

HEI'S AND SME'S COOPERATION MODELS: EXPERIENCE AND TRENDS

Maira Lescevic¹, Eija Källström², Indrė Knyvienė³

Vidzeme University of Applied Sciences, Latvia¹

Arcada University of Applied Sciences Finland²

Kauno Kolegija/ University of Applied Sciences, Lithuania³

Abstract. This paper focuses on HEI's and SME's cooperation challenges in the European Union in general and in the Baltic Sea Region (BSR) in particular. The article describes the present state of University-Business cooperation on a European level as well as reports recent experiences from Finland, Latvia and Lithuania. The authors also introduce new intensions and plans to research and create cooperation models between universities and businesses, with the main success criteria being – sustainability.

Keywords: higher education institution (HEI), small and medium – sized enterprise (SME), cooperation, Baltic countries, sustainable cooperation models.

Introduction

Historically education and business have existed in parallel dimensions. Education institutions have prepared young specialists and business had to accept them as they are. The best experience shows that commonly agreed ground for development of new education programmes and unselfish non-material investments from business side is more and more developing.

Research object: HEI's and SME's modelling

The aim of the research: to develop a university-business cooperation (UBC) model for successful and sustainable UBC in the field of internationalization of small – and medium sized enterprises.

Objectives:

1. to identify the present state of UBC in Europe
2. to collect and discuss results obtained in previous UBC projects in the BSR
3. to draft suggestions for development of UBC model for ongoing cross-border project in the Nordic and Baltic countries

Methods: the study combines desk research and empirical research in the following ways:

- The present state of UBC in Europe is based on desk research covering reports and articles in the field
- Empirical experience from projects financed by the European Union and the Nordic Council of Ministers

Below we present recent findings on cooperation models between universities and businesses. We also highlight both barriers and drivers for joint efforts between academia and businesses in European and BSR contexts.

Theoretical Background

The Higher education institutions (HEI's) constantly strive to use various forms of collaboration in order to gain well-known benefits. With the internationalisation of the Higher education the institutions are forced to expand their perspective with a broad range of activities in teaching and research which take place in cooperation with local and international partners, and have crucial effect on competitiveness (Kehm 2007; Jongbloed et al. 2008). Forming and managing external relationships is an important part of the strategy for HEIs development (Nugaras, 2012). Development is needed to research and deepen the existing cooperation and to build up the necessary confidence.

Key to **successful cooperation** is a mutual understanding and appreciation of one another's basic goals and objectives.

In a knowledge-based economy the organisations of business companies, universities and research institutes complement one another in a quite orderly manner:

- Businesses – put the researcher's developed know-how to good use by developing innovations;
- Universities use this know-how for purposes of education and continued research.

Close collaboration of HEI's and SME's:

1. increases the capacity for regeneration and renewal in research,
2. enhances the social impacts of research, promotes the creation of new innovations
3. increases the competitiveness of the national economy as well as the development of a society that is based on knowledge and know-how.

Partners at universities and in business and industry shall work together in flexible international partnerships that carry out high-level research and development projects and provide training and consultancy to satisfy all shareholders. The university has a role in facilitating the access to knowledge: scientific publications, seminars, workshops, and informal relationships can also be important ways of a transfer of academic knowledge to the private sector (Șerbănică, 2011).

Uyarra (2008) suggests five models of universities portrayed in the literature, highlighting a different set of roles, influenced by different factors and manifested in multiple mechanisms and scales of engagement. First, universities are considered as producers of scientific knowledge –“knowledge factories”, which can have a direct local economic impact. Second, university industry studies take a “relational” approach, acknowledging a variety of links and processes for knowledge sharing between firms and higher education institutions. More recently, the “entrepreneurial” aspect of universities is encouraged via dedicated organisational arrangements in universities. Fourth, innovation system studies see universities as boundary-spanning institutional “nodes” whose influence will be shaped by the specific regional innovation system in which it is embedded. Finally, universities are further ascribed a “developmental” role in recent regional policy.

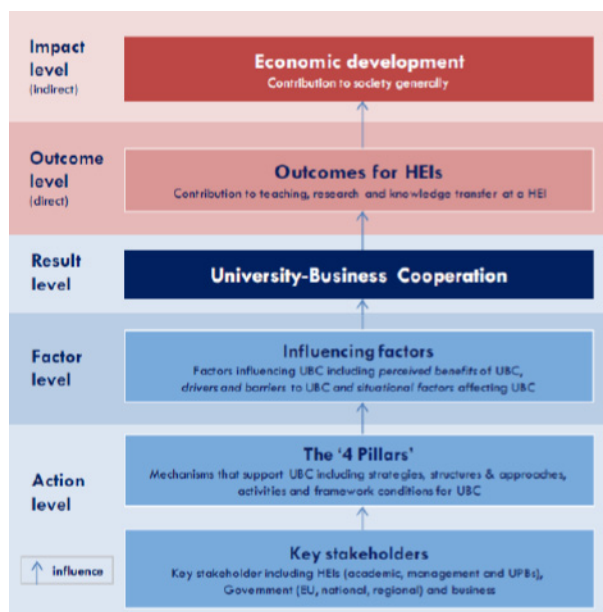


Figure 1. The university Business Cooperation Ecosystem (The State of European University-Business Cooperation Final Report, 2012)

University-Business Cooperation (UBC) is important. Successful cooperation of HEIs in synergistic relationships with governments and businesses (the ‘triple helix’) is considered to be an essential driver of knowledge-based economies and societies.

Definition of University-Business Cooperation: *UBC is defined as all types of direct and indirect, personal and non-personal interactions between HEIs and business for reciprocal and mutual benefit including: collaboration in R&D, personnel mobility (academics, students and business professionals), commercialisation of R&D results, curriculum development and delivery, LLL, entrepreneurship and governance* (The State of European University-Business Cooperation Final Report, 2012).

The Best and Evident Experience

There are eight different ways in which HEIs and business cooperate:

1. Collaboration in research and development),
2. Mobility of academics,
3. Mobility of students,
4. Commercialisation of R&D results,
5. Curriculum development and delivery,
6. Lifelong Learning (LLL),
7. Entrepreneurship,
8. Governance.

Whilst there are some exceptions, cooperation between HEIs and business in Europe is still in the early stages of development. The European UBC is influenced by a large number of factors including the *perception of benefits* coming from UBC as well as *barriers to* and *drivers of UBC*. Moreover, situational factors such as *age, gender, years at the HEI, years in business, type of HEI and country* also influence the extent of UBC undertaken. Despite this complexity, UBC can be increased by focussing on appropriate UBC *strategies, structures and approaches, operational activities and framework conditions*. The model depicted below outlines the relationships among these different elements within the UBC Ecosystem (The State of European University-Business Cooperation Final Report, 2012).

Benefits from UBC are the benefits that are received by the academic or HEI in undertaking UBC. They can be arranged in the following categories: benefits for students, benefits for business, benefits for society, benefits for HEIs and personal benefits for academics.

Type of benefit	Explanation
Benefits for students	Factors that benefit students, including: <ul style="list-style-type: none"> Improving the learning experience of students, Increasing skills and graduate development, Improving the employability of future graduates.
Benefits for business	Factors that benefit business, including: <ul style="list-style-type: none"> Improves the performance of business.
Benefits for society	Factors that benefit society, including: <ul style="list-style-type: none"> Increasing local employment, Benefiting the local industry, Increasing local GDP and disposable income, Creating a variety of range of social and recreational benefits, Improving regional productivity.
Benefits for HEIs	Factors that benefit HEIs, including: <ul style="list-style-type: none"> Achieving the mission of the HEI.
Personal benefits for academics	Benefits that relate to the personal benefits for the academic, including: <ul style="list-style-type: none"> Increasing the academics reputation in the field, Being vital for personal research, Increasing chances of promotion and employability, Improving the standing within the HEI.

Figure 2. Benefits from university business cooperation (The State of European University-Business Cooperation Final Report, 2012)

Type of driver	Explanation
Relationship drivers	Drivers that relate to the relationship between the academic/HEI and the business, and these include: <ul style="list-style-type: none"> Existence of mutual trust, Existence of mutual commitment, Having a shared goal, Understanding of common interest by different stakeholders (e.g. HEIs; business; individuals; students), Prior relation with the business partner, Cooperation as effective means to address societal challenges and issues.
Business drivers	Drivers that relate to the business factors that motivate UBC, and these include: <ul style="list-style-type: none"> Employment by business of HEI staff and students, Interest of business in accessing scientific knowledge, Possibility of accessing funding / financial resources for working with business, Short geographical distance of the HEI from the business partner, Flexibility of business partner, Access to business sector research and development facilities, Commercial orientation of the HEI.

Figure 3. Drivers of university business cooperation (The State of European University-Business Cooperation Final Report, 2012)

Drivers to UBC are those factors that facilitate the academic or the HEI to engage in UBC. In essence they are factors that provide motivation to undertake UBC and can be grouped under two headings: relationship drivers and business drivers.

Type of barrier	Explanation
Usability of results	Barriers that relate to the way the results of UBC (mainly R&D results) are utilised by business, and these include: <ul style="list-style-type: none"> The focus on producing practical results by business, The need for business to have confidentiality of research results, Business fears that their knowledge will be disclosed.
Funding barriers	Barriers that relate to the provision of funds for UBC from both internal and external sources; and these include: <ul style="list-style-type: none"> Lack of external funding for UBC, Lack of financial resources of the business, Lack of HEI funding for UBC, The current financial crises.
Relational barriers	Barriers that relate to or affect the actual UBC relationship or interactions, occurring between the academic /HEI and the business, and these include: <ul style="list-style-type: none"> Business lack awareness of HEI research activities / offerings, The limited absorption capacity of SMEs to take on internships or projects, Differing time horizons between HEI and business, Differing motivation / values between HEI and business, HEIs lack awareness of opportunities arising from UBC, Bureaucracy within or external to the HEI, Limited ability of business to absorb research findings, Differing mode of communication and language between HEI and business, A lack of contact people with scientific knowledge within business, Difficulty in finding the appropriate collaboration partner, No appropriate initial contact person within either the HEI or business.

Figure 4. Barriers to university business cooperation (The State of European University-Business Cooperation Final Report, 2012)

Barriers to UBC are those obstacles that restrict or inhibit the ability of the academic or HEI to engage in UBC and can be grouped under three headings: usability of results, funding barriers and relational barriers.

Country	Collaboration in R&D	Mobility of academics	Mobility of students	Commercialisation of R&D results	Curriculum development and delivery	Lifelong learning	Entrepreneurship	Governance	Total UBC
Algeria	4.8	2.3	3.1	4.3	3.9	3.1	2.6	2.3	3.3
Belgium	4.7	2.4	4.1	4.0	3.9	3.6	3.1	2.6	3.6
Bulgaria	4.7	3.8	4.5	4.1	4.5	5.5	3.8	4.2	4.6
Croatia	4.2	3.8	3.6	3.9	5.1	5.6	3.8	3.6	4.2
Cyprus	4.6	2.8	4.0	3.5	5.2	4.8	3.3	2.6	3.9
Estonia	4.4	3.6	4.6	2.8	5.4	4.8	2.7	2.8	3.9
Finland	5.8	3.9	4.3	5.4	4.2	4.4	3.8	3.0	4.4
France	5.0	2.3	5.5	3.8	4.8	4.1	3.3	3.1	4.1
Germany	5.2	2.8	4.8	4.9	3.0	3.4	3.1	2.8	4.0
Hungary	4.7	3.3	4.6	3.8	4.8	4.5	3.3	3.0	3.9
Ireland	3.0	2.0	4.6	3.7	4.9	4.2	3.7	2.9	3.9
Italy	4.4	2.5	3.8	3.3	3.1	3.7	2.5	2.3	3.3
Latvia	3.3	4.3	4.6	4.4	5.9	4.7	2.8	3.4	4.6
Lithuania	4.5	4.6	5.6	4.4	5.5	5.8	4.3	4.1	4.9
Netherlands	6.7	3.0	4.7	5.2	4.2	4.2	4.0	3.2	4.4
Poland	3.0	2.3	2.8	2.6	2.9	3.0	2.3	2.3	2.8
Portugal	4.4	2.4	4.2	3.2	3.7	4.2	3.5	2.4	3.5
Romania	4.8	3.6	4.4	3.7	4.3	5.2	3.5	3.2	4.2
Slovakia	4.7	3.2	3.4	4.0	4.5	4.4	3.3	2.8	4.1
Spain	4.4	2.2	3.6	3.4	3.4	4.1	3.2	2.6	3.5
Turkey	4.8	4.1	5.0	4.3	4.2	4.6	4.5	4.1	4.5
United Kingdom	4.8	3.0	3.6	4.0	3.9	3.6	3.4	2.6	3.7

Figure 5. Extent of academic UBC per country (The State of European University-Business Cooperation Final Report, 2012)

The table above illustrates the perceived level of UBC for academics in each country regarding the 8 Types of UBC from study. For each country, the type of cooperation with the highest extent is highlighted. The table provides the opportunity to review and compare the extent of cooperation in each of the 8 Types on a country basis.

According to Şerbănică (2011) there are the main causes of weak cooperation between universities and businesses were clustered under four categories (services/offer, communication/marketing, perceptions/attitudes, resources/structures) and are detailed below.

- **SERVICES/OFFERS:** Universities' offer is not in line with market needs.
- **COMMUNICATION/MARKETING:** There is no coherent cooperation strategy for university – businesses relationship and the R&D offer is not adequately promoted.
- **PERCEPTIONS/ ATTITUDES:** Research is perceived as a purely scientific issue and that perception leads to anti-innovation attitudes.
- **RESOURCES/ STRUCTURES:** Limited financial and logistical resources. Inefficiency/lack of regional support structures.

UBC in Finland, Latvia and Lithuania

The challenges of international competition and the requirements of opening up are putting universities under increasing pressure to reassess their principles

and policies. For the business sector, too, globalisation is creating increasing pressures of competition, forcing companies to concentrate on their core areas of expertise and to outsource more and more of their operations. Business companies rely for their competitiveness to an ever greater extent on the know-how they have developed and acquired and that they control. Cooperation with universities and research institutes has become an integral part of the development of business know-how. For SMEs in particular, this cooperation offers much greater opportunities to participate in research than would be possible if they had to rely on their own funding alone (Academy of Finland, 2005).

In Finland, it has been demonstrated that a favourable innovation environment requires the interplay of all components of the innovation system such as the effectiveness of venture capital markets as well as R&D funding mechanisms that promote cooperation and a continuous strategic development effort on the part of ministries, funding agencies and other R&D policy-makers (Figure 6).

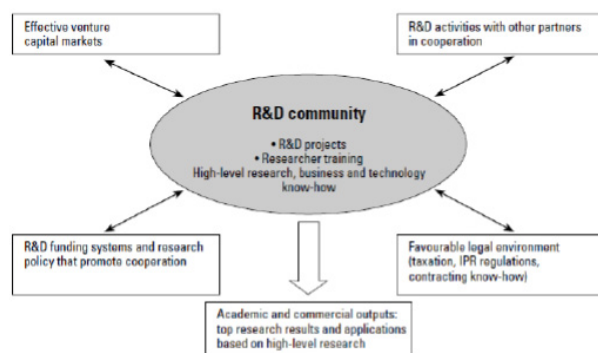


Figure 6. Favourable innovation environment (Academy of Finland, 2005)

The UBC in Latvia is more related to business representative's involvement in evaluation of existing programmes (MOES, 2011), in elaboration of new programmes and development of new and modern initiatives for internship.

Although regional HEIs are cooperating very close with local Business Incubators, e.g. Vidzeme's Business Incubator & Vidzeme University of Applied Sciences, Ventspils University College & Ventspils High Technology Park, etc.

Research done by Lithuanian scientists show that in part quality of human resources depends on how many there are universities in the country. It

leads to the better education attainment of the working age population and, relevantly, to the better economic development of the region. Respondents view is positive to cooperation of HEIs and SMEs in Lithuania (Simanskiene, 2009).

There are several possible ways for cooperation between business organizations and universities:

- business organizations members indenture for students practice,
- business organizations members have a lot of meeting with students (Simanskiene, 2009).

There are five integrated science, studies and business centres (valleys) being developed in Lithuania. The valleys are being created in the capital city Vilnius, in Kaunas – the 2nd largest city and the industrial centre, and in the seaport Klaipėda. They will specialize in different scientific research fields (laser and light technologies, nanotechnologies, semiconductor physics).

The Santara Valley, established in the capital city Vilnius, has already received investors, such as e.g. TEVA and Moog, settling down their R&D centres and laboratories.

Conclusion

1. The article described the present state of university-business cooperation on a European and BSR arena. It is evident that UBC in the region today is influenced by a large number of factors, representing both barriers to and drivers of successful cooperation. It is widely acknowledged that cooperation is still in an early stage and more efforts are needed to secure successful outcomes of joint educational endeavours.
2. In order to advance HEI's and SME's cooperation, a project called NOBANET has been initiated and developed by Arcada University of Applied Sciences. The project focuses on the internationalization of SMEs through close cooperation between academia and business life. The authors of this article are all partners of the project, which is financed by the Nordic Council of Ministers and today has members from all Nordic and Baltic countries. NOBANET will further develop existing cooperation models and apply them in the context of sustainable internationalization. The project can be followed on the address www.nordicbalticnet.info

References

1. Jongbloed, B., Enders, J.; Salerno, C., Higher Education and Its Communities: Interconnections, Interdependencies and a Research Agenda, (2008), Higher Education 56: 303–324. <http://dx.doi.org/10.1007/s10734-008-9128-2>
2. Kehm, B. M., Research on Internationalisation in Higher Education, (2007), Journal of Studies in International Education 11(3–4): 260–273. <http://dx.doi.org/10.1177/1028315307303534>
3. Nugaras J., Strategic networking in the technical hei'cs of the Baltic Sea region, (2012), Journal Business, Management and Education, ISSN 2029-7491 print / ISSN 2029-6169 online, 10(2): 174–185.
4. Şerbănică C. A Cause and Effect Analysis of University – Business Cooperation for Regional Innovation in Romania, (2011), Theoretical and Applied Economics Volume XVIII ,No. 10(563), pp. 29-44
5. Sustainable and dynamic partnership, Research cooperation and researcher training between universities, research institutes and business and industry (2005), Academy of Finland, publications of the Academy of Finland, EDITA Oy, Helsinki, Finland, Volume 7.
6. Simanskienė, L., (2009). Verslo organizacijų ir universitetų bendradarbiavimas Lietuvoje: mitas ar galimybės? TILTAI, 1, ISSN 1392-3137.
7. The State of European University-Business Cooperation Final Report - Study on the cooperation between Higher Education Institutions and public and private organisations in Europe, 2012 Science-to-Business Marketing Research Centre Münster University of Applied Sciences, Germany, (http://ec.europa.eu/education/tools/docs/uni-business-cooperation_en.pdf, checked at 5.03.2014)
8. Uyarra, E., The impact of universities on regional innovation: a critique and policy Implications. Retrieved January 2014 from Manchester Business School Working Paper, 564, 2008, Online at: <http://www.mbs.ac.uk/research/workingpapers/>

AUKŠTOJO MOKSLO INSTITUCIJŲ IR SMULKAUS IR VIDUTINIO VERSLO BENDRADARBIAVIMO MODELIS: PATIRTIS IR TENDENCIJOS

Šiame straipsnyje aptariami aukštojo mokslo institucijų ir Smulkaus ir vidutinio verslo (SVV) bendradarbiavimo iššūkiai Europos Sąjungoje ir Baltijos jūros regione (BJR). Straipsnyje pateikiama dabartinė universitetų ir įmonių bendradarbiavimo s lygiu būklė Europoje, aptariama Suomijos, Latvijos ir Lietuvos patirtis šioje srityje. Autorės pateikia naujas išvalgas apie bendradarbiavimo modelius tarp universitetų ir įmonių, kaip pagrindinį sėkmės kriterijų pateikdamos tvarumą.

Akivaizdu, kad BJS regione sėkmingo bendradarbiavimo galimybes šiandien įtakoja daug veiksnių. Plačiai pripažįstama, kad bendradarbiavimas yra vis dar ankstyvojoje stadijoje ir būtina dėti daugiau pastangų siekiant paskleisti sėkmingus švietimo ir verslo bendradarbiavimo rezultatus.

Skatinant aukštojo mokslo institucijų ir SVV bendradarbiavimą, Arcada taikomųjų mokslų universiteto sukūrė projektą, kuris pavadintas NOBANET. Projekte pagrindinis dėmesys skiriamas SVV internacionalizacijai artimai bendradarbiaujant akademinėi bendruomenei ir verslo pasauliui. Šio straipsnio autorės yra projekto, kuris finansuojamas Šiaurės ministrų tarybos, dalyvės ir šiandien projekto nariai yra visos Šiaurės ir Baltijos šalys. NOBANET toliau plėtos esamus bendradarbiavimo modelius ir juos taikys tvarios internacionalizacijos kontekste. Projektas prieinamas adresu: www.nordicbalticnet.info.