

THE ROLE OF UNIVERSITIES IN PROMOTING EDUCATION AND ENTREPRENEURIAL INNOVATION

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ABSTRACT: *The importance currently given by the European Union to entrepreneurial education and to the promotion of entrepreneurship amongst youngsters derives from the benefits generated in the socio-economic development plan by the innovative solutions and products that add value following the manifestation of the entrepreneurial initiatives. There is talk of the necessity of introducing entrepreneurial notions in schools even from the 'early education', even if the advantages can be seen much later when the 'future entrepreneur' realizes there is more to it than a mere idea of making a dream come true: the idea must be accompanied by market researches, resources logistics, etc. However, as access to the necessary information and skills is facilitated through the education system, the chances of success increase, and the benefits generated do not stop only at the level of the entrepreneur and his material prosperity, but also consist in an increase of employment, of the social integration of individuals, of the income generated locally through the development of the business, all of which have effects on the growth of the economic development and the welfare of the society.*

KEY WORDS: *educational objectives, innovation, entrepreneurial ecosystem, higher education institute.*

JEL CLASSIFICATION: *A23, I23.*

1. THE NEED TO TACKLE ENTREPRENEURIAL EDUCATION AT THE LEVEL OF EDUCATIONAL SYSTEMS

In the quest to find and apply the most effective solutions to ensure sustainable economic growth and stable and well-paid jobs, the European Union has recently brought forward its interest in entrepreneurial capacity building aimed at promoting and supporting entrepreneurial education in schools, as well as showing entrepreneurial initiative by opening new businesses (Small Business Act for Europe - 2008, Communication on Rethinking Education - 2012, Entrepreneurship Action Plan 2020 –

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2013, EntreComp: The Entrepreneurship Competence Framework – 2016 etc.). Starting from the premise that entrepreneurial skills, knowledge and attitudes can be learned, the actions undertaken aim at [24] the creation of a European platform, a "hub" for entrepreneurial learning, where best practices are shared and common policy models and implementation systems are developed and evaluated; the inclusion of basic knowledge in entrepreneurship in the national curricula at all education levels: primary, secondary, vocational, higher education and non-formal; the activities and materials should be designed to increase their understanding of basic economic concepts as well as the practicalities of different types of jobs in a community, salaries, savings and challenges; gaining entrepreneurial experience before completing secondary education (at least as a formal part of the curriculum or as an extracurricular activity endorsed by the school or by a non-formal educational entity); encouraging and supporting the development of entrepreneurial education institutions (vocational and superior); etc.

The presentation of the characteristics of the approach of the entrepreneurial education in the Romanian education system is relevant given the conditions, prior to this endeavour, of a brief picture of the general framework of organization and deployment of the Romanian education system. Thus, according to Education and Training Monitor 2019. Country analysis [10] and compared to European values, the results recorded by the level of the Romanian education on some indicators regarding *Early leavers from education and training (age 18-24)*, *Tertiary educational attainment (age 30-34)* or *Early childhood education and care (from age 4 to starting age of compulsory primary education)* show improvements which are insufficient however, to reach the European average; unfortunately, in the case of other indicators like *Proportion of 15 year-olds underachieving in: reading, maths or science*, *Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)*, *Adult participation in learning (age 25-64)* or *Public expenditure on education as a percentage of GDP* we have witnessed decreases in the values recorded in 2018 compared to 2009 and obviously increases in the gap compared to the European averages related to these indicators. A number of other conclusions accompany the aforementioned study, of which the following can be retained [10]:

- Investment in education remains low in EU comparison, and funding mechanisms to support equity are weak (in 2017, general government spending on education was equivalent to only 2.8% of GDP, significantly below the EU average of 4.6% and the lowest percentage in the EU, underinvestment being particularly felt in pre-university education; although the funding per student is larger in rural regions and disadvantaged areas, they prove unattractive for highly qualified teachers;
- The demographic decline has led to the closure of many schools, but the remaining ones often do not meet the basic material and hygienic-sanitary requirements thus, redesigning the school network to improve efficiency and free up resources for quality improvements needs to be imposed;
- Participation rates in early childhood education and care are improving but there are still challenges linked to access and quality;
- Early school leaving is high, with repercussions for the labour market and the economy (in 2018, the rate of early leavers from education and training

(age group 18-24) was 16.4%, remaining one of the highest in the EU (EU average: 10.6%);

- The acquisition of basic and digital skills as reading, maths, or science is still problematic;
- It is necessary to improve equity in education, equity challenges disproportionately affecting the Roma and students from rural areas, who tend to have lower educational outcomes;
- Participation in higher education is significantly below the EU average of 40.7% and below Romania's national Europe 2020 target of 26.7% although the percentage of graduates in science, technology, engineering and mathematics (STEM) as a total of higher education graduates is among the highest in the EU; another disadvantage of the higher education system in Romania is seen by the graduates as consisting of the large volume of theoretical knowledge to the detriment of soft skills;
- It is necessary to continue efforts to expand dual vocational education and training and to develop adult learning etc.;
- The Romanian entrepreneurial ecosystem appears relatively rich in terms of universities involved in entrepreneurial education and in the presence of actors, such as incubators, accelerators and others business facilitators, however the entrepreneurial phenomenon is strictly associated with the urban environment; [18]
- In order to advance in career, university professors are reviewed based on criteria that mainly take into account the scientific research justified by specialized publications, "have no formal incentives to involve themselves in entrepreneurial ecosystems and notably to mentor students or to expand their teaching towards innovative entrepreneurship, collaborations with industry and the social environment". [18]

By overlapping this picture and the one achieved at the level of the European Union, there are some directions of action that can be aimed at the general objective of the Europe Strategy 2020, to ensure a growth conducive to inclusion by promoting the sustainability and quality of the jobs and supporting the mobility of the workforce, as well as investments in education, training and vocational training and lifelong learning. From the point of view of the policies in the field of education in correlation with the labour market, the approach can be made both from the perspective of the demand for labour force, according to which the educational institutions must correlate their training provided during the school year with the demands of the labour market, as well as from the perspective of the job offer according to which graduates of a form of education must have a set of relevant skills and competences to enhance the graduates' employability. Unfortunately, from this standpoint, the lowest values registered in Romania were when the students were asked how well had the school prepared them to face the challenges existing on the national labour market (37%) and on the international labour market (27%) respectively [The European Higher Education Area in 2018], the main reason invoked being that of lack of practical skills. Practical training is regarded as a key element in enhancing graduates' employability, through practical training and work placements, students have the possibility to acquire the skills demanded by employers.

Moreover, the Romanian entrepreneurial sector suffers from an internal competition for talent, as well as brain drain (Countries around the world are increasingly competing for entrepreneurial talent) [18].

Supporting the students' transition to work is compulsory only in 14 countries, Romania being one of them. This can mean, for example, that career guidance services are prescribed in law. When it comes to supporting the disadvantaged students' transition to work, the support is most commonly targeted at students with disabilities, or, in the case of Romania, Moldavia and Hungary, at providing specific support for people from minority backgrounds (for example for the Roma minority) [19].

Schools have an important role in creating and fostering the entrepreneurial culture. Schools may offer activities that enable students to experience entrepreneurship in practice. Higher education is considered the most appropriate to develop entrepreneurship while European studies show that the companies set up by students or graduates are the most innovative and most ambitious in terms of turnout and number of employees. [3]. The motivation to become an entrepreneur is more intense in the case of students and those who have completed high school education by the fact that "they have acquired throughout the school year a more or less solid basis of knowledge, skills and attitudes (creativity, innovation, risk taking) in the economic field that helps them to understand a given context and to evaluate opportunities determining the entrepreneurial initiative and the beginning of an economic activity" [3]. Not all ideas that were turned into a business last, but "the speed with which these businesses are set up, disappear, develop or weaken represents what economists call economic dynamism." [5].

Entrepreneurial training is not only limited to the curricula, but it is enhanced by a series of initiatives by which students can gain work experience before graduating from university (e.g. the Erasmus + Program, the Junior Achievement Romania program, the START UP program, the Programs of the Agency for the Implementation of Programs and Projects for SMEs, Operational Program Human Capital (POCU), Business Mentoring Program etc.).

2. THE IMPORTANCE OF COOPERATION BETWEEN UNIVERSITIES AND THE BUSINESS ENVIRONMENT

In the context of knowledge-based economy and of ever-increasing global competition, as well as confronting the inner demographic challenge, Europe's economic growth and new jobs will stem from innovative discoveries in the field of products, services and business models, as well as its ability to cultivate, attract and retain talent.

The interdependence between research, innovation and higher education is highly recognized within the European Union's initiatives and programs. The efficient cooperation between universities and the business environment contributes decisively to the regional development and this subject has been of great interest in the last years. However, the synergetic potential is threatened by communication failures between higher education institutions and regional beneficiaries, as well as by unclear political signals or divergent agendas. In light of the results of an OECD study on higher education institutions and regional involvement [21], the cooperation of universities with the regional business environment is threatened by the existence of several barriers:

firstly, the two types of institutions can have divergent goals and priorities, as well as difficulties in identifying partners. Secondly, universities are not always interested in the topics proposed by companies, preferring the pragmatic approach to the academic one. Thirdly, restrictions on the publication of research results may act as a barrier to the involvement of higher education institutions.

Given the current situation and the requirements, two general objectives have been set for promoting the cooperation between university and business at European level:

- increasing the relevance of higher education for the labour market
- improving the innovation capacity of the European Union.

Universities have the potential to be key determinants of Europe's ambition to be the world's first knowledge-based economy and society, considered today as being at the heart of the European knowledge triangle, and playing a triple role [21]:

- education providers at the highest level,
- advanced research providers,
- innovation providers, pioneers.

Achieving this potential requires change as long as it is considered that 'the high potential of universities is under-exploited' [4]. The necessary adjustments include [4]:

- greater autonomy and accountability of universities before society in carrying out their public mission;
- widening of (appropriate) financing arrangements
- increased transparency and openness;
- partnerships with the business community;
- promoting (worldwide) excellence in teaching and research;
- appropriate practices of human resource management.

Universities must become open systems capable of reaching a high level of integration with the economic, administrative, political and non-profit environment and respond effectively to the challenges of a society based on knowledge. In this respect, universities should strike structured partnerships with businesses with the aim of 'becoming important players in the economy, able to respond better and more quickly to the market needs and develop partnerships using scientific and technological knowledge'. [21]

Cooperation between universities and businesses involves two communities with obvious differences in culture, values and missions. Across Europe there are examples of successful cooperation between the two parties, and EU programmes have sought to build partnerships between the two areas, normally focusing on partnerships in specific areas, such as research or student mobility. However, the level of cooperation remains very different between countries, universities and academic disciplines. In addition, the extent to which this cooperation has influenced governance or the organizational culture in the two sectors concerned is limited. Few universities have a strategy for cooperating with enterprises at the institutional level; the ones that have it can be found in a small number of Member States. In many countries, the legal and financial framework still do not reward or may even hinder universities' efforts to cooperate with businesses.

"It is more common for employers to be involved in decision-making bodies than in curriculum development. In some countries, employers have to be involved in curriculum development in professional higher education institutions (for example in France, Latvia and Portugal). In Belgium (Flemish Community), Cyprus, Estonia, Germany, and Slovakia, for example, employers are typically involved in the curriculum development in such institutions" [19]. On the other hand, in Romania, entrepreneurial education, in light of the regulation in force, cannot be supported by entrepreneurs, even though they have proved their success in business, unless they have the necessary training that allows them to teach in universities, although "it is an international standard to involve business people, notably entrepreneurs, as role models to share their experience with students, in entrepreneurial education programmes." [18]

3. ENCOURAGING ENTREPRENEURSHIP IN UNIVERSITIES AND THE TRANSFER OF KNOWLEDGE TO ENTERPRISES

Europe needs to intensify its efforts in the fields of higher education, research and innovation and adopt a strong, open and genuine entrepreneurial culture, which is essential to be promoted and supported for the materialisation of research and innovation, for the establishment of new businesses and the effective introduction of innovation on the market in sectors with strong growth potential.

Europe needs to promote the role of higher education institutions as drivers of innovation, because talent must be equipped with the skills, knowledge and attitudes needed to stimulate innovation. Universities are an actor of innovation, not only for their ability to generate knowledge, but also for their ability to spread it. Encouraging research and innovation, but also stimulating entrepreneurial initiatives in the academic environment represent the efforts to modernize higher education.

The challenge for higher education is to provide learning contexts that stimulate autonomy, creativity and an entrepreneurial approach to the use of knowledge. A regular flow of students and academic members from universities to businesses and a constant presence of business people on campus would support the necessary culture change.

Development and implementation of research and innovation agendas, by creating effective links between industry and academia, the leverage effect of additional investments, access to risk finance, standardization and support of pre-commercial procurement, and the purchase of innovative products and services are all key issues in addressing competitiveness.

At present, in the European Union, the development of an entrepreneurial mentality and the promotion of entrepreneurial initiative among young people is supported through several initiatives such as HEInnovate, the Erasmus+ Program or the Marie Skłodowska-Curie Program.

HEInnovate is an initiative of the European Commission, DG Education and Culture and the OECD LEED Forum. It operates as a free self-assessment tool (covering eight areas such as: Leadership and Governance; Organisational Capacity: Funding, People and Incentives; Entrepreneurial Teaching and Learning; Preparing and Supporting Entrepreneurs; Digital Transformation and Capability; Knowledge Exchange and Collaboration; The Internationalised Institution and Measuring Impact)

for all types of higher education institutions allowing them to assess themselves using a number of statements related to the entrepreneurial and innovative nature of their higher education environment [22].

Erasmus+ is the EU program for education, training, youth and sport which runs from 2014 to 2020 and offers students and different categories of people (teachers, trainees, non-teaching / administrative staff, students, young volunteers, etc.), the opportunity to study, to train and gain experience abroad [17]. The implementation of the program in activities that promote entrepreneurial education and stimulate entrepreneurship as means to reduce unemployment amongst youngsters and increase equity and social integration is achieved through non-formal learning activities, which aim to improve the skills and competences of young people, skills which are necessary on the labour market, as well as to promote active citizenship. According to Mid-term Evaluation of the Erasmus+ Program for the period 2014-2020, this has "a positive effect on the development of skills and competences, thus boosting employability and entrepreneurship and reducing the transition period from education to employment (a 13% higher rate compared to those who did not participate in the Erasmus+ Program or in the ones that preceded it)." [11] As beneficiaries of Erasmus+ Programme, practitioners declares that they are satisfied with their mobility experience, considering that this has greatly contributed to their competence development (thus, 82% of them admitted to have developed their practical skills – planning, organising, project management etc.; 74% said it improved their sense of initiative and entrepreneurship, as well as analytical skills, while 67% improved their organisational, management or leadership skills [11].

Marie Skłodowska-Curie Actions (MSCA) provide grants for all stages of researchers' careers - be they doctoral candidates or highly experienced researchers - and encourage transnational, inter-sectorial and interdisciplinary mobility. The MSCA enable research-focused organisations (universities, research centres, and companies) to host talented foreign researchers and to create strategic partnerships with leading institutions worldwide. The MSCA are open to all domains of research and innovation providing experience outside academia, hence developing innovation and employability skills [23].

4. PREMISES FAVORABLE FOR THE ESTABLISHMENT AND OPERATION OF SOCIAL INNOVATION AND ENTREPRENEURIAL CENTERS IN UNIVERSITIES

Research conducted to measure young people's perceptions of the entrepreneurial environment in Romania (e.g. *Barometer of education and entrepreneurial culture among young people Romania 2014* or *Romanian Entrepreneurship Barometer. Summary of the results of the 2016 edition*) sought to determine the expectations, barriers and measures that would help to develop businesses seen from the perspective of those who are or want to become entrepreneurs. If we take into account the aforementioned studies, one of the pillars that facilitate entrepreneurship (alongside access to finance, regulation and taxation, coordinated support or entrepreneurial culture) is entrepreneurial education. From the perspective of

entrepreneurs, entrepreneurial education (which includes in addition to formal education, the coming in contact with entrepreneurial models) has recently improved, the positive impression on entrepreneurial education having close values if age segmentation is pursued, with a higher percentage among young entrepreneurs (under 40 years old); "however, compared to what is being achieved in the field of entrepreneurial education in other countries, Romania still has a few more steps to take." [5]

Education as a pillar of entrepreneurial development is mainly associated with university studies. Universities can be entrepreneurial from at least three points of view [5]

- by teaching courses which supply information that fits into the basic or advanced culture of entrepreneurship and by passing on the skills needed for a good entrepreneur;
- by organizing a set of activities that support entrepreneurship (Pitch sessions, business plan competitions, internships, mentoring programs, etc.);
- very fast adaptation to the needs of the labour market and the ever-changing training needs of students, involving the business environment, the community, the authorities, etc. in their activities.

The competencies acquired in undergraduate studies consist of a complex set of professional competencies, which differ depending on the specifics of the study program and the field of study; they are complemented by a number of transversal competencies which are listed here:

- carrying out professional tasks rigorously, efficiently and responsibly, complying with ethical principles and professional ethics;
- applying group networking techniques, learning and exercising specific roles in teamwork by developing interpersonal communication skills;
- self-assessment of the need for vocational training and identification of resources and ways of training and personal and professional development, for the purpose of insertion and adaptation to labour market requirements;
- efficient use of information sources and communication resources and assisted professional training (internet portals, specialized software, databases, online courses, etc.) both in Romanian and in an international language.

It is noted in the professional competencies, that the emphasis is laid on three components: responsible execution of professional tasks, communication and teamwork, as well as on the awareness of continuous education for professional development.

Transversal competencies represent a transferable and multifunctional package of knowledge, skills (abilities) and attitudes that all individuals need for personal fulfilment and development, for social inclusion and professional insertion. They must act as a foundation for learning as part of lifelong learning. The use of the phrase *transversal* highlights its formation through several disciplines and not only by studying one subject; therefore, the elaboration of curricula (be it initial or continuous training) must explicitly take this characteristic into account.

Trans-disciplinarity focuses on everyday life, on really significant issues, as they arise in everyday and affect people's lives. Both the competences and the contents

integrate around life issues: harmonious personal development, social responsibility, integration into the natural and sociocultural environment. The term trans-disciplinary, although frequently used, does not appear to have a stable meaning or a unanimously accepted content. Widely used, this term, most frequently, makes us break down disciplinary barriers for the purpose of disciplinary enrichment or multiplication of the resources of a discipline. Trans-disciplinarity most often combines theories, methods and techniques that exist independently in several fields and reorganizes them by preserving or giving new meanings to some areas of knowledge.

In such a context, there is also the need to acquire entrepreneurial skills among young people, if not achieving this even from 'early education'; the arguments for supporting such an initiative at European level derive from the benefits generated by sustaining an active entrepreneurial environment at the company level: stimulating the capacity of professional insertion, the possibility of building professional careers as a result of setting up and managing firms, reducing unemployment and increasing living standards, etc. Considering entrepreneurship a cross-cutting competence which applies to all spheres of life: from nurturing personal development, to actively participating in society, to (re)entering the job market as an employee or as a self-employed person, and also to starting up ventures (cultural, social or commercial) is accepted at European Union level too, according to The EntreComp study. "The conceptualisation of entrepreneurship as a competence was therefore the stepping stone for the development of a reference framework" [1]. The EntreComp conceptual model is made up of two main dimensions:

- the 3 competence areas, tightly intertwined, which directly reflect the definition of entrepreneurship as the ability to turn ideas into action that generate value for someone other than oneself ('Ideas and opportunities', 'Resources' and 'Into Action');
- the 15 competences which represent the foundation of the entrepreneurship as a competence for all citizens (for example: spotting opportunities, creativity, vision, valuing ideas, ethical and sustainable thinking, self-awareness and self-efficacy, motivation and perseverance, mobilizing resources, financial and economic literacy, mobilizing others, taking the initiative, planning and management, coping with uncertainty, ambiguity and risk, working with others, learning through experience).

The process of acquiring/training these skills is carried out at university level through courses comprising elements of entrepreneurial education, creating different educational contexts, mentoring those who want to set up a business, organizing contests and competitions with an entrepreneurial theme (e.g. Pitch Session or Business Plan competition), but also the result of collaboration between the educational environment and businesses through internships, entrepreneurial workshops where entrepreneurs can share their successful experiences with students, spin-offs from university research, etc.

The establishment and operation of a Centre for Social Innovation and Entrepreneurship derives from the need to contribute to the local economic growth by strengthening the innovation capacity of students of the University of Petrosani, in particular, but also of members of the local community, thus helping to increase their capacity to transform research results into high-value products and services.

The Centre for Social Innovation and Entrepreneurship should be granted a high degree of autonomy in defining the internal organisation, its members, agenda and working methods, enabling it to choose the most appropriate methods for achieving its objectives. The successful operation of the Centre must be based on highly integrated partnerships that bring together in the long term, in the light of specific social challenges, the university, the local and regional business environment and other stakeholders interested in local development.

Through the work carried out within the Centre, it is imperative to seek to accelerate innovation and create multidisciplinary and interdisciplinary environments in which innovation is more likely to thrive and generate significant progress in the way higher education, research and businesses collaborate. This perspective will help address the more complex and interconnected social challenges within the Jiului Valley and the county area, combining sectorial and cross-sectorial innovation and bringing together leading individuals from different sectors, backgrounds and disciplines – who would otherwise not meet – to jointly find solutions to challenges.

A balanced participation of the different components of the knowledge triangle (learning-research-innovation) gives it the opportunity to become competitive at local and regional level.

Businesses can play an important role in carrying out the Centre's activities on condition it manages to attract investments and secure long-term business commitments. Businesses and the entrepreneurial environment can also provide assistance to the Centre in designing and providing entrepreneurial courses. Educational partnerships between the University - Centre for Social Innovation and Entrepreneurship and enterprises can be extended with existing forms of cooperation currently used in the world such as: workshops, conferences, traineeships and projects activities (individual or in multidisciplinary groups). Extra-curricular opportunities were considered valuable, e.g. student-set consultancies or business nurseries providing personalized support to students and teachers expressing concrete ideas to launch new businesses (start-up companies or companies relying on university research). All these activities should be accessible to students from the beginning of their studies and should be integrated more into programmes.

The range of activities that can be supported at the Centre level varies from actions to organise courses to acquire entrepreneurial skills to simulations such as: create and manage your own business, support in turning business ideas into sustainable projects, mentoring services dedicated to setting up new businesses until one can develop integrated partnerships with business environments, in particular, that enable the optimisation of existing resources for all partners, the development of new innovative models, access to new business opportunities offered by the local or national market or the possibility to create links with other similar organisations/institutions in the country or abroad.

At the same time, it is desirable for the Centre to amplify its impact by disseminating best practices on how the knowledge triangle can be integrated with the development of entrepreneurship, by integrating relevant new partners when they can add value and by actively encouraging a new culture of knowledge sharing.

The Centre must also present clearly defined annual business plans, providing for a multiannual strategy and including an ambitious range of activities, from education to setting up businesses, with clear objectives and expected results, seeking both market and social impact.

Through its operations, the Centre must act as an 'innovation catalyst' by adding value to the existing research base, by accelerating the adoption and exploitation of technologies and research results and by transferring these results to education. Innovation activities will also contribute, in their turn, to the alignment and leverage of research investments and to the adaptation of education and training activities to make them more responsive to the needs of the businesses. In light of these, the Centre must be endowed with a considerable degree of flexibility, enabling the testing of new innovation models, as well as the rapid adaptation to make better use of emerging opportunities.

Within the Centre, the approach to innovation must be geared towards:

- *People*: putting students, researchers and entrepreneurs at the heart of its efforts. This offers new career paths and mobility options between the academic environment and the private sector, as well as innovative professional development programmes;
- *Results*: by focusing both on the market and on the social impact. It is necessary for the Centre to operate on a commercial ground, on the basis of annual business plans, including an ambitious portfolio of activities from education to setting up a business, with objectives, forecasted results and clear key performance indicators so it can be easily assessed.

Another objective to be pursued within the Centre should be to strike as many partnerships as possible with the SMEs, which are also encouraged by the initiatives and programmes currently in place at the EU level (e.g. the Marie Skłodowska-Curie programme) and aimed at delivering benefits from cooperation and coordination. Significant involvement of businesses, including SMEs and other socio-economic actors proves to be beneficial in equipping researchers with the cross-cutting skills in innovation and entrepreneurship required by future jobs and in encouraging them to explore the possibility of a career in industry or in the most innovative enterprises.

5. CONCLUSION

Europe faces a number of structural weaknesses in terms of innovation capacity and the ability to deliver new services, products and processes, hampering sustainable economic growth and job creation. The key problems include Europe's difficulties in attracting and retaining talent, insufficient use of existing advantages in researches for creating economic or social value, failure to put the results of the researches on the market, low levels of entrepreneurial activity and entrepreneurship, low mobilisation of private investments in research and development, insufficient resources from the poles of excellence, including human resources, to face global competition, as well as an excessive number of obstacles to collaborating at European level within the knowledge triangle - higher education, research and innovation.

The removal of these structural weaknesses, which were made aware at the level of the EU institutions, has led to the development of numerous studies and analyses that enable the establishment of the necessary corrective measures and actions, which will later be adjusted in order to make 'Europe internationally competitive'.

The main conclusions that can be drawn from the researches which had the main purpose to analyse the functionality of the education-research-innovation 'knowledge triangle' are the following:

- developing an entrepreneurial culture within universities requires profound changes in the governance and leadership of universities;
- entrepreneurial education must be comprehensive and open to all students interested, in all university subjects, with due respect for gender equality;
- universities should involve entrepreneurs and business people in teaching entrepreneurship;
- teachers in university and pre-university institutions should also have access to vocational training in entrepreneurship and exposure to the business environment.

The involvement of higher education institutions in encouraging the entrepreneurial spirit takes a number of forms: introducing specific courses in the curricula, the requirement to create student entrepreneurial societies, mentoring, organizing contests and competitions with entrepreneurial theme (eg Pitch Session or Business Plan competition), business partnerships that take the form of student internships, workshops with entrepreneurs who can share their successful experiences, etc in business incubators and accelerators or innovation clusters, while the effects of the implication can materialize in start-ups set up by students or spin-offs from university researches.

In this context, the work of the Social Innovation and Partnership Centre "Eu-Antreprenor" is considered necessary to be established and operationalized within the University of Petrosani, which will aim to stimulate the integration of higher education, research and innovation to the highest standards, thereby creating new environments conducive to innovation, as well as to promote and support a new generation of entrepreneurs by stimulating the creation of innovative spin-off and start-ups.

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