOPP, Universidade Aveiro, Portugal

Miguel Torres Preto, IN+, LARSyS, Instituto Superior Técnico, Universidade de Lisboa, Portugal

Gonçalo Rodrigues Brás, IN+, LARSyS, Instituto Superior Técnico, Universidade de Lisboa, Portugal

Carlos Rodrigues, Department of Social, Political, and Territorial Sciences, Universidade Aveiro, Portugal

The chapter concentrates on the concept of 'entrepreneurial universities' in the sense of those universities which assume the mission. In other words, universities have gone beyond their traditional missions—teaching and researching—and have assumed technology transfer, entrepreneurship, and economic-social impact as their third and fourth mission. This chapter presents an in-depth critical overview of the theoretical and empirical research done on the topic, highlighting the limitations of each approach. The authors give special attention to the potential impacts of universities' technology transfer and entrepreneurship activities on regional competitiveness, considering the ongoing transformation process of universities towards the 'entrepreneurial university' model.

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Understanding Entrepreneurial University: A Framework for Emerging Economies 93

Neeta Baporikar, Namibia University of Science and Technology, Namibia & University of Pune, India

The chapter seeks to understand the processes that comprise entrepreneurial universities by adopting an organizational learning perspective. Drawing upon insights from 4I - Intuiting, Interpreting, Integrating, and Institutionalizing - organizational learning framework, the author indicates how each of the four processes delineated in the framework yields insights about the processes that comprise the life cycle of the entrepreneurial university construct. Using the 4I framework as a theoretical lens, the research recognizes the dynamic nature of opportunities unfolding as entrepreneurial university engage with them. The chapter also contributes and responds to the call by entrepreneurship researchers to identify specific antecedents of entrepreneurial university that go beyond the individual entrepreneur and to incorporate context into our understanding.

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Ján Reháč, Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico

Rafaela Bueckmann Diegoli, Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico

Miguel Angel Rodríguez Montes, Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico

The chapter analyses the background of the entrepreneurial ecosystems in the literature, how they are connected to the entrepreneurial university, and their importance for regional development. Based on this discussion, the authors analyse and create a framework for entrepreneurial micro-ecosystems at a university setting. There are tangible and intangible boundaries and connections between the micro-ecosystem and the regional ecosystem, that create a specific environment for the actors and participants of the micro-ecosystem and can either foster or inhibit creation and growth of businesses. To illustrate the structure and functionality of this entity, it is provided an empirical example of an entrepreneurial micro-ecosystem at Tecnológico de Monterrey, Querétaro, México. The authors propose a theoretical model that describes how the micro-ecosystems interact and potentialize the impact in congruence with the regional entrepreneurial ecosystem, and functions as a growth engine if managed properly and with intent.

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Yuzhuo Cai, Tampere University, Finland

Cui Liu, Zhejiang University, China

The chapter provides an analytical framework for understanding the influence of universities on institutional conditions that foster regional innovation. The authors integrate theories of the institutional entrepreneurship and institutional logics to provide an analytical framework for understand how universities can support institutional change in regional innovation systems. The framework will be applied to an empirical analysis of the role of Tongji University in transforming the institutional context of a regional innovation system in Yangpu District, Shanghai, China. The authors selected this case because it demonstrates a unique and successful model of regional innovation system development.

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Revisiting Functions and Roles of the Entrepreneurial University in Social and Economic Systems in the Regional Context..... 157

Irina A. Pavlova, National Research Tomsk Polytechnic University, Russia

The chapter engages the reader in the discussion of using the functional approach for the analysis of the entrepreneurial universities in social and economic systems. The chapter studies innovation systems on both national and regional levels distinguishing the entrepreneurial university's social and economic roles on micro and macro levels. Based on empirical data, the functional analysis empowers to draw conclusions on certain characteristics of entrepreneurial universities overcoming the limitations embedded in the national settings.

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Thomas D. Eatmon, Niels Brock Copenhagen Business College, Denmark

Rachel Granger, Leicester Castle Business School, De Montfort University, UK

Bruno F. Abrantes, Niels Brock Copenhagen Business College, Denmark

Charlotte Forsberg, Niels Brock Copenhagen Business College, Denmark

The chapter looks to transnational education which is a growing trend in higher education that decouples learning from the location of the awarding institution. Few studies of entrepreneurial universities have considered entrepreneurial universities in the context of the changing geographic landscape of education. This chapter examines the entrepreneurial dimensions of transnational education using empirical evidence from a transnational partnership between De Montfort University and Niels Brock Copenhagen Business College. The authors conclude that the commercialization of knowledge through transnational education requires processes and interactions that foster regional development and thus have implications for social and economic development.

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Vitor Miguel Ribeiro, Universidade do Porto, Portugal

Celeste Varum, University of Aveiro, Portugal & GOVCOPP, Portugal

Ana Dias Daniel, Departamento de Economia, Gestão, Eng.ª Industrial e Turismo, Universidade Aveiro, Portugal

The chapter provides evidences regarding the role of universities as determinants of regional economic growth in Portugal. Covering the period 2004-2017 for Portuguese NUTS III regions across, this chapter not only considers universities as a determinant of regional growth, but it also employs an innovative methodological approach. First, the study is applied to a thirteen-year time period. Second, the generalized method of moments estimator is applied, which allows to surpass debilities associated with static panel data models. Moreover, the magnitude of effects is transversely stronger in the long run, which requires the need to avoid structural breaks in public actions previously initiated in the past.

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Celeste Varum, Universidade Aveiro, Portugal

Carmen Guimarães, Universidade Aveiro, Portugal

Mariasole Bannò, University of Brescia, Italy

The chapter explores the role of universities as determinant of firms' growth at regional level, in Portugal. The authors explore a special type of firm growth, high growth, providing new evidence about the influence of universities through their impact upon human capital in the region, on the probability of firms obtaining high-growth rates and, therefore, being high growth firms. The impact of universities as determinants for high growth does not appear significant for the sample analysed composed by Portuguese companies covering the period 2006-2014. The results for concentration also signal the effects of competition for scarce resources. Results on the importance of location attributes for firm performance are rather important from the economic policy perspective. Knowing the regional factors that drive innovation success at the firm level would help to implement effective innovation policies.

Chapter 12

Economic Contribution of University Spin-Off: A Regional Study of the Spanish Case 215

Isabel Román-Martínez, University of Granada, Spain

María Elena Gómez-Miranda, University of Granada, Spain

Teresa García-Muñoz, University of Granada, Spain

The chapter aims to obtain empirical evidence of the economic contribution of Spanish university spinoffs under a regional perspective. To do so, some key variables to local economic development, such as jobs and creation of wealth have been analysed. After detecting an unequal distribution of university spinoffs impact, the authors attempt to identify which factors are associated to a university spinoff achieve a greater figure of employment than others, and the possible influence of the own features of regions where they are located. Applying a logistic regression data panel for the 2012 to 2015 period, empirical findings show that some traits of university spinoffs and their parent universities determine a greater number of employees, but the particularities of the environment in which they operate, only affect to university spinoffs belonging to the information and communication technology sector. The results obtained will contribute to bridge the gap in the research and allow owners and institutions to take the appropriate measures and to propose policies that improving the performance of university spinoff which leads to a greater impact contribution of these companies to the regional economy.

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Regional Policy Implications of the Entrepreneurial University: Lessons From the ECIU 242

Lisa Nieth, University of Twente, The Netherlands & Regio Twente, The Netherlands

Paul Benneworth, Høgskulen på Vestlandet, Norway & University of Twente, The Netherlands

The chapter addresses the question of how universities respond to regional policy, and the ways in which academics are motivated and encouraged by regional development policies. The chapter specifically asks whether entrepreneurial universities create frameworks which allow university actors to positively contribute to collective development activities (such as clusters or technology transfer networks) by

building new kinds of regional institutions. Based in examples from three universities that all seek to be actively regionally engaged, this chapter identifies the factors that both encourage but also discourage these individual actors and notes that ongoing connections between individual academics and regional partners are critical to ensuring this constructive collaboration. The chapter contends that regional innovation policy should devote more resources to building these critical links.

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Entrepreneurial Universities and Regional Innovation: Matching Smart Specialisation Strategies to Regional Needs? 260

Liliana Fonseca, University of Aveiro, Portugal
Maria Salomaa, University of Lincoln, UK

The chapter reflects on an entrepreneurial university’s potential to contribute towards regional development through its involvement in the research and innovation smart specialisation strategies (RIS3) process and resulting projects funded through structural funds. The chapter presents an in-depth case study of a university in the less-developed NUTS II region of Portugal aimed to address the relationship between the regional government authority, the RIS3 process and the university in responding to regional needs and in fomenting the innovation and entrepreneurial ecosystem. The study strives to contribute to the debate on the implementation issues of regional policies driven by smart specialisation, focusing particularly on the role of academia.

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High Hopes: Regional Policy Expectations for the Entrepreneurial University 286

Katja Lahikainen, LUT University, Finland
Timo Pihkala, LUT University, Finland
Elena Ruskovaara, LUT University, Finland

The chapter examines the expectations of the regional policy institutions toward the university and the influence of the university for the regional policies, in particular, how the regions define the different roles and expectations for the university, as well as how the university itself influences these definitions and expectations. These questions are addressed through a case region located in Southeast Finland that represents a peripheral region and is dominated by a single university that has a strong technological and entrepreneurial focus. The results of the study show that the existence of a single university in a peripheral region easily leads to a university-dominant policy and thus to a possible regional policy lock-in. Consequently, the implementation of the regional policies can be in the hands of the university, leaving other regional stakeholders with a minor role. In order to fully utilize the potential of the university to address the specific regional challenges, the university should not only be seen as a locus of new spin-offs and start-ups, but rather as a producer of qualified graduates and future entrepreneurs.

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