The University–Industry Collaboration

H

Marcello Fernandes Chedid
University of Aveiro, Portugal

Leonor Teixeira
University of Aveiro, Portugal

INTRODUCTION

The collaborations between academia and industry - University-Industry Collaboration (UIC) - may occur according to different formats (multiple types) and recently have increased based on the third mission of the universities – knowledge transfer between university and external actors. This relationship offers advantages to both entities, addressing global challenges to their mutual benefit as well as benefits to society. Both university and industry recognize the potential of UIC relationship. Nevertheless, this relationship is complex and often appear threatening to both the university and industry through value and goals conflicts. The major reason for this complexity is that the collaboration between partners with different models of organization and culture needs a considerable management effort in order to be successful.

Despite the relevance of the theme, the studies in this area neither explain the various complexities associated with this relationship, nor present recommendations of improvement for the process (Santoro & Bierly, 2006).

In order to achieve success in this relationship, it is important the understanding of three drivers which are part of UIC, i.e., the motivation for collaboration, the channel of interaction and outcome and benefits of collaboration. Their understanding allows to mitigate barriers, overcome the differences, create an environment of trust and commitment (Kauppila, Mursula, Harkonen, & Kujala, 2015) and consequently achieve success of the UIC.

This chapter aims to address these three main drivers of this relationship based on literature review.

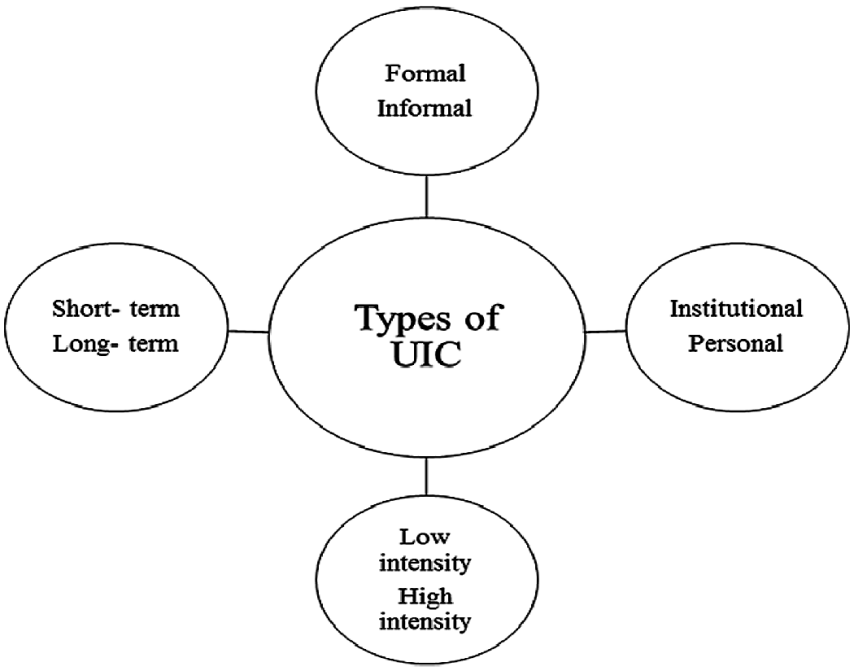
BACKGROUND: THE UNIVERSITY - INDUSTRY COLLABORATION

Since the end of last century, factors such as the globalization, the growing competition and the rapid technological advances have transformed the complex business environment with impact on life cycles of processes, products and services (Kauppila et al., 2015; Mendes, Nunes, & Sequeira, 2012). This scenario forced the companies to find partners to face the new challenges, representing the University-Industry Collaboration (UIC) relationship a key resource for innovation (Lee, 2000), for promotion of technological change (Cohen, Nelson, & Walsh, 2002; Freitas, Geuna, & Rossi, 2013; Lee, 2000; Mansfield & Lee, 1996) and for promotion of higher productivity and greater economic growth (Freitas et al., 2013).

For universities, this relationship also became important, as with better awareness of the business value of its work and its research, universities have shown more interest in the marketing of theirs products (Santoro & Bierly, 2006). So, in addition, to contributing to the better training of theirs students, the UIC can provide to universities access to expertise that they do not have and

DOI: 10.4018/978-1-5225-2255-3.ch344

Figure 1. Types of University - industry collaboration



that is only possible with direct experience with companies (Ankrah & AL-Tabbaa, 2015).

In fact, both the university, and the industry recognize the potential of UIC relationship. Nevertheless, this relationship is complex and often appears threatening to both the university and industry through value and goal conflicts. The key challenge is the understanding of the organizational form of the other partner. As soon as each institution understands the needs of the other, a large number of opportunities will exist (Sherwood, Robinson, & Butts, 2011; Wallin, Isaksson, Larsson, & Elfström, 2014; Wright, 2008).

Universities and industries have different objectives, focus and ways of working, which represents some barriers to the UIC (Sherwood et al., 2011). One of the barriers faced in this relationship is the difference of views with respect to the deadline for execution of works. Universities have a long-term vision, while industries work with a short-term vision. The time frames are different (Pertuzé, Calder, Greitzer, & Lucas, 2010). Another important barrier highlighted by some authors refers to existing divergence between what is developed by the researchers in universities and the real needs or expectations of the industries (Franco & Haase, 2015) which sometimes are completely disconnected or opposed to seeking industries (Arza, 2010).

According to Santoro and Bierly (2006), academic researchers have not adequately studied many of the complexities associated with this relationship and thus have not been able to provide insightful recommendations to improve the process. Franco and Haase (2015) complement with the information that a great number of investigations is concentrated on the academic side of UIC and attention is mostly paid to the individual researchers.

Regarding the type of collaboration between university and industry, it can be established according to different approaches, having different types of classification (Figure 1).

Generally, UIC is associated with the level of involvement of organizations and type of resources that are used, and the relationship include components such as problem solving, technology