

The role of university - business partnerships in increasing students entrepreneurial skills

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Abstract. In this paper, we first bone up on the literature as regards the relationship between universities and the business environment and its role on the development of entrepreneurship as an engine of economic growth. We continued the paper by presenting this relationship in the context of introducing projects related to entrepreneurship within the University of Petroșani. In the methodology part, on the one side, the university - business entity partnerships are statistically analyzed and on the other side, the results of a enquiry that was applied to entrepreneurs during 2019-2021 within the POCU project "EU - ENTREPRENEUR - increase of students participation from vulnerable categories to undergraduate study programs through entrepreneurial innovation" POCU Contract /379/6/21. The paper brings to interesting conclusions about the relationship between universities and entrepreneurs and how it can intensify the efficiency of this collaboration from the perspective of increasing the entrepreneurial skills of students.

1 Introduction

In today's global context, entrepreneurship is recognized as a driver of sustainable growth, competitiveness and employment in any nation's economy and universities as a catalyst for entrepreneurial innovation and adaptability of human resources with adaptability in a competitive economy.

This makes it necessary to strengthen the cooperation between universities and the business environment and the partnerships between the two parties prove to have an important impact on the amplification of the entrepreneurial and specialized competencies of the future specialists with higher education. In a globalized society and economy, in which knowledge has become the main factor of economic growth, both actors of this partnership are forced to redefine their role in relation to the academic approach. Universities need to be able to respond effectively to market demands and become more active in the knowledge-based economy [1]. In economically advanced countries, prestigious universities have a key role to play in their economic growth. Consequently, the University-economic environment relationship is one of strategic importance and public

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interest, and must be continuously developed and streamlined through appropriate government policies.

In this context, the purpose of the paper is to highlight the need to conclude partnerships between the University of Petroșani and economic agents from the neighboring region and/or economic agents that operate in the fields of ensuring the activity of university study programs and that can insert graduates into the labor market the university.

2 University - economic agents partnership at European level

Assuming that this relationship is a factor in the development of the state's welfare, the EU imposes its development as a third mission of universities [2].

The European Union has taken several steps to stimulate the promotion and strengthening of university-business partnerships, which are a key factor in the development of a Europe of knowledge. Thus, according to the European Commission, cooperation between universities and the economic environment must be intensified at national and regional level and focused mainly on innovation, the creation of start-ups, the transfer and dissemination of knowledge. In the EU, the main landmarks in the intensification of the interaction process between universities and the business environment were:

- The 2005 Hampton Court Summit discussed the modernization of higher education to meet the goals of transforming Europe into the world's strongest knowledge-based economy;

- Through the Universities Modernization Agenda, several directions of change have been established in universities, one of them being the university-business environment dialogue, more precisely the offering of incentives for encouraging partnerships with the business environment;

- The European Research Area Green Paper (ERA) proposes four methods to streamline innovative and research activities, so that along with high autonomy, providing public funding based on results and performance has a major role in stimulating innovative public-private partnerships;

- European Union Forum for University-Business Dialogue (Commission of the European Communities COM), initiated to develop university-business dialogue as a solution to insufficient training of graduates for the labor market and the still low capacity for innovation at European level;

- The EU Council report on the dialogue between universities and the business environment: a new partnership for the modernization of European universities shows that closer links and partnerships between universities and the business sector contribute to overcoming cultural, institutional and operational barriers between them and building a knowledge-based society, developing applied research and improving graduates' prospects for integration into the labor market [3];

3 University - economic agents partnership at national level

The importance of collaboration between universities and the business environment is frequently mentioned in romanian studies and literature and demonstrates that partnership agreements help in addition to create the actual partnership and facilitate direct contact between the economic agent and students, promoting studying programs supported by companies relevant for economic development, as well as the validation of the educational offer through feedback by the economic environment. Thus, the diagnostic analysis Universities and the economic environment [1] carried out by UEFISCDI shows that the

academic approach regarding the cooperation between universities and the economic environment can become effective only if there is real communication and availability from them as well as support through regulations, institutions and allocation of necessary resources [1]. There are other studies and projects related to these partnerships, one of them [4, 5] showing the interesting experience between universities and several companies representative of technological innovation.

4 The stage of knowledge

In order to highlight the current state of research and knowledge in the field, we consider important to mention together with the efforts of the European Union in this approach some points of view from the literature on partnerships as forms of collaboration between economic agents and universities [6].

The need for collaboration between universities and the economic environment has a history of several decades and is not limited to economic issues but also addresses the partnerships between universities and the business environment. Can have multiple purposes: research-innovation in order to create new products or technologies or improve the quality of existing ones, to solve different specific technical or design problems [7], to improve the relevance on the labor market of the study programs [8], total or partial financial support for the development of some projects developed by universities, by sponsoring organizations etc. [9]. The partnership relationship between academic and business environment is analysed by some researchers "as a key component in providing marketing orientation to modern university, aimed to provide superior value to all categories of stakeholders that the education institution interacts with" [10] or "for forming qualified specialists in the labor market during the process of their education in university" [11] thus improving graduates' employment opportunities [12].

In their research, Dima M. et al. [13] "point out that the partnerships concluded between the university and academy follow eight large directions and at times they might display overlapping characteristics: sponsoring activities, collaborative research (research partnerships and research services), curriculum development and delivery, academic entrepreneurship, human resource transfer (mobility of academics, mobility of students), informal interaction, commercialization of property right, and scientific publications".

The analysis of the specificities and the impact of the partnerships between the academic environment and the business environment is a concern not only of the authorities materialized in the elaboration of policies or strategies, but also of the researchers/specialists from universities materialized in a series of papers and specialized studies. A brief foray into the literature reveals a diversity of aspects analyzed, such as the specific nature of the interactions between universities and businesses (for example research partnership or public-private partnership programs in order to develop entrepreneurship education among students) [14, 15], factors that influence the frequency of collaborations between universities and businesses (research quality, geographical proximity or the scale of a university's R&D activities in the relevant area), the mechanisms of localised knowledge transmission [16].

Studies to date show that universities are likely to look widely for the best suited university partners, regardless of location; while Pablo D'Este and Simona Iammarino [17] show that "top ranked university departments are more likely to interact with spatially close industry partners, since geographical proximity is particularly favourable for leading-edge collaborative research projects, Adams [18] "claimed that top ranked university departments are more likely to attract distant industry partners, as compared to university departments that are low-ranked in terms of research quality".

Regardless of the nature of the partnership between universities and business environment (internship for students, training of graduates / specialists in correlation with labor market needs, research projects, etc.), the collaboration generates benefits not only for the two parties but also for the local community [19] or the national economy [20] justifying the involvement and support of local and central authorities or European authorities in overcoming any barriers to the proliferation of cooperation between schools of higher education and business environment such as: access to necessary funding, cohesive state policies etc. [21].

5 Presentation of the research field

A natural continuation of the EU's concerns regarding the improvement of human resources is achieved through the Human Capital Operational Program (POCU) which continues the investments made in the 2007-2013 through the POSDRU program..

Within the Human Capital Operational Program 2014-2020, Priority Axis 6 "Education and skills", Investment priority 10.II. "Improving the quality, efficiency and access to tertiary education and equivalent in order to increase participation and level of education, especially for disadvantaged groups", the University of Petroșani as a beneficiary applied and won the project EU - ENTREPRENEUR - increase participation of students from vulnerable categories to undergraduate programs through entrepreneurial innovation.

The general objective of the project aims to increase access and equity in tertiary university education, as well as the attractiveness, diversification and innovation of educational offers for the initiation and completion of academic and entrepreneurial approaches. Thus, in order to correlate with the needs of the labor market, students in the final years of the bachelor's cycle to improve their transversal skills and, at the same time, the teaching staff to ensure a modular design of entrepreneurial courses to provide in new learning environments, respectively online platforms. Thus, within the project activities were carried out through which students, teachers, and economic agents were involved in various activities such as entrepreneurial workshops, internships, caravans to promote the educational offer, experience exchanges or internships.

All these have determined positive effects on the learning environment in the university as well as a direct and stimulating effect for the business environment.

The project was a very complex one and was carried out with the help of 55 experts from the University of Petroșani and the University of Bucharest who during 26 months, determined the participation in the target group of 76 university teachers and 440 students and 40 economic agents.

An important number of activities were carried out in collaboration with economic agents from different fields of activity, starting from the Sector of Services, Transport, Tourism, Trade and Education. The economic agents were represented at meetings by the business owners as well as by their representatives, respectively managers, accountants or administrators.

In order to carry out these activities, partnerships were perfected between the University and the economic agents and was presented the way of organizing the experience exchanges, the entrepreneurial workshops and the training stages of the teachers. In addition, *the increase of skills was highlighted in order to support the deployment of the graduates and adaptability to the requirements of the labor market* that take into account: deepening knowledge and acquiring new skills provided in the University curriculum, by carrying out different activities within and in collaboration with the economic agent; increasing the motivation for practical training, through a better knowledge of the future profession by the students; preparation of young graduates for the labor market, by acquiring practical experience during the university studies; intensification of the role of the

economic agent/partner institution in the process of professional training of students by establishing a permanent dialogue between the economic agent/partner institution and University, presenting the current needs of the economic agent/partner in terms of practical training of students.

And the increase of the entrepreneurial skills of the students is an important objective as a premise for the development of an economic activity on their own and of the faster integration into the labor market. This objective took into account the achievement of activities specific to the development of the entrepreneurial skills integrated in the project for the students in the target group and was achieved by carrying out the training stages of the teaching staff or making exchanges of experience with the students, which were carried out at the office of the economic agent, at the University home or in the online environment.

6 Research methodology

The population of the research consisted of 40 economic agents with whom partnerships were perfected within the project. Their selection was made in the A2 activity, depending on several criteria, respectively: previous collaborations with the University, if the entrepreneurs were graduates of the University of Petrosani, the availability of collaboration, if the field of activity was correlated with the student study programs in the group target of the project, geographical area etc.

According to the point of view of the field of activity, 25% of them were from the industry respectively services, 25% from transport and in a lower proportion, trade and tourism and as a geographical area predominates Hunedoara county, but there were some companies from Gorj, Vâlcea and Bucharest counties (fig. 1).

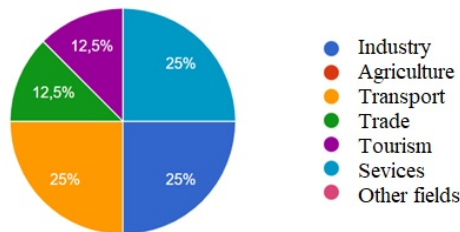


Fig. 1. The percentage of economic agents - respondents from different economic fields.

The collaboration relationship between the University and the economic agents was analyzed by mixed research methods, respectively qualitative methods and quantitative methods. The research was done in two stages.

The research hypotheses we have identified are:

H1_ Is the collaboration between the University of Petroșani and the economic agents with which partnerships have been concluded effective from the perspective of innovative activities?

H2_ Did the collaboration between the University of Petroșani and the economic agents with which partnerships were concluded have positive results for increasing the entrepreneurial skills of students?

In the first stage - the preliminary stage of the conclusion of the partnerships - a qualitative research tool was used, respectively the interview, carried out with the representatives of the economic agents. For the 40 companies, 32 entrepreneurs who

initiated and developed the business and 2 employed managers participated in the interview. Each of them was interviewed by the staff responsible for social innovation and partnerships who provided the information regarding the main subject of partnerships within the A2 activity. Together with this respondent for describing the existing perceptions on the collaboration and future directions that can be developed, experts from A3, A4 and A5 activities have also been in charge.

In these interviews, the semi-structured interview was used, with a list of predefined questions but which were filled in with other information to which the interviewed was stimulated to answer freely. Thus, during the interview, questions that were not prepared in advance appeared, but which clarified ambiguities and brought an extra useful information.

The result of this research stage was to establish *three major directions of collaboration*, respectively:

- presentation of the experience of business development by entrepreneurs;
- making experience exchanges and entrepreneurial workshops that allow the participation of students in debates and stimulating innovative ideas;
- the involvement of the teachers in presenting the results of the scientific research from the University and the possibility of implementing them within the economic agents.

Table 1. Situation of collaboration activities with economic agents.

Act. No.	Name of activity	Results
A1	Designing an innovative model of partnership with economic agents	12 models of partnership relations universities-economic agents identified (4 models in Romania and 8 from other member states of the European Union) 1 Set of benefits regarding the partnership relations between University and economic agents 2 general frames with directions of action for developing partnership relations with economic agents from the area of each university
A2	The establishment and operationalizing of two university centers of social innovation and student entrepreneurs EU-ANTREPRENOR	1 University Center for Social Innovation and Student Entrepreneurship EU-ANTREPRENOR 2 frame regulations elaborated and approved 40 partnerships perfected
A3	Set up in EU-ANTREPRENOR centers of experience exchange between teachers/students and economic agents/young entrepreneurs	30 experience exchanges between teachers/students and economic agents/young entrepreneurs (10 at the University partner and 20 at the applicant University) 374 students participating in experience exchanges
A4	Set up in EU-ANTREPRENOR centers of entrepreneurial workshops between economic agents and students a unor ateliere de lucru antreprenoriale periodice între agentii economici si studenți within complementary innovative programs	1 standard matrix of foundation an entrepreneurial idea 1 set of analysis indicators 30 Entrepreneurial workshops between economic agents and students from complementary innovative programs
A5	Evaluation of the effectiveness and efficiency of the partnerships developed within the EU-ANTREPRENOR centers, identifying and disseminating best student entrepreneurial practices	1 set of evaluation criteria EU-ANTREPRENOR Center 10 reports of progress EU-ANTREPRENOR center 1 volume of good entrepreneurial practices elaborated, printed and disseminated

In the second stage, within the activity of A5 each manager with whom we collaborated and with whom we concluded partnership, he completed an online questionnaire that

analyzed the effects that this collaboration had. Of the total of 40 questionnaires transmitted online and completed between January 2020-November 2021, 36 answers were received.

In order to evaluate the answers, a five-point Likert scale was created through which the correlations were followed between the expectations of the economic agents regarding the collaboration with the University, on behalf of both the students and the teachers from the perspective of the activities with the students.

Table 2. Criteria for evaluating the effects of university - economic agents collaboration.

The evaluation criterion	Synopsis	
	4	5
Evaluation criteria on collaboration with University from the perspective of innovative activities		
Allows a faster transfer of ideas and technology from the University environment to production field		
Research on the development of new products and/or services, invention patents or other forms of innovation may be developed.		
Evaluation criteria on collaboration with University from the perspective of activities with students		
Entrepreneurial workshops allow a flow of innovative ideas from students		
Knowing the company, allows promotion in academic environment		
Students may be attracted to the company as feature employees or collaborators		

Because the level of scaling was between 4-5, from the presentation of the results was eliminated the range 1-3 and for the quantitative phase of this research, centralized results were obtained in table 3. The results show maximum values for evaluating the collaboration between economic agents and University from the perspective of activities with students but also a favorable appreciation.

Considering the two proposed research hypotheses, the results obtained by applying the feedback questionnaire for the evaluation of activities carried out in partnership with economic agents show that:

- H1_ The collaboration between the University of Petroșani and the economic agents with which partnerships have been concluded is effective from the perspective of innovative activities is verified and shows a level of scaling (4) for the transfer of ideas and technology from the university environment to production and a level of scaling (4) for the development of new products and/or services, patents or other forms of innovation;
- H2_ The collaboration between the University of Petroșani and the economic agents with which partnerships were concluded had positive results for increasing the entrepreneurial skills of students is verified and shows a maximum scaling level for the activities carried out with students in order to increase entrepreneurial skills.

In conclusion, from the perspective of the H1 hypothesis, even if the scaling level is related to a good qualification level, this hypothesis can be discussed at the institutional level and in the future to identify tools through which the efficiency of the innovative activities carried out in partnership between the university and the business environment to be maximum and for hypothesis H2 the continuation of activities is considered so that high standards for the entrepreneurial education of students are maintained and perfected.

7 Conclusions

The evaluation of the effectiveness and efficiency of the partnerships developed in the EU-Entrepreneur centers was presented bi-monthly by the innovation evaluation and partnerships expert during the work meetings twice per month, together with the entrepreneurial workshops expert, the labor market facilitator and the social innovation and partnership responsible and finally these results were disseminated by the volume "Good entrepreneurial practices" printed at the Sitech Publishing House.

In conclusion, the work highlights the fact that the University environment must adapt and be in permanent contact with the business environment, to ensure the reduction of the gap between the requirements of the business environment and the education of the graduates.

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