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What is entrepreneurial university and why we need it?

*"... Society's most important investment is in the education of its people. We suffer in the absence of good education: we prosper in its presence."
(Donald J. Johnston)*

ABSTRACT

Entrepreneurial answer (proactivity, innovativeness, capacity to assume risk, and managing change) of university is a chance for active participation in development of the society, in which knowledge becomes a right and an obligation for all. Entrepreneurial answer offers a formula for institutional development of university in which university defines and determines its autonomy, ensures diversified financing (and thus decreases its dependence on the state), develops new university departments and activities in accordance with society's demand, and leads to structural changes, which are ensuring better university's capacity in responding to changes. In order for that to be possible, the assumption is that university is unified, but also subsidiary and autonomous, and responsible towards the environment in which it operates. The role of entrepreneurial university is emphasized in the Triple Helix concept of regional development, using current discussion on interconnection and functioning of three forces (actors) in society: university, business sector and government (Blenker et al. 2006; Etzkowitz et.al. 2000; Etzkowitz and Leydesdorff 2000).

Integrating discussions about the characteristics of entrepreneurial university stated by various authors (especially Clark 1998 and Gibb 2005) with knowledge on functioning of entrepreneurially oriented organizations (e.g. Lumpkin and Dess

1996), a model of entrepreneurial university is developed (Oberman Peterka, 2008).

By comparing the model of entrepreneurial university with situation at the J. J. Strossmayer University of Osijek, it is concluded that some elements of this model are now present at the university: some of the periphery institutions, there is diversified financing; interdisciplinarity of teaching is manifested through several university interdisciplinary graduate programs; connections between individual elements of the model exist at the Osijek University, as well as some of the connections with value components of the model (autonomy and responsibility of university), but these are insufficiently developed and aren't contributing in the full sense to the development of the model. The goal of this paper is to see whether J.J. Strossmayer University in Osijek is entrepreneurial and what needs to be done in order for it to become entrepreneurial and why it is important to any university with particular focus on this University.

Key words: *entrepreneurial behaviour, entrepreneurial university, model of entrepreneurial university, Triple Helix concept*

ABSTRACT

Poduzetnički odgovor (proaktivnost, inovativnost i kapacitet za preuzimanje rizika i nošenje s promjenom) sveučilišta je prilika za aktivno sudjelovanje u razvoju društva, u kojem znanje postaje pravo i obveza za sve. Poduzetnički odgovor nudi formulu za institucionalni razvoj sveučilišta u kojem sveučilište definira i određuje svoju autonomiju, osigurava diverzificirano financiranje (a samim tim i smanjuje ovisnost o državi), razvija nove sveučilišne odjele i aktivnosti u skladu s zahtjevima društva što osigurava kapacitet sveučilišta za odgovor na promjene u okruženju. Kako bi ovo bilo moguće, pretpostavka je da je sveučilište jedinstveno, ali subsidijarno i autonomno, te odgovorno prema okruženju u kojem djeluje. Uloga poduzetničkog sveučilišta naglašena je u Triple Helix konceptu regionalnog razvoja, baziranom na međuovisnosti i funkcioniranju tri snage (aktera) u društvu: sveučilište, poslovni sector i vlada (Blenker et al. 2006; Etzkowitz et.al. 2000; Etzkowitz and Leydesdorff 2000).

Integrirajući diskusije o karakteristikama poduzetničkog (poduzetnog) sveučilišta različitih autora (posebno Clark 1998 i Gibb 2005) sa znanjima o funkcioniranju poduzetnički orijentiranih organizacija (e.g. Lumpkin and Dess 1996), razvijen je model poduzetničkog sveučilišta (Oberman Peterka, 2008).

Uspoređujući model poduzetničkog sveučilišta sa stanjem na sveučilištu Josipa Jurja Strossmayera u Osijeku, zaključuje se da pojedini elementi ovog modela postoje na osječkom sveučilištu: neke od perifernih institucija, postoji diverzificirano financiranje, interdisciplinarnost podučavanja se manifestira kroz nekoliko sveučilišnih interdisciplinarnih poslijediplomskih studija, veze između individualnih elemenata modela postoje, kao i neke veze između vrijednosnih komponenti modela (autonomija i odgovornost sveučilišta), ali one su nedovoljno

razvijene i ne doprinose u punom smislu razvoju modela poduzetničkog sveučilišta. Cilj ovog rada je vidjeti je li Sveučilište Josipa Jurja Strossmayera u Osijeku poduzetničko (poduzetno) i što je još potrebno napraviti kako bi postalo poduzetničko (poduzetno), te zašto je to potrebno i važno za svako sveučilište.

Ključne riječi: *poduzetničko ponašanje, poduzetničko sveučilište, model poduzetničkog sveučilišta, Triple Helix concept*

Introduction

Of the institutions that had been established in the Western world by 1520, 85 still exist – Catholic Church, the Parliament of the Isle of Man, of Iceland and of Great Britain, several Swiss cantons, and 70 universities. Of these, perhaps the universities have experienced the least change. (Kerr 2001, p.115)

Universities are facing great political and economic changes. Pressures of the public for easier access to higher education, expectations of governments on involvement and contribution of university to socio-economic development of the country, and demands for application of principles of market economy and organisational management in their own organisation, have created a new context of development of higher education. Universities can no longer be regarded only as parts of the national education system, protected by the state and in charge of study and research programs. In the highly competitive world, universities must fight for students, research and financing, they must devote more attention to development of relations with external stakeholders, which demands a complete change of their previous methods of management, financing, internal structure and external relations, as well as the methods of performing activities (van Ginkel 2002).

Survival and development of the university depend on the extent to which the university will want and know to incorporate into its functioning the principles of efficiency (internal performance) and effectiveness (external performance). The inertia of the university system, which exclusively uses efficiency as a measure of quality of its activities (using partial indicators: grades, number of students, length of studying, etc.), not taking effectiveness into account (through contribution to the process of change of society for the better, through decrease of unemployment, etc.) leads to creation of a gap between the society's development demands and the university' ability to respond to those demands (Singer 1996).

There is increasing pressure to overcome the gap between universities and the society, in order for the universities to become active partners in defining and solving social issues and leading the society towards international competitiveness.

Universities in the organisational form and with functions that are dominating (and which have been in stable existence for more than 2500 years) are on verge of collapse (Abeles, 2001). The reason for this is in the inability of university organisation to adjust to the development of modern technology, which inevitably leads to the creation of alternative forms of higher education (virtual universities). University has no longer the role of "enlightenment" of society, which it once used to have; its role is turning towards a place for communicating knowledge in society (Delanty, 2001). In order to respond to changes that occur in society, university must be restructured. The strategic question with which higher education is faced today is not whether, but how to cope with changes, which characterise the modern society of today.

Emergence of entrepreneurial university is a consequence of internal development of the university and external influences on the university, coupled with the increasing role of knowledge in society, and knowledge-based innovation. University is becoming entrepreneurial in order to address the needs of its own environment, and contribute to regional and national economic development (Gibb, 2012), but also to improve its own financial situation and the position of its employees.

Entrepreneurial university refers to the university, which is able to survive and adapt in highly complex and uncertain conditions of the environment in which it operates (Clark, 2001). However, many scientists are opposed to the creation entrepreneurial paradigm, which they perceive as a threat to the traditional integrity of the university (Pelikan, 1992), and excessive emphasis on profit leads to the loss of university's role as an independent critic of the society (Krimsky, 1991, cited by Etzkowitz et al., 2000). These critics of the entrepreneurial modality of university believe that producing students and publishing research should remain university's fundamental roles. But, despite the criticism, creation of entrepreneurial university is evident, although its development, organisation and management impose many questions.

The transition towards entrepreneurial university does not mean that university becomes less oriented towards research, but that research and educational activities are seen as capital, and university expects to generate profit from its activities, primarily through projects with the business community (Blenker et al. 2006).

Emergence of entrepreneurial university: USA vs. Europe

There is a significant difference in defining and the meaning of entrepreneurial university in the USA and Europe (Blenker et al. 2006). The process of transformation of university towards entrepreneurial university in the U.S. is a bottom-up process, while in Europe this process is more top-down, that is, initiative for university transformation starts from the government; the European Commission and other similar institutions (Etzkowitz, 2004).

An example of direct government intervention in fostering and accelerating the process of transformation of university to entrepreneurial and innovative university is the Enterprise in Higher Education (EHE) initiative of the Department for Education and Employment (DFEE) of the United Kingdom Government, which, in the period between 1987 and 1998, has invested 60 million GBP in order to make university more aware and accountable to local, regional, national and international development needs. Strengthening the legitimacy of university through increasing employability, enterprising thinking and behaviour of students is stated as the main result of this initiative – summed up as "a changed mindset" of the university (Hagen 2002:208).

Another example of a top-down process of development of entrepreneurial university is the Berlin Propositions 1999. In this detailed study by a group of researchers from German universities, ten propositions for the development of entrepreneurial culture at German universities have been put forward (Blenker et al. 2006). In market conditions, these propositions would represent the prerequisites for the survival of the organisation. In the case of universities, they are only a guide for organisational development process, passed by the government (top-down), which does not bind anyone, and its non-implementation does not necessarily result (at least not presently) in any consequences.

Success of the top-down process is possible only in combination with the bottom-up process, i.e., in order for some process "imposed from the above" to be successfully implemented, belief about the need and desire to implement that process have to exist in the organisation. Otherwise, failure of such (top-down) process is inevitable. Governments cannot carry out university reform, nor it is their task. Universities alone have to take steps and activities towards their change and transformation into entrepreneurial institutions (Blenker et al. 2006, Clark 2001).

American interpretation of the term entrepreneurial university is very clear: entrepreneurial university is associated with doing business in the market, satisfying the needs of its customers. Stanford University is stated as one of the first examples of entrepreneurial universities (Lenoir et al. 2003, cited by Blenker et al. 2006). After the World War II, Stanford University found itself in a difficult financial situation. The then rector Frederick Terman saw the solution of the crisis

and return to a high scientific level in collaboration with the business community. However, the business community was willing to pay only as much as it could get back, which meant that there was no money for fundamental research and similar activities. When the university succeeded in restoring the level of its research activities through a large number of projects, collaboration with the business community was continued, but under the condition not to compromise the fundamental principles of university's independence and quality of work. As a result of such relationship, the university was able to create technological innovations that led to the creation of today's Silicon Valley. However, Stanford University cannot be given acknowledgement for the establishment of the Silicon Valley without acknowledging the business community for the development of Stanford. It can be argued that the success of Stanford University was in the creation of both internal (among university teachers) and general (across the university) entrepreneurial culture, which has enabled synergies and produced excellent results.

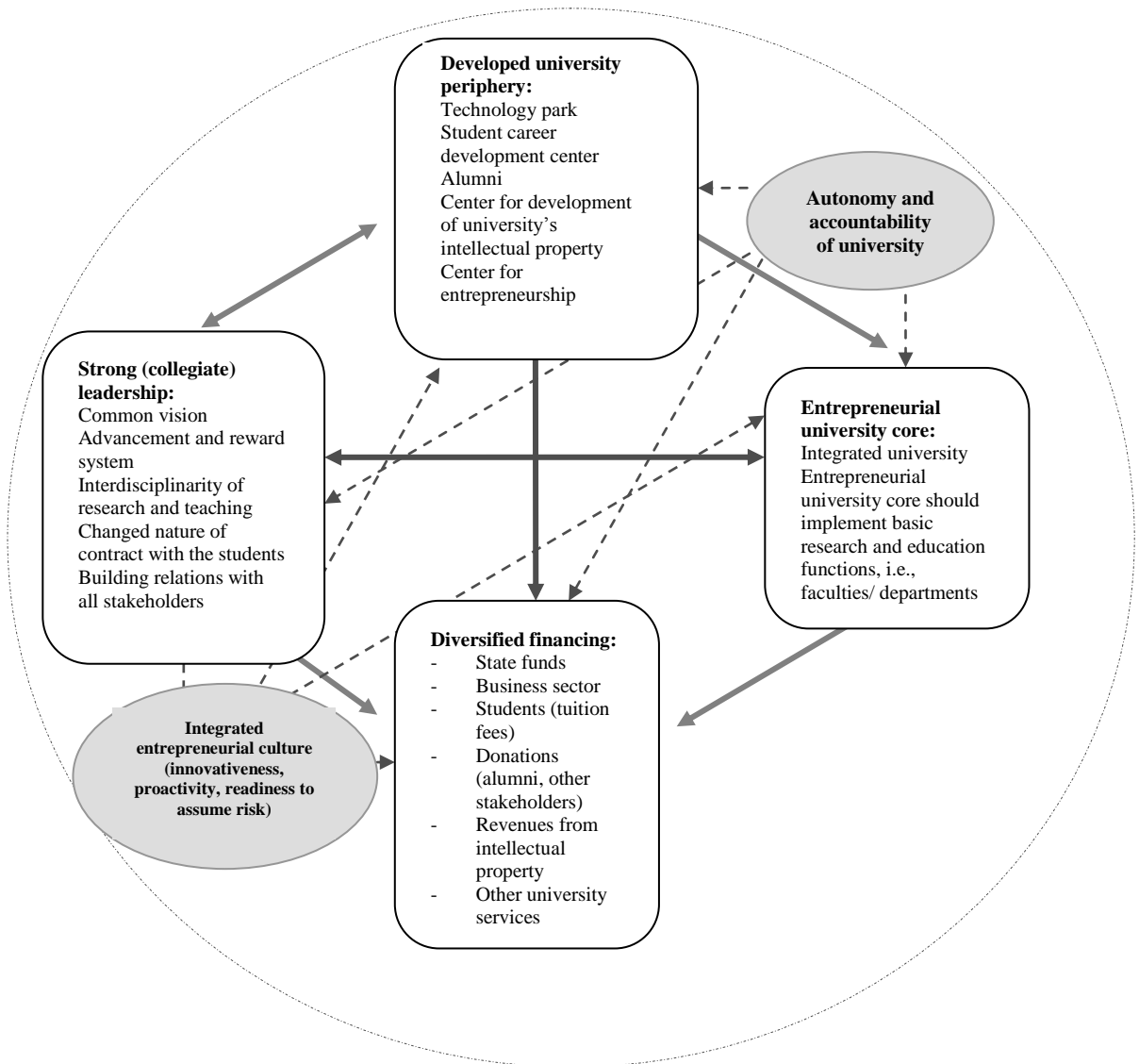
If creation of entrepreneurial university is seen as university's response to changes occurring in the environment, as well as the need of internal adjustment of university to these changes, the conditions and the necessity of creating entrepreneurial university are the same in the U.S. and Europe, as well as in other parts of the world. The difference between these two cultures lies in the different available sources and methods of funding, and the manner in which this change occurs (Blenker et al. 2006:55). Hence, no matter where they are, universities must find answers to external influences. Evidence of this is also given by Clark, who describes various cases of creation of entrepreneurial universities around the world (Clark 2004a, 2004b).

However, there is no single solution for transforming university to entrepreneurial university. Each university must discover its own mode of transformation, which best fits the situation, resources and environment of the university (Clark 2004b).

Model of entrepreneurial university and its characteristics

Integrating the discussions about characteristics of entrepreneurial university by various authors (particularly Clark 1998 and Gibb-a 2005) with the knowledge on functioning of entrepreneurially oriented organisations (e.g. Lumpkin and Dess 1996), proposed is the model of entrepreneurial university (Oberman Peterka, 2008), as the answer to the research question *What kind of university we need today in order to best meet the needs of the turbulent environment in which we live* (Figure 1).

Figure 1. Model of entrepreneurial university



Source: Oberman Peterka, 2008

The model consists of four basic elements, two value components and a system of connections between basic elements and value components (Oberman Peterka, 2008):

Basic components:

1. Entrepreneurial university core consists of university components which perform the basic research and education functions (faculties, departments...), and supra-organisational structure of integrated university.

2. Developed university periphery represents university's interdisciplinary, project-oriented research centres, which work on the transfer of university's knowledge and technology to the business community (applied research), develop and take care of university's intellectual property, organise and implement (in cooperation with other university departments) continuous education programs (Lifelong Learning), help with university fundraising activities, develop contacts with the alumni, help with the development of their students' careers, and organise and participate in all the activities through which university establishes contacts with its environment.

3. Strong (collegiate) leadership; university leadership capacity is very important in the creation of entrepreneurial university. Strong leadership is essential in the process of university transformation. If university leadership doesn't accept the concept of entrepreneurial university, it is unlikely that transformation to entrepreneurial university will take place. Collegial leadership relates to creation of governance structure which motivates and encourages all parts of the university to proactive and enterprising behaviour, achievement of team goals is ahead of realization of personal goals ("we" vs. "I").

4. Diversified financing; creation of financially independent (on state sources of financing) university is an important prerequisite for creation of entrepreneurial university. Financial independence (of university) creates a sense of controlling one's own destiny, because it allows the university to launch and implement projects according to its own wishes and priorities, and prevents unwanted commercialisation of university services, because it provides the freedom to choose projects.

Value components

1. **Accountability and autonomy** of university are two inseparable characteristics of entrepreneurial university: through responsible behaviour towards environment university obtains the right to autonomy in performing of its activity. Accountable behaviour of the university implies caring for the needs of the environment, desire to implement projects which will contribute to solving problems in the environment (research and educational). In this way university achieves a good relationship with its environment, environment accepts university as a partner, involves it and seeks its contribution to defining and implementing its projects and solving problems, thus affecting an increase in university income and strengthening university independence.

2. **Integrated entrepreneurial culture** presumes high integration of all university elements around the value dimensions of entrepreneurship (proactivity, innovativeness, readiness to assume risk), and high decentralization of university on the principle of subsidiarity in reacting to changes in the environment. For the

emergence of entrepreneurial university it is necessary that university core (integrated university, university components in basic research and educational functions), university periphery, as well as two management functions (leadership and financing) are capable of entrepreneurial behaviour. Entrepreneurial/enterprising behaviour relates to:

- Proactive activity towards its environment, in terms of prediction of possible changes in trends, demand, and adjustment of own activities accordingly;
- Continuous thinking about innovating products (educational programs, research topics...), processes (methods of teaching, methods of research, methods of transfer of knowledge to the environment...), about new organisational solutions, about new markets, etc.
- Tendency to take risks, that is, make decisions and operate in conditions of great uncertainty, when it is impossible to gather all the necessary information, required for a safe outcome.

Connections

The model is based on a systematic approach, which presumes connection of all parts of a system: in the model of entrepreneurial university this means mutual connection of each component and value determinant, and openness towards the environment. The fundamental characteristic of this model is alignment of internal connections on which universities' capacity to recognize opportunities in the environment and convert them into their ventures depends. Thus, for example, entrepreneurial university core influences the development of university periphery, which creates opportunities for additional sources of financing for the university; precondition for successful implementation of such interactions is the existence of strong collegial leadership at the university. Influences of one sub-system of entrepreneurial university on the other are valid in all directions.

For the process of creation of entrepreneurial university it is not important from which part of this model the process starts, it is important that leadership capacity for managing such a complex change exists.

If the model of entrepreneurial university compare with the situation at the J.J. Strossmayer University in Osijek, we can conclude the following: much is missing, from institutions, functions to elements of entrepreneurial organisational culture. The lack of connections between individual components of the model is the biggest obstacle to the emergence of integrative and then entrepreneurial university. Some connections do exist, but they are insufficiently developed and do not contribute to development of entrepreneurial university in the full sense.

The missing components can be built in into functioning of the university with different intensity of investment (dedication, time, money);

- Relatively quick and without greater financial strain: interdisciplinarity of research will be easily achieved if the way of financing by the Ministry of Science, Education and Sports is changed; starting university alumni organization and career development office;
- More time and great financial investments: technology park, enabling faculties / departments for entrepreneurial acting in implementing their basic functions (e.g. development of new educational programs, virtual learning platforms...).
- Demand dedication of all actors at the university and time, but not money: developing a joint vision, integrated entrepreneurial culture, social responsibility, organizationally integrated university with a network of relations among all components of entrepreneurial university (organizational and commercial, and value), development of new business functions (fundraising campaigns, collaboration with business sector).

Building entrepreneurial university is a lengthy process work on which must be continuous and systematic. This particularly applies to the mechanisms of internal connections and the value components of the model. It is not not enough to make a decision to create entrepreneurial culture within university and create a responsible university; what is required is to work on building such value awareness through a series of measures and activities, and show on examples what responsibility of university is, and encourage entrepreneurial and responsible behaviour of everyone at the university.

Conclusion

Entrepreneurial university is a university which closely monitors what is happening in the environment and readily responds to changes and signals from that environment. It educates people who are able to cope with the ever increasing uncertainty and complexity on both global and personal levels, creates knowledge that has practical application and contributes to solving of specific problems in the environment.

The entrepreneurial character of university, because of its relationship with stakeholders and the concern for the development of the environment (both internal and external) also contributes to creating a good image of the university, which plays a very important role in university development. A good image brings in more students, larger number of projects, and consequently a higher income, essential for normal functioning and development of the university.

The objective of building entrepreneurial university is to generate accomplishments that will allow achievement of a sustainable university, a desirable partner to the business and government sector within the stimulating Triple Helix development

spiral. This can be possible only under the assumption that university is integrated, but also subsidiary and autonomous, and accountable towards the environment in which it operates.

Each university needs to find its own way to transform into entrepreneurial university depending on the situation it is in, resources and environment of the university.

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