Behavioural Economics in Higher Education Institution - Business Collaboration Paradigm in Context of Global Competition

Velga Vevere[1,*], and *Arturs Mons*[2]

[1] EKA University of Applied Sciences, 1/5 Lomonosova street, Riga LV-1019, Latvia
[2] Turiba University, 68 Graudu street, Riga LV-1058, Latvia

Abstract.

Research background: More than ever before governments, education institutions, industries, researchers and civilians are setting indebted attention to discover and learn more about behavioral science. The recent advancements in applying behavioral economics to the sphere of higher education show that building partnerships among educational institutions involves specific skills, strategies and knowledge that parties must know and use. Different industry representatives are scouting Higher Education Institutions for an ever-expanding set of innovation activities. Government invest more and more efforts to create innovative ecosystems where higher educational institutions are main stake holders in this special community between industries, corporations, governmental institutions, entrepreneurs and investors. The partnership involves adopting a management based on cooperation and change, communication and awareness of diversity. However, university-business cooperation is still a fragmented and indistinct field of research, and the understanding of UBC remains inadequate since most research is undertaken around specific elements, rather than as an encompassing, overarching and interconnected system
Purpose of the article: To research the undergraduates' appraisal of Higher Education Institution and Business collaboration.
Methods: Expert interviews and undergraduate students' survey using 7-point Likert scale questionnaire (non-probability snowball sampling method).
Findings & Value added: Through evaluation of different statements about Higher Education Institution – Business collaboration, we discover distinctive statement importance and advancement according to respondent current views. This knowledge facilitates author's capability to develop and advise nudges which can be applied in performance of such collaboration.

Keywords:, *behavioral economics, nudge theory, higher education institutions, global competition*

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[*] Corresponding author: velga.vevere@gmail.com

1 Introduction

Fundamental today is an understanding of Higher Education Institution and business sector impact on economic growth, employment, innovation and opulence in every country. Remarkably has grown attention to these type of collaborations in management practices and researches. As many businesses determinedly look for new innovations to amplify their research and development efforts, higher education institutions have become a key player. Collaborations between Higher Education Institutions and industries has jumpstarted multiple discoveries and businesses over last few decades and contribute to advance sustainability. We can see that traditional functions in Higher Education Institutions such as studies and research have been complemented by new functions – innovation and other community services. In modern theories universities are analysed from more than just one aspect. By amalgamation of findings we can conclude that Higher Education Institutions are complex organisations that are accessing, creating, interpreting, processing, sharing and storing knowledge and provides other wide variety public services. We can see the significant shift in Higher Education Institution functions not only by providing knowledge to society, but also becoming a multi profile businesses that serve public needs, by converting knowledge into public goods. The importance also is raised by European Commission efforts to establish more collaborations between Higher Education Institutions and businesses. Horizon 2020 has been one of the key framework to many collaborations between these parties. [1]

We can agree with the fact that industry is seeing higher education institutions in different light. Industries has become more interested in opportunities to expand their research and development, by scouting new innovation ideas, making higher education institutions as number one source to turn for. Different industry representatives are scouting Higher Education Institutions for an ever-expanding set of innovation activities. Government invest more and more efforts to create innovative ecosystems where higher educational institutions are main stake holders in this special community between industries, corporations, governmental institutions, entrepreneurs and investors. Some of the greatest current time examples of these type of collaborations are Silicon Valley in the United States of America and Blk 71 in Singapore. We can conclude that Higher Education Institutions are foundation for people and ideas corporations, furthermore it plays meaningful role for industries which lunges for new opportunities for contribution in the wider innovation environment.

Several corporation pioneers such as GE, IBM, Microsoft have long history of success of collaboration between industries and Higher Education Institutions 1. In recent years, a noteworthy application of this practice has arisen, where companies are using Higher Education Institutions as a major segment for early development innovation and new initiative strategies.

2 Literature review

To understand Higher Education Institution and business collaboration, noteworthy is review of academic deliberations on this topic. In result of globalization the current market place is facing major changes in its all aspects, particularly we experience change in economies which are becoming more focussed on education. Due this phenomenon, significance of education, and knowledge in general, has augmented, consequently it is great tool to gain competitive advantage. [2]

We can view Higher Education Institution - business collaboration as partnership which include two or more players who are involved in joint ventures, most occasions it has intellectual nature where players are collaborating in mutual planning and decision making.

[3] In this type companionship every member of group is investing efforts towards mutual result, sharing their knowledge and taking obligation for the goal. Profoundly the association between all collaboration partners is built in non-hierarchical manner, where only mean plays expertise and knowledge. For successful collaboration another of key factor is environment, Higher Education Institution and business situation requires Research and Development environment. Still, according to some researchers, while university-enterprise collaboration is recognised as being essential to promoting graduate employability and entrepreneurship, the lack of an integrated approach towards embedding entrepreneurship education and entrepreneurial capacity-building with an entrepreneurial skill and mind-set prevails in the higher education sector. [4]

It is important to understand that collaboration between these partners are not based only on funding purpose. Collaboration enforces Higher Education Institutions to perform better in functions as teaching and research development. Moreover, this partnership gives competitive advantage for both parties when market is saturated.[5] based on other studies conclude that companies which are involved in such collaborations have greater productivity rates than businesses that do not participate in such activities. Besides companies benefit of new research and development practices what gives opportunity to produce good at lower cost.

It would be impossible for businesses to survive in current economic environment, where demand for new services and products is so high, if they would not invest in research and development activities. Higher Education Institutions and businesses needs to be in close communication through all collaboration activities to develop useful data, working methods and gain technological development.[6] Kurutulus and Kadir [7] emphasized in their conducted research that each part gains different benefits and gives distinctive meaning for each party. Higher Education Institutions, in correctly performed collaboration, obtains new knowledge and data which will be applied in further education process, integrated in new education systems what will give better chances to find new funds for research activities as well as sponsorship. Still, despite the recognition of the significance of the collaboration, there is a number of barriers in this process of collaboration that have to be taken into account as well. Thus, R. Alunurm and others (2020) admit that small export-oriented firms may not find suitable competences in higher education institutions and are therefore less likely to engage in the collaboration. Larger companies do engage in cooperation, but find strategic differences (goals, stances, time allocated) to be significant issues in cooperation. [8]

Numerous different relation forms between higher education institutions and industries are known already. However, university-business cooperation (UBC) is still a fragmented and indistinct field of research, and the understanding of UBC remains inadequate since most research is undertaken around specific elements, rather than as an encompassing, overarching and interconnected system. Thus, V. Galan-Muros and T. Davey have proposed a new framework, called "university-business collaboration ecosystem." [9] The UBC Ecosystem, organised along the Logic Model, provides a framework that combines a macro approach (major strategic elements), a process orientation specifying the relationships between elements that allows strategic and managerial work and sub-elements influencing that can be specified for each particular university.

Still, for the purpose of the current study we employ the Higher Education Institution - Business collaboration model developed by the Science-to-Business Research Centre, that comprises multiparty research projects, patent developments, awarding researchers with contracts, co authorships of research results or monetary goods (see Figure 1).

Fig. 1. Heigher Education Institution and Business Collaboration Types [10]

Wright et al. [11] point out that different types of higher education institutions can develop different type of collaborations. Correspondingly not all higher education institutions have the same style of spin-offs, the agenda, objectives and financial requirements affects the applied style type. For successful spin off is important from very beginning to match suitable finance provider. Without clearly defined purpose of collaboration can be challenging to state right type of spinoff. Perkman et al. [12] in their work emphasize that there are two major factors which drive academic researchers to collaborate with industries. Primary focusing on value gaining from collaboration results from academic and industry engagement, as well as obtaining additional fiscal benefits for research. To develop lasting collaboration, which is swaying and delivers planned benefits, all involved parties need to follow guidelines. There has been developed several procedures for Higher Education Institution and industry to avoid conflicts during collaboration process. To evade any inconvenience and disagreements in working process studies suggest to develop legal agreement, clearly stated framework of project and agenda.

The recent advancements in applying behavioural economics to the sphere of higher education show that building partnerships among educational institutions and businesses involve specific skills, strategies and knowledge that parties must know and use. Intrinsically changing people behaviour in incessant and encouraging approach to act in a way that would be most beneficial for everybody. With raising recognition of behaviour economics, we can experience its application in new fields, including the one of education. [13] Reviewing previously discussed factors by other researchers, this study is crafted to learn undergraduates' knowledge about, assigning importance to and evaluation of advancement regarding the Higher Education Institution and industry collaboration.

3 Methods

In order to conduct the empirical research two methods were employed by the authors: first, expert interviews to generate and test the questionnaire; second – the undergraduate survey applying the forementioned questionnaire.

Expert methods are increasingly used in the evaluation and forecasting of socio-economic processes. Expert survey is mainly used for diagnosing and forecasting industry problems and analyzing and solving research problems. An expert is a qualified specialist in the field who expresses his or her opinion, for example, in the evaluation of a particular activity. In addition, the expert can evaluate various (significant and insignificant) factors, goals, better ways of achieving them, performance, etc. Therefore, the authors of the thesis chose the survey method of experts, which is considered as one of the most suitable methods for evaluation of cooperation with retail companies. Unlike statistical methods, experts, due to their experience and knowledge of the situation, take into account several factors that cannot be analyzed. The authors followed four steps in the implementation of the expert survey method. These steps were the following: (1) Preparation of expert survey, that is, problem definition; (2) Choice of experts and composition of the expert group. At this stage, the numerical composition of the expert group was determined, the competence of the expert group was analysed and the necessary information was provided to the experts. After consultation with a number of experts and given the knowledge of the experts in the field, the authors identified a group of nine specialists. In selecting the experts, the authors of the paper were guided by the experience and knowledge of the specialists and their ability to understand the process as a whole. Potential experts responded to questions about the peculiarities of the university - business partnerships; (3) Results were summarized, the questionnaire for the undergraduate students was composed and sent out to the experts; (4) Upon receiving the feedback from the experts, the questionnaire was finalized. [14]

Following the expert interviews, a quantitative research method was undertaken. The goal of this approach was used to determine the present acumen of undergraduate related to importance and advancement of pre-selected statements of Higher Education Institution – Business collaboration. The data was gathered via online surveying, targeting undergraduates from Latvia. Undergraduates were asked to evaluate 15 pre-selected statements in higher education institution - business collaboration research, practices, and policies in relations with their current advancement and importance of priorities. To rate the respondent's degrees was applied 7 point Likert scale. To evaluate each statement, its advancement and importance according to the same propositions two analogous scales were created (1 - not at all advanced or not important, to 7 - very advanced or very important. The questionnaire structure was based on the model described in the literature review above (i.e. the types of HEI – Business collaboration). The statements were related to such topics as: impact of HEI-business collaboration in research; encouraging students' engagement in the research process; perception of collaboration from the business perspective; cultivation of the academic spin-offs; development of innovative partnership models; level of students' training for collaboration; collaborating across different industries/cultural contexts; stakeholders' vision of the collaboration; investing in the co-working projects; attitudes of the leading practitioners; measuring the impact of collaboration; role of entrepreneurship for students; and motivation for collaboration. The reliability testing of the scale was performed, this scale had a reasonably strong α coefficient of 0.73.

The study performed took non experimental approach to project descriptive research. The samples were selected using a non-probability snowball sampling method (targeting undergraduates). The surveying tool lead to a usable sample of 167 responses from the undergraduates. The survey was conducted in the period from June 2020 till August 2020.

The sample ratio between genders were 76, 6% female to 23, 4% male respondents, all survey participants were at legal age.

4 Results and discussion

The survey respondents' discernments of importance and advancement of the pre-selected key statements are summarily depicted underneath in the following figures. The results give us the well-defined understanding of future development of the higher education institution - business collaboration. In general, the evaluations in both scales are rather high (arithmetic means $\bar{X} = 6$ regarding the importance of the factor and $\bar{X} = 5.1$ regarding the advancement of the factor respectively). At the same time for some statements, the responses indicate large discrepancies between the importance and advancement (difference of 2.1 point on a seven-point scale). Figure 2 represents undergraduates' ranging of the most important factors in the higher education institution – business collaboration.
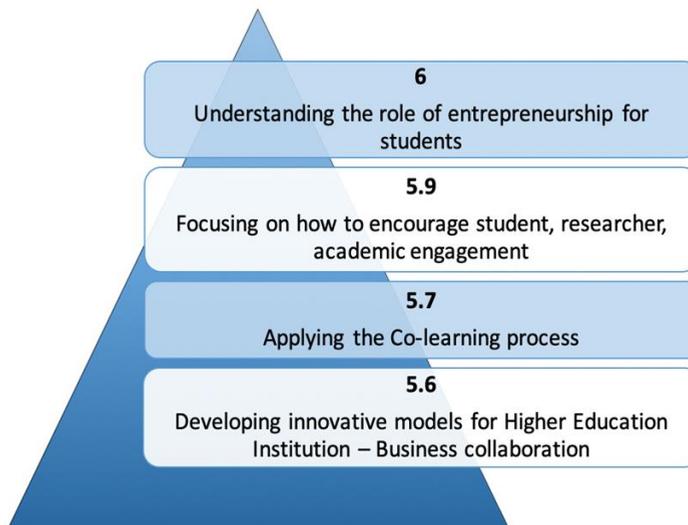

Fig. 2. Collaboration model ratings according to their importance

According to the respondents to this study, incentive systems and models plays a key role in the development of higher education institution - business collaboration policy. It is very important to project such systems in the which facilitates collaboration. Focus cannot be set on individualism, emphasising on proper focus how Higher Education Institution and business can develop collaborative approach throughout whole process.

The same set of propositions was offered for the second time but with a different formulation, since the task was to know the undergraduates' opinion about the most advanced types of the university-business collaboration. The results are depicted in the Figure 3.
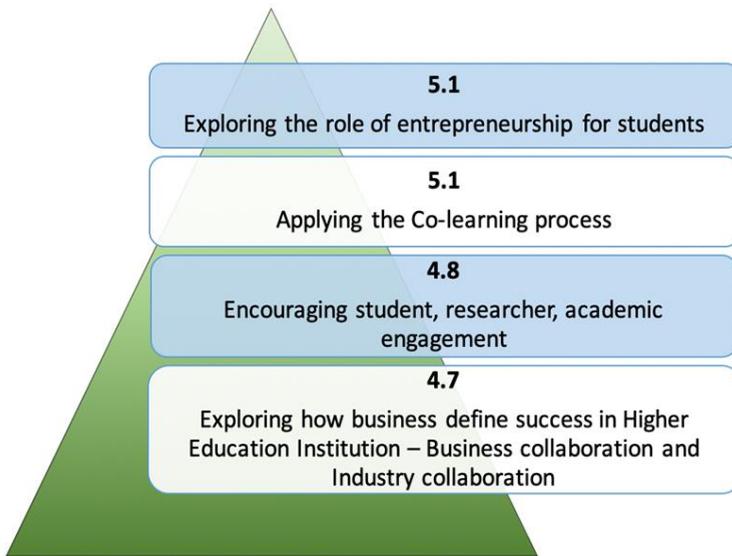
Fig. 3. Collaboration model rating according to their advancement

It is noteworthy that the rating of the most advanced collaboration models radically differs from the importance rating, if we take into account not the numbers, but the sequence of rating. Thus, we can see, that there is just one model of collaboration within top four models, that is, "applying the co-learning process." From this we can conclude that the Higher Education Institution strategy makers possibly are not fully aware of the students' needs and demands in the current economical and social situation. To develop strong higher education institution - business collaboration relations it is important to discover the most important and most advanced priorities of undergraduates. It would make us think that focus should be set in these areas, allowing this relationship to take place. Noticeably we can conclude that it is important to give time for academics to get involved in higher education institution - business collaboration. Creating such a favourable environment meets the need for a higher education institution - business collaboration responsive research culture. In order to substantiate our opinion, we would like to demonstrate the undergraduates' opinion about the least advanced models of collaboration (see Figure 4).
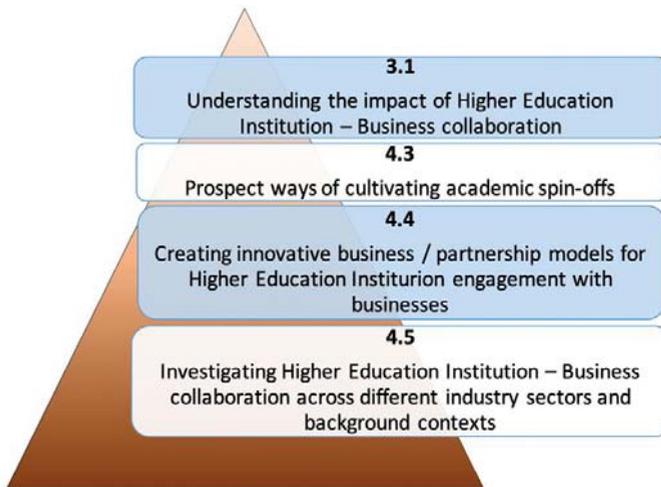
Fig. 4. The least advanced higher education institutions – business collaboration models

The figure represents a kind of anti-top or, the least advanced collaboration models in the eyes of undergraduates. Notably, among the aspects mentioned two of them are related to the innovation and academic spin-offs. This is of particular importance since research and innovation is being regarded as cornerstones of economic development. University-industry collaboration is emerging as a critical component of the innovation process. Regional policymakers are thus devising policy instruments to promote knowledge transfer between science and industry to strengthen their regional innovation systems. The emergence of this policy trend comes from the wide acceptance in innovation studies of the non-linear model of innovation to explain the innovation process. [15] As it is stated in the documents of the European Program Horizon 2020, the main areas of partnership are the following: Integration of European research; More cross-border and cross-sector/interdisciplinary collaboration; Creation of a powerful framework for academic and industrial research; De-risking effect and encouragement of entrepreneurship; Better use of the available funding; better availability of research results; Quicker adoption of standards Building of a genuinely EU-level supply chain capability; Resolving structural issues within sectors. [16]

From the study and research results we can conclude, that significantly more research needs to be done in relations to comprehend better higher education institution - business collaboration. This study particularly highlights the awareness of higher education institution - business collaboration partakers that more need to be completed. Researching the current importance and advancement, it becomes clear, that pre-selected statements categorized in the survey indicates that advancement is procrastinated in comparison with the importance. Clearly results show consistent gaps of 0,5 - 1 point on a seven-point scale between importance and advancement of pre-selected statements. The results call for the further investigation.

Conclusions

1. According to the respondents to this study, the incentive systems and models plays a key role in the development of higher education institution - business

collaboration policy. It is very important to project such systems in the which facilitates collaboration

2. Clearly results show consistent gaps of 0,5 - 1 point on a seven-point scale between importance and advancement of pre-selected statements. For some statements, after analysing responses can indicate large discrepancies between importance and advancement (difference of 2.1 point on a seven-point scale). Thus, these results indicate that the policy makers of the higher education institutions are not fully aware of the undergraduate students' needs in the current economic situation.

3. Analysing in more detailed way the areas having the largest gaps (scissors) will show us problem areas and will help us to work out guidelines for HEIs and their business counterparts in collaboration improvement.

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