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Roadmap to Entrepreneurial University – Case study

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Abstract

The paper discusses the entrepreneurial university as a trend in the development and transformation of higher education institutions (HEI). The debate is about the different possible approaches to entrepreneurship for HEIs, the reason, relevance and the importance of an entrepreneurial university, which are the entrepreneurship components and what are the mission, objectives, strategies needed to become an entrepreneurial university. A case study of a university is considered, with the analysis of a survey results. A proposal for a roadmap is also presented, illustrating the way to become an entrepreneurial university.

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1. Introduction

Entrepreneurial university is a trend in the development and transformation of higher education institutions (HEI) (Sam & Van Der Sijde, 2014; Baker, 2015; Thorp & Goldstein, 2013). The debate is about the different possible approaches to entrepreneurship for HEIs, the reason, relevance and the importance of an entrepreneurial university, which are the entrepreneurship components and what are the mission, objectives and strategies needed to become an entrepreneurial university.

Although there is no official definition of entrepreneurship, the following one has evolved from the work done at Harvard Business School and is now generally accepted by authors: "Entrepreneurship is the process of creating or seizing an opportunity and pursuing it regardless of the resources currently controlled" [Timmons et al., 1994].

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The entrepreneurial function can be conceptualized as the discovery of opportunities and the subsequent creation of new economic activity, often via the creation of a new organization (Reynolds et al., 2005). Today's higher education institutions are being assessed by the ways in which they respond to the social and economic needs of the society. Besides education and research, there are many other issues to be addressed.

2. HEIs and innovation and entrepreneurship

Higher education institutions (HEIs) are a major source of the skills and knowledge that drive growth and innovation in today's economy (Kruss et al., 2016). However, changes are needed to ensure that they are adapted to the task of creating entrepreneurial thinking, stimulating business creation and exploiting ideas in society. Exploring what to change, we consider a case study of a university and use of a tool (HEInnovation) to investigate the current situation regarding entrepreneurship and innovation.

HEInnovate is a self-assessment tool to be used by all types of HEIs, facilitating the assessment in a systematic way, opening up discussion and debate on the entrepreneurial and innovative nature of higher education institutions (EC OECD, 2016). It is free, confidential and open to anyone to use. Rather than defining a single way forward, it offers self-assessment, guidance and good practice materials to take action. HEInnovate has been designed and developed as a tool to help higher education institutions to assess what needs to be changed or to be improved in order to address the challenges they are facing.

HEInnovate provides access to relevant resources for further improvement and inspiration. The tool is specifically aimed at those looking for advice, ideas and inspiration for the effective management of institutional and cultural change.

HEInnovate is intended for use by all types of higher education institutions in all EU Member States, therefore rather than defining a single way forward, it offers a self-assessment tool and additional guidance and good practice materials. HEInnovate enables higher education institutions to assess themselves against a number of statements related to the entrepreneurial and innovative nature of their higher education environment.

The survey areas for self-assessment are [EC OECD, 2016]:

Area 1. Leadership and Governance. Strong leadership and good governance are crucial to developing an entrepreneurial and innovative culture within an HEI. Many HEIs include the words 'enterprise' and 'entrepreneurship' in their mission statements, but in an entrepreneurial institution this is more than a reference. This section highlights some of the important factors an HEI may consider in order to strengthen its entrepreneurial agenda.

Area 2. The organizational capacity of an HEI drives its ability to deliver on its strategy. If an HEI is committed to carrying out entrepreneurial activities to support its strategic objectives, then key resources such as funding and investments, people, expertise and knowledge, and incentive systems need to be in place to sustain and grow its capacity for entrepreneurship.

Area 3. Entrepreneurial teaching and learning involves exploring innovative teaching methods and finding ways to stimulate entrepreneurial mind-sets. It is not just learning about entrepreneurship, it is also about being exposed to entrepreneurial experiences and acquiring the skills and competences for developing entrepreneurial mind-sets.

Area 4. Preparing and Supporting Entrepreneurs. HEIs can help students, graduates and staff consider starting a business as a career option. At the outset, it is important to help individuals reflect on the commercial, social, environmental or lifestyle objectives related to their entrepreneurial aspirations and intentions. For those who decide to proceed to start a business, or other type of venture, targeted assistance can then be offered in generating, evaluating and acting upon the idea, building the skills necessary for successful entrepreneurship, and, very important, finding relevant team members and getting access to appropriate finance and effective networks. In offering such support, an HEI should ideally act as part of a wider business support ecosystem rather than operating in isolation.

Area 5. Knowledge exchange is an important catalyst for organizational innovation, for the advancement of teaching and research, and for local development. It is a continuous process which includes the 'third mission' of an HEI, defined as the stimulation and direct application and exploitation of knowledge for the benefit of the social, cultural and economic development of society. The motivation for increased collaboration and knowledge exchange is to create value for the HEI and society.

Area 6. Internationalization is the process of integrating an international or global dimension into the design and delivery of education, research, and knowledge exchange. Internationalization is not an end in itself, but a vehicle for change and improvement. It introduces alternative ways of thinking, questions traditional teaching methods, and opens up governance and management to external stakeholders. Therefore, it is linked very strongly to being entrepreneurial. It is not possible for an HEI to be entrepreneurial without being international, but the HEI can be international without being entrepreneurial or innovative.

Area 7. Measuring Impact. Entrepreneurial/innovative higher education institutions need to understand the impact of the changes they bring about in their institution. The concept of an entrepreneurial/innovative HEI combines institutional self-perception, external reflection and an evidence-based approach. However, impact measurement in HEIs remains underdeveloped. The current measurements typically focus on the quantity of spin-offs, the volume and quality of intellectual property generation and research, income generation, rather than graduate entrepreneurship, teaching and learning outcomes, retaining talent, the contribution to the local economic development or the impact of the broader entrepreneurial agenda. This section identifies the areas where an institution might measure impact.

Under each of the seven areas, statements have been designed so that individuals can rate them on a scale of “not applicable” (n/a) to 5, according to how much they agree or disagree with the statement in relation to their institution. On the scale, 1 represents the lowest and 5 the highest score.

These seven areas can include facilitating social mobility, wider access to higher education for disadvantaged groups, graduate employability, further to short- and long-term contributions to national economic growth and local development, and stimulating the birth of new enterprises and innovation in existing firms. There is no “unique” approach, but a variety of ways in which higher education institutions can act entrepreneurially. For example, the way that they manage resources and build organizational capacity; involve external stakeholders in their leadership and governance; create and nurture synergies between teaching, research and their societal engagement, and how they promote entrepreneurship and innovation through education and business start-up support, as well as knowledge exchange to enhance the innovation capacity of existing firms. [EC OECD, 2016].

3. Methodology

The case study was carried out to a sample of 400 people from Politehnica University of Timisoara (UPT), during the university year 2016-2017.

The respondents were 267 students, 53 non-students (professors, deans, PhD students, administrative personnel, researchers) and 80 anonymous people.

The questionnaire was conceived and applied within the project named “Entrepreneurial University” (Junior Achievement Romania, 2016), which was developed by Junior Achievement Romania, a non-profit educational organisation, part of JA Worldwide, USA and Europe (Junior Achievement Romania, 2017) with the purpose of sustaining higher education institutions to improve their entrepreneurial and intrapreneurial approach in relationship with the business community, as well as for supporting the students’ entrepreneurial education and dynamic training for the labour market.

Promoting both this survey and the tool used within the research (the questionnaire) was carried out by the UPT staff. The research method used is the investigation, namely the questionnaire conceived by the HEInnovate team. The survey was carried out online, and so was the filling in of the questionnaire.

4. Case study

4.1. The survey results

The results for all 7 area are presented below (figure 1 to 7 and table 1). Figure 1 to 7 presents the results on each of the 7 area of the questionnaire, and the table presents the statements with the higher and lower score, as well statements with largest dissimilarity between the points of view (variation). We present in the end some proposal for

UPT made through a workshop held at the university (Innovation Days, 2017) with the goal to find new perspectives for development of entrepreneurship and innovation in universities.

There can be some critical reviews regarding questionnaire. The weak points of the survey are represented by the fact that the results obtained from the research are too homogeneous and the variation between different areas is very small.

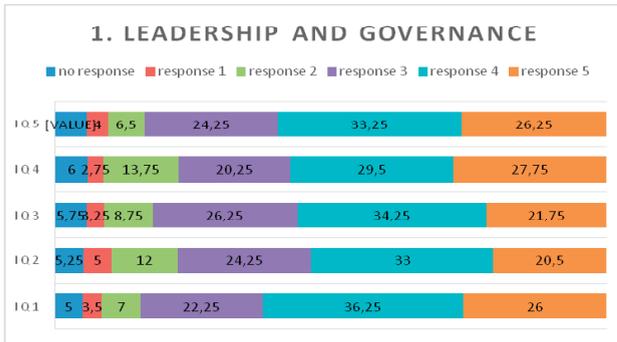


Fig. 1. Survey results for Area 1

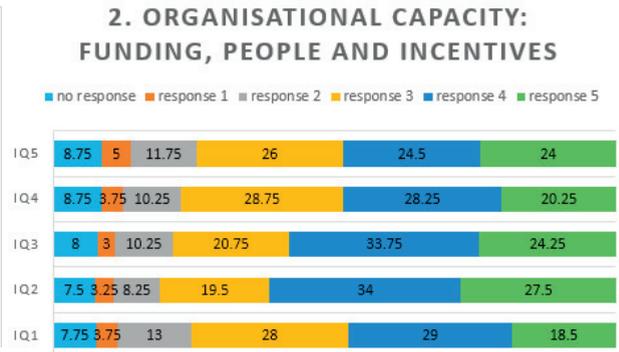


Fig. 2. Survey results for Area 2

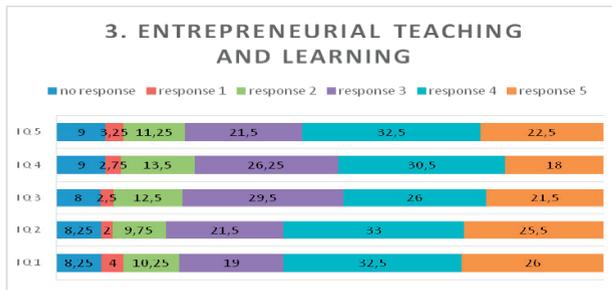


Fig. 3. Survey results for Area 3

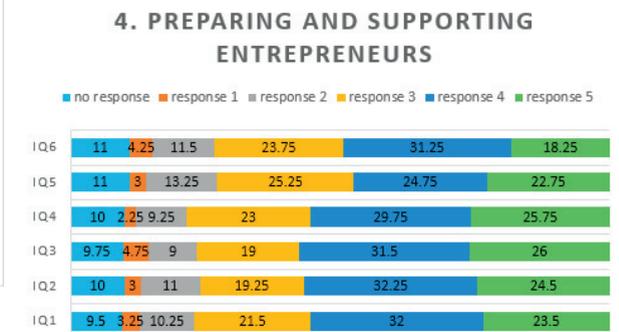


Fig. 4. Survey results for Area 4

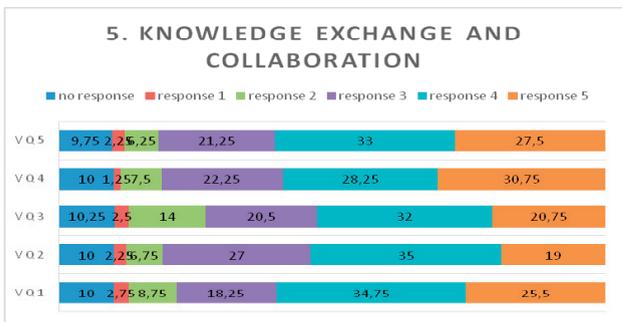


Fig. 5. Survey results for Area 5

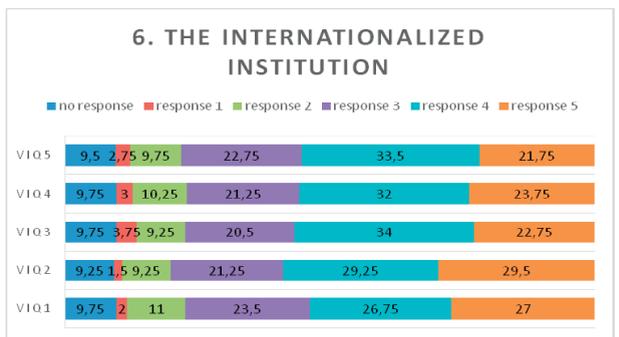


Fig. 6. Survey results for Area 6

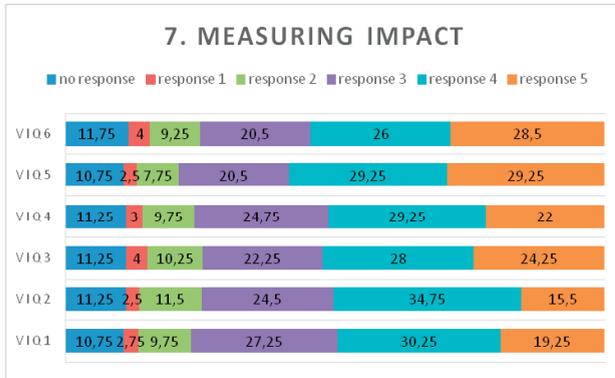


Fig. 7. Survey results for Area 7

Table 1. Statements with highest and lowest score and variation.

Areas	Statement with the highest score	Statement with the lowest score	Largest dissimilarity between the points of view (variation)
I	Q1. Entrepreneurship is a major part of the HEI’s strategy.	Q2. There is commitment at a high level to implementing the entrepreneurial agenda.	Q4. The HEI encourages and supports faculties and units to act entrepreneurially.
II	Q2. The HEI has the capacity and culture to build new relationships and synergies across the institution.	Q1. Entrepreneurial objectives are supported by a wide range of sustainable funding and investment sources.	Q5. Incentives and rewards are given to staff who actively support the entrepreneurial agenda.
III	Q1. The HEI provides diverse formal learning opportunities to develop entrepreneurial mind-sets and skills.	Q4. The HEI co-designs and delivers the curriculum with external stakeholders.	Q5. Results of entrepreneurial research are integrated into the entrepreneurial education offer.
IV	Q4. Mentoring and other forms of personal development are offered by experienced individuals from the academic or business environment.	Q6. The HEI offers or facilitates access to business incubator.	Q5. The HEI facilitates access to financing for its entrepreneurs.
V	Q4. The HEI provides opportunities for staff and students to take part in innovative activities with the business/ external environment.	Q3. The HEI has strong links with incubators, science parks and other external initiatives.	Q3. The HEI has strong links with incubators, science parks and other external initiatives.
VI	Q2. The HEI explicitly supports the international mobility of its staff and students.	Q5. The international dimension is reflected in the HEI’s approach to research.	Q1. Internationalization is an integral part of the HEI’s entrepreneurial agenda.
VII	Q5. The HEI regularly assesses knowledge exchange and collaboration.	Q2. The HEI regularly assesses how its personnel and resources support its entrepreneurial agenda.	Q6. The HEI regularly assesses the institution’s international activities in relation to its entrepreneurial agenda.

Some statement from the table are very important in our analysis because they paint the picture of entrepreneurial characteristics of the university (“Entrepreneurship is a major part of the HEI’s strategy”, statement which can be seen also in Strategic plan 2016-2020 of the university (UPT, 2016), and is in discussion in the next chapter of the paper; “The HEI provides diverse formal learning opportunities to develop entrepreneurial mind-sets and skills” and “The HEI provides opportunities for staff and students to take part in innovative activities with the business/external environment.”) and also show the way to go to become more entrepreneurial (all statement from lowest score column).

Some proposals for UPT (Innovation days, 2017) have arisen after the workshop Innovation day was held:

- a basic and extended student curricula for entrepreneurship at BA and MA level;
- a proposal for curricula for teaching methods in order to improve the learning by doing and innovative approach in the learning and teaching process;
- a free course in “How to design particular sessions and to upgrade current courses in order to improve; practical and innovative approaches and business community partnership”;
- free access for students to the Start Internship mobile platform for Internships, starting July 2017;
- free access for students and Alumni to the JA START UP European Program for University students and University alumni;
- the opportunity to organize through JA facilitation more JA Innovation Day sessions with business entities from the area: AmCham, Nederland Chamber of Commerce, British Chamber of Commerce, French Chamber of Commerce, Italian Business Association, Banks Associations, Council of Investors;
- a free course for teachers and staff on “How to attract more business/projects/common research and resources for the faculties”.

5. Roadmap to entrepreneurial university

With the purpose of making the Politehnica University Timisoara “more” entrepreneurial, we have initially started with a thorough analysis of the vision, the mission, the objectives and the strategic directions, which were stated in the Strategic Plan for the next 3 years. Thus, these are defined in the following way (UPT, 2016):

UPT Vision – “Our University aims to bring a significant contribution to the positive evolution of the society through science, technology and entrepreneurial education”.

UPT Mission:

- a) To generate and to transfer knowledge towards society through advanced scientific research, development and innovation, respectively through the dissemination of the results by publishing and/or implementing them;
- b) To enable the higher professional education, at university level, either on all of the three cycles: bachelor, master and doctoral studies or at a postgraduate level, as well as the concept of lifelong learning, with the purpose of personal development and employability of the individuals and in order to meet the requirements for skills of the society;
- c) To bring its contribution in establishing the development directions of the society at a local, regional, national and international level;
- d) To maintain and instill, to promote and to defend the fundamental values synthesized during human evolution: freedom of thought, of speech and of action, justice, truth, equity, honesty, correctness, dignity and honor

UPT Objectives - UPT aims to:

- bring a significant contribution with the help of professors, students and graduates to the positive evolution of the society through science, technology and entrepreneurial education;
- be among the first 5 leading universities in Romania by the anniversary of the centenary in 2020 and, in the field of technology, to be able to compete with the Bucharest Polytechnic University for the first place, considering the criteria of academic capacity, the quality and employability of the graduated students, the excellence in research, regional commitment, public and social responsibility.
- to be an internationally recognized university, at a level of excellence in education, which trains both remarkable teachers and leaders for the industry and for the society, as well as a powerful center for technical education at a national and international level

The UPT's strategic directions are designed on 12 axes: I: Higher education; II: Research, innovation and original creation; III Technology transfer; IV: Human resources; V: Infrastructure and sustainable development; VI: Finances; VII: Internationalization; VIII: Image and communication; IX: Quality; X: Digitalization; XI: Regional commitment; XII: University governance.

The content of the UPT curricula for many program studies was oriented towards the practical side of the engineering and entrepreneurial activities, according to the regional economic traditions and the excellence imposed through the parameters set by the European technical leading edge. In the same spirit of developing the entrepreneurial side of UPT, the content of the curricula could be revised.

Subsequent to the completed analysis, we have identified some points which are not covered, therefore we have re-designed the vision, created and added objectives and strategic directions in order to make UPT what we have aimed for: an even "more" entrepreneurial university. Therefore:

The new VISION we have conceived: UPT aims to become the engine which brings the progress and prosperity into the community through science, technology and instilled entrepreneurship.

The re-conceiving of the third objective: to become an internationally recognized university, at a level of excellence in education, training remarkable professors, leaders in business and society, successful entrepreneurs and altogether a powerful center for research-development- innovation.

Regarding the strategic directions, there is one more to be added to the already existing ones, a very important one, namely the entrepreneurial development axis of all the entities involved in the structure of the university.

UPT benefits of significant and diverse material assets (sport grounds, hotels, restaurants and so on), which can be better managed by achieving the status of an entrepreneurial university, so that it can develop the economic activity already currently carried on .

6. Conclusions

Entrepreneurial university as a trend in the development and transformation of higher education institutions. The debate consider here was about the different possible approaches to entrepreneurship for HEIs, the reason, relevance and the importance of an entrepreneurial university, which are the entrepreneurship components and what are the mission, objectives, strategies needed to become an entrepreneurial university.

A case study of a university was considered, with the analysis of a survey results (an OECD an EC tool: HEInnovate). We take into consideration also some weak points of the survey: the fact that the results obtained from the research are too homogeneous and the variation between different areas is very small.

A proposal for a roadmap is also presented, illustrating the way to become an entrepreneurial university, considering the HEInnovate survey results, the Innovation Day workshop and the UPT's Strategic Plan 2016-2020.

Acknowledgements

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