



3rd GLOBAL CONFERENCE on BUSINESS, ECONOMICS, MANAGEMENT and TOURISM,  
26-28 November 2015, Rome, Italy

## Business model for the university-industry collaboration in open innovation

Larisa Ivascu<sup>a\*</sup>, Bianca Cirjaliu<sup>a</sup>, Anca Draghici<sup>a</sup>

<sup>a</sup>*Politehnica University of Timisoara, Faculty of Management in Production and Transportation, Department of Management, 14 Remus Str., Timisoara, 300191, Romania*

---

### Abstract

The present paper proposes a preliminary business model for collaboration between universities and industrial partners (through projects). Imperatives and dimensions of this model are the analysis result of data obtained by observation applied to public information and market research. The study was conducted nationwide. This model is the companies' response to market demand. This model proposes a general framework for the creation of successful collaboration between universities and businesses. The industrial partners do not necessarily have all the competencies to perform each operation in-house for the development of competitive products. Therefore, collaboration with universities helps them in researching the problems that cannot be solved individually. In this sense, universities could be considered as partners for industries. The analysis undertaken shows that how the two entities, the university and industry collaborate, very much fits with the framework for collaboration shown. Although the open innovation model does not apply significantly and primarily in these entities, there is a high potential for its implementation and the creation of added value.

© 2016 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the Organizing Committee of BEMTUR- 2015

*Keywords:* Open innovation, business model, university- industry collaboration, barrier, key factors.

---

### 1. Introduction

In the current competitive environment, companies must achieve a high level of performance, leading to the production of innovative products, rewarding customer needs and rapidly responding to market demands. In this

---

\* Larisa Ivascu. Tel.: +40-256-404308;  
*E-mail address:* [larisa.ivascu@upt.ro](mailto:larisa.ivascu@upt.ro)

direction of innovation, companies do not have all the needed skills to develop such products inside / in-house. Therefore, the best way of meeting these requirements is the collaboration between two or more partners. Depending on the type of activity, many other benefits of collaboration can be entered for each partner, such as: reducing costs, using a multidisciplinary approach, collaborators reputation, expertise in a particular field et al. (Draghici et al., 2015). Therefore collaboration between universities and the different actors of the economic environment leads to a series of benefits that have a favorable impact on business competitiveness. The university-industry collaboration (UIC) has gained widespread interest because of the high degree of innovation and economic growth ((Mitive, 2009; Guan and Zaho, 2013; Iqbal et al, 2015a, 2015b).

This paper proposes a business model for collaboration between universities and companies in open innovation in order to underline the way in which significant results are achieved. It presents an architecture for implementing open innovation in companies.

## 2. The theoretical framework of the proposal

Analysis of the research was conducted by three Romanian universities to identify collaboration practices with industry and partners from the economic environment in open innovation. The universities included in the research are: Politehnica University of Timisoara, Technical University of Cluj-Napoca, and University of Oradea. Following the research, it was concluded that for the development of a model framework (Draghici et al., 2015) for effective collaboration between university-industry in open innovation, six key areas are followed:

1. Existence in the university of a well-defined *structure* that supports in an efficient manner research projects;
2. The presence of an effective *project management* and especially the communication and monitoring are well implemented;
3. Involvement of young researchers in identifying the *characteristics of the economic environment*;
4. Developing *new partnerships* and supporting existing projects to launch new opportunities.
5. *Organizational culture* is an important pillar in the openness that universities have toward collaboration with industry;
6. *Dissemination strategy* to be strengthened to share research and to use elements of marketing in order to attract new partners.

These directions reinforce the framework to be created between business, indicating that a standardized framework model of good practice for effective management of collaborations between academia and industry would provide concrete guidelines that could be applied to future research projects developed in collaboration.

Comparing organizational cultures in academia and industry has led to the systematization of the common guidelines presented in Table 1. Following the analysis carried out it was found that interactive behavior of institutions is largely guided by their organization principles. Analyzing classic academia and industry / industrial partners it is found that they operate in distinct organizational cultures which differ greatly in their underlying values, beliefs and processes (Ehrismann et al., 2015). The organizational culture of universities is based on tracking research directions based on discovery, with the objective to create knowledge, and to educate the workforce. It can be said that public universities have a mission that contributes to society. In contrast, industry / industrial partners are at the opposite pole from the perspective of knowledge because knowledge is used to develop products and services. Knowledge transfer is not made, instead the intellectual property is on focus (Banal-Estanol, 2010; Moraru et al., 2010).

Table 1. Comparing organizational culture between universities and industry

| University          | Common                     | Industry           |
|---------------------|----------------------------|--------------------|
| Public mission      | Creating value for society | Shareholder value  |
| Publications        | Reputation                 | Revenue            |
| Project research    | Research                   | Practical research |
| Theoretical drivers | Science driven             | Results driven     |

|                    |                          |                     |
|--------------------|--------------------------|---------------------|
| Shared resources   | Competitiveness          | Private resources   |
| Sharing results    | Value                    | Retain results      |
| Creating knowledge | Sharing knowledge        | Capturing knowledge |
| Open source        | Collaborative innovation | Private source      |
| Investigator needs | Patient needs            | Market needs        |
| Education          | Exchange know-how        | Retain know-how     |

### 3. Strategic framework for successful innovation

Innovation is a complex phenomenon that involves a complex series of processes to be managed towards the objectives set (Moraru et al., 2010; Othman et al., 2012; Petruzzelli, 2011; Guan et al., 2013). Defining and identifying strategic directions for successful collaboration between universities and industry and economic partners contribute to shaping the proposal of the proposed model. The focus is on knowledge transfer between universities and industry to attract new collaborations.

Transfer of knowledge plays an important role in innovation and growth. Therefore emphasis on culture contributes to the innovation, but the balanced way to create culture leads to better transfer and exploitation of knowledge produced by universities in order to stimulate innovation. In (Buckley-Golder et al., 2015) it is defined a model that includes five stages: Company Opportunity, Co-Recognition (identifying the business needs), Co-Formulation (focus on meeting the needs and opportunities of the business partner), Co-Creation (partners create opportunity for innovation processes, products or markets), and Commercialization (main purpose of industrial partners is the commercialization). These stages are not covered linearly in the knowledge transfer and there are jumps and returns.

Based on this model and identifying characteristics nationwide, two stages can be added to this model: Co-Implication: the active involvement of partners in collaboration in order to achieve objectives, and Co-Motivation: to identify the elements that contribute to value creation in universities and industrial partners / industry.

### 4. The proposed business model for the collaboration university - industry

The proposal of a preliminary model for the collaboration university - industry is based on analysis of data obtained through experimentation and observation. It offers a robust set of evaluation metrics, which have a capacity to assess the strength of collaboration between university and industry. To achieve these objectives we used data collected in Romania. This business model includes:

- Evaluation of parameters: collaboration, knowledge sharing, culture, financial support, communication, and barriers. Each parameter includes one important concept to be assessed in order to obtain benefits and tangible outputs after working between industry and universities.
- Success factors: are associated to each category of parameters, thus suggestive for each category. These factors contribute to the development of relations in a relationship based on open innovation win to win, so that results are maximized.
- Tangible outcomes: results obtained from collaboration between universities and industry / industrial partners. Tangible outputs are the main pillar of the industrial environment, while for universities is the reputation and image created.
- Barriers: in collaboration between industry and academia there are some barriers that are hampering the cooperation between the two entities.

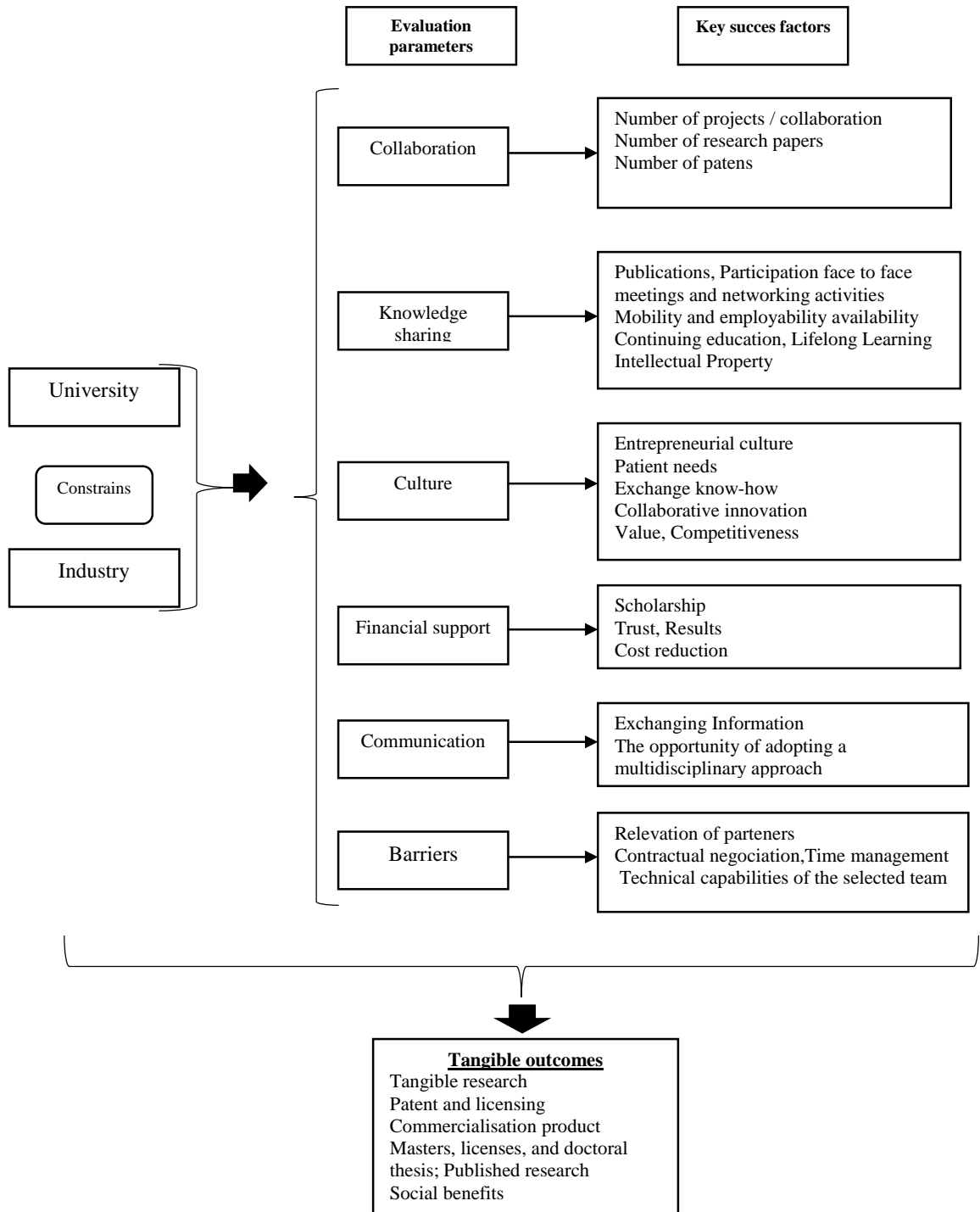


Fig. 1. Business model for university-industry collaboration in open innovation

## 5. Conclusions and future research

In conclusion, all partners are encouraged to analyze the current state of the learning partnership and identify what is potent in partnership and what is not. In other words, in evaluating opportunities it is tried to look into the "black box of innovation" in development partnership, focusing on innovation process itself. In future research the implication of government will be studied, on proposed business model for open innovation in the collaboration university-industry.

## Acknowledgements

The research described was financed by the national project: Researches based on Knowledge Management Approach Concerning Industry–University Collaboration in the Open Innovation Context (UNInOI). This work was undertaken through the Partnerships in Priority Domains Programme-PN II, developed with the support of MEN-UEFISCDI, Project no. 337/2014 in Romania.

## References

- Banal-Estanol, A., Jofre-Bonet, M., Meissner, C., (2010). The Impact of Industry Collaboration on Research: Evidence from Engineering Academics in the UK, Working Paper City University London.
- Draghici, A., Baban, C.F., Ivascu, L.V., Sarca, I., (2015). Key Success Factors for University - Industry Collaboration In Open Innovation, 8th annual International Conference of Education, Research and Innovation, Spain.
- Golder-Buckley, D, Way, D., Glover, M., et al., (2015). Best Practice Strategies for Successful Innovation through University-Business Collaboration, Research Councils UK.
- Guan, J., Zaho, Q., (2013). The Impact of University Industry Collaboration Networks on Innovation in Nanobiopharmaceuticals, *Technol. Forecast. Soc.* 80(7), 1271-1286.
- Ehrismann, D., Patel, D. D., (2015). University – Industry collaborations: models, drivers and cultures, *Swiss Medical Weekly*.
- Iqbal, A.M., A.S. Khan, Senin, A.A., 2015a. Reinforcing the National Innovation System of Malaysia Based on University-Industry Research Collaboration: A System Thinking Approach, *Int.J. Manage. Sci. Bus. Res.* 4 (1), 6-15.
- Iqbal, A.M., A.S. Khan, S. Parveen, Senin, A.A., (2015b). Evaluating National Innovation System of Malaysia based on University-Industry Research Collaboration: A System Thinking Approach, *Asia, Soc. Sci.* 11 (12), In Press.
- Mitive, A.,(2009). Evaluation of an academic-industry research collaboration, *Social Science Research Network*.
- Moraru, R., Babut, G., Cioca, L.I., (2010). Adressing the Human Error Assessment and Management, *Archives of Mining Sciences* 55 (4), 873-878.
- Othman, R., Omar, A.F., (2012). University and Industry Collaboration: Towards a Successful And Sustainable Partnership, *Proc-Soc. Behav. Sci.* 31, 575-579..
- Petruzzelli, A.M., (2011). The Impact of Technological Relatedness, Priorities and Geographical Distance on University-Industry Collaborations: A Joint-Patent Analysis, *Technovation* 31 (7), 309-319.