

# Chapter 3

## Systemic Approach to Quality Enhancement and Competitiveness in Higher Education

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### ABSTRACT

*This study, based on interaction university-industry (IUI), aims to enhance competitiveness in higher education. Some critical factors were considered, namely Human Capital, Absorptive Capacity, Quality of Research, and Differences of cultures. Through a Systems Dynamics approach, it is perceived that low education and training in IUI origins decreases technological competence and absorptive capacity. It also creates distance between the actors, inhibits risk propensity, and does not accelerate the technology transfer, the economic growth, and the competitiveness. After a literature review, followed by a qualitative research with 25 companies already cooperating with HEI, the results show that improving Human Capital and Absorptive Capacity, as well as reducing the Differences of cultures between university and industry, accelerate economic growth and increase competitiveness and internationalization. Quality of life is improved and a more developed, prosperous, and sustainable society is built.*

### INTRODUCTION

The recent past gives us evidence that Sustainable Development (SD) is not only a practice of corporate social responsibility to gain a competitive edge, but also a necessity to meet the needs of future generations (Dieguez, 2018).

The challenges are huge and the power of the economic dimension cannot overlap with the balance of the social and environmental dimensions. Higher Education Institutions (HEI) tend to gain new functions and must assume new roles in the processes of societal change (Nussbaum, 2011). In addition

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to spaces to produce knowledge, reflection and critical thinking, Higher Education Institutions should also be *arenas* for incubating new social intervention projects in various domains, including business (Benneworth & Cunha, 2015).

Universities must include in their policies and objectives a commitment mission that aims to benefit society based on scientific knowledge and human promotion. Their quality is linked to the pertinence and responsibility within the Sustainable Development (SD) and depends on the interaction within their stakeholders, “seen as a powerful information source that can be used for the Higher Education Institution development” (Labanauskis & Ginevičius, 2017, pg. 73).

However, an Higher Education Institution is an essential part of a stakeholder’s “ecosystem” and, therefore, one of its primary activities should be to create the maximum value for its partners. Unfortunately, this task is overloaded by diverse and often discrepant expectations of these partners (Beerkens & Udam, 2017).

New problems appear and society must find solution for them. Higher Educational Institutions role should be one of the major factors in planning and promoting regional economic development. To be effective they must recognize the potential innovation of their region and be conscious about their strengths and capacities in research and education (Trippel, Sinozic, & Smith, 2015).

Industry is one of the players who can more beneficiate from interaction with academia (Zavargo & Šumid, 2011). In fact, academia and industry share a symbiotic relationship. From the perspective of academia, academia produces graduates who are absorbed by industry and develop research to be taken up by the industry and turned into products and services. From the perspective side of industry, academia may help to find solutions to their concerns, can tailor courses to turn out graduates whose skill-set are aligned to industry requirements and may help to find new research topics arising from the interaction between the *duos*, which benefit both academia and industry (Dasgupta, 2017).

In this sense successfully implementation of Quality on Higher Education Institutions will be dependent on the response they will give to the arising society problems. These response means solutions only achieved through innovations, innovations that are also dependent on a set of factors, namely Education, Human Capital, Technology, Infrastructures, Finance Capital, etc. National Innovation System (NIS) plays a central role in the economic development of a country (Bartels, Voss, Lederer, & Bachtrog, 2012), significantly influences innovative activities of companies and depend itself on the intensity and effectiveness of the interactions between the main actors to generate and diffuse knowledge (Liu, 2018).

The present study aims to reflect about medium- and long-term implications of a close collaboration between university and industry, with special emphasis on education, human capital, quality research, technological competence and absorptive capacity.

Interaction university-industry is particularly relevant, since they can establish a framework within the social system and bind the traditional representatives of the binomial science-innovation. The theme is complex and involves a set of actors and perspectives, with panoply of decisions that can have very harmful effects on the sustainability of organizations and society on medium and long term.

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