

Prof. dr. sc. Slavica Singer

*Sveučilište Josipa Jurja Strossmayera u Osijeku
Ekonomski fakultet u Osijeku*

Doc. dr. sc. Sunčica Oberman Peterka

*Sveučilište Josipa Jurja Strossmayera u Osijeku
Ekonomski fakultet u Osijeku*

UDK 658.3:378.4(497.5)
Izvorni znanstveni članak

FROM IGNORING TO LEADING CHANGES – WHAT ROLE DO UNIVERSITIES PLAY IN DEVELOPING COUNTRIES? (CASE OF CROATIA)

ABSTRACT

Using the model of entrepreneurial university, the paper presents major blockages (university's own institutional rigidity, fragmented organization, lack of mutual trust between the business sector and universities, no real benchmarks, legal framework not supportive of opening the university to new initiatives) in Triple Helix interactions in Croatia. Comparing identified blockages with expectations (multidimensional campus, cooperation with the business sector and other stakeholders in designing new educational and research programs) expressed by HEIs in developed countries around the world (2008 EIU survey) indicates new challenges for universities in developing countries. With Triple Helix approach, not confined within national borders, but as an international networking opportunity, these challenges can be seen as opportunities, otherwise they are threats. On the scale of ignoring, observing, participating and leading positive changes in its surroundings, for the purpose of measuring vitality of Triple Helix interactions, Croatian universities are located more between ignoring and observing position. To move them towards a leading position, coordinated and consistent policies are needed in order to focus on eliminating identified blockages. Universities should take the lead in this process; otherwise they are losing credibility as desired partners in developing space for Triple Helix interactions.

KEYWORDS

entrepreneurial university, regional development, university accountability, Triple Helix

The authors would like to acknowledge financial assistance provided by the Croatian Ministry of Science, Education and Sports and TEMPUS JEP International Centre for Entrepreneurial Studies for researching the entrepreneurial university topic in Croatia.

1. Introduction

For any developing country, the Triple Helix concept (Etzkowitz and Leydesdorff, 2001) is not only an academic concept, but a needed practical tool for rational usage of very limited soft (knowledge and commitment) and hard resources (money) at local and national level. Politically, Croatia is a new country (emerged from disintegration of former Yugoslavia in 1991) facing many challenges due to mega changes in the political (democratization) and economic system (building market economy). These changes would not be unique for Croatia, but they were accompanied by the 1991-1995 war, which heavily devastated human, physical and economic resources. Since 2004 Croatia is in the process of accession to the European Union, which adds new challenges for competitiveness of the Croatian economy. And now, economic crisis is sweeping the world... How to handle so many, so huge changes in such a short time? Who are the stakeholders? Who should make the first move? This paper presents results of several research activities undertaken by the authors, all focusing on the role of entrepreneurial university.

2. Research questions and methodology used to answer them

Basic research questions were why and how to develop a model of entrepreneurial university, contextualized in Croatian social and development issues, to make university able to participate or even lead processes to Triple Helix interactions (University, Industry, Government) in Croatia.

Literature review revealed that some traditional features of the university have been challenged for years, like autonomy vs. accountability (Clark, 2001; Gibbons et al, 2004) and portfolio of university missions in terms of or vs. and (teaching, researching, impacting social and economic development) (Etzkowitz and Leydesdorff, 2001). Such discussion did not spread over to Croatian academia, with only a few contributions to it (Polsek, 2004; Singer et al, 1999). This was a signal to investigate why Croatian universities stayed aside of this discussion and the

J.J. Strossmayer University in Osijek was chosen as the research object. Grounded theory approach (Creswell, 2003) was used for getting deeper insights (by reviewing university documents, such as strategic plans, organizational structure, financial plans..., interviewing 10 deans, surveying opinions of 35 faculty and 364 students, from December 2007 to February 2008). The results were used to check how close or far the J.J. Strossmayer University in Osijek is from the model of entrepreneurial university developed as a part of doctoral research (Oberman Peterka, 2008).

3. Can developing countries afford evolutionary approach in developing Triple Helix interactions?

In developing countries everything is in short supply (from educated people to roads). Therefore, any approach (as Triple Helix concept) which brings insufficient resources together is needed and the most desirable one.

Despite expectations that sharp asymmetry of having less than others and needing more than others would bring all major actors (industry, government and university) together in working on closing this gap, that is generally not the case in developing countries. Low innovation capacity of the business sector (Singer, 2008), teaching-oriented universities and governments overwhelmed with development issues, but not seeing or having strategic framework for solving them, are major obstacles in developing Triple Helix interactions. Additionally, Etzkowitz (2006) correctly observed that in countries in transition from central planning to market economy, the role of government in supporting innovation climate was temporarily lost, even if it meant to have less possibility to put together very limited resources. It looks like “locals” could not emotionally divorce themselves from the period with too much government involvement and turned uncritically to idealistic concept of “hands off” economy.

Looking at Croatia, majority of intellectuals were silent when politicians took the lead in designing

new political and economic system in the beginning of 1990s – preachers of market economy based on laissez-faire out voiced those few who tried to get more realistic market economy concepts on the table. Now, from the time distance of almost 20 years, and with the evidence of how many resources (time, brain power, money) were underutilized or lost, it can be proved that not only we, local people are responsible for what happened, but it should also be a very important lesson to be learned by international institutions, such as World Bank and International Monetary Fund, as well as governments which generously give their money to developing countries through aid programs. International aid should not consist of only money, but it should be accompanied with knowledge (e.g. the newest concepts, models and instruments for designing more effective policy framework for social and economic development). It should follow the concept of creative destruction (productivity gains and human welfare), but if old institutional and policy concepts are perpetuated (like the university), the overall gain is less than it could be.

Therefore, developing countries cannot afford evolutionary approach in developing Triple Helix interactions, because they have to be helped in making their very limited resources work more efficiently and effectively in catching up with more developed countries. There are some important research results which could be used to support the need for better understanding of the importance of Triple Helix for developing countries. Gros and Roth argue (2008), that more money invested in education system does not mean better performance in education – quality of such spending is needed. Using the World Bank indicator “government effectiveness”, they identified a very strong correlation between government efficiency and education achievement. It says that in developing Triple Helix concept all three dimensions must be developed simultaneously and consistently, in order to achieve the highest rate of return.

4. From efficiency driven to innovation driven economy – case of Croatia

In transition from efficiency to innovation driven economy, such as Croatia, Triple Helix should be considered as a major driver, but it is not, for many reasons. Concern about the level of competitiveness and entrepreneurship in Croatia became an issue only recently, since 2000, pushed forward by the business sector.

Both surveys (World Economic Forum on competitiveness, 2008 and Global Entrepreneurship Monitor, 2009) place Croatian economy in transition trajectory between efficiency driven and innovation driven economy, but also identify obstacles to making this transition faster. Major obstacles are in low innovativeness (products, processes, organization, markets...), low share of growing businesses, low level of graduates, lack of government support for innovative ventures, lack of venture funding (business angels, venture capital). Comparative analysis of innovation performance (EIS 2008) placed Croatia among catching-up countries, together with Bulgaria, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Turkey, but Croatia and Lithuania were the slowest growers in this group. Another worrying information is that Croatian performance is accompanied by a decrease in business R&D expenditures (-3.6% over the last 5 years). Additionally, small businesses in Croatia are innovating mostly as a reaction on imports or changed standards, and they are either alone in this, or they are doing it through networking with other (local) small businesses, but not through cooperation with universities (Singer, 2008). Small businesses mistrust universities in dealing with practical problems of the business sector, especially those of small businesses.

The government is sending signals of its willingness to think strategically about it, but it ends in isolated projects, without visionary approach or interlinked mechanisms (no technology parks, no incubators, no technology transfer offices, and no centers for entrepreneurship). As a result, universities do not consider research projects as a source of income, but also no one (Ministry, Government,

taxpayers) is asking about their results or returns on money invested in them.

5. Are Croatian universities ready for Triple Helix interactions – what is missing?

One could expect that such mega changes which Croatia is experiencing in last 20 years would make everyone involved in developing Triple Helix interactions. Transitional costs are huge, but no one asks the question whether they could be lower, if centers of knowledge, as universities or should be, were more active in making Croatia socially and economically sustainable by developing entrepreneurial culture of innovating, competing and cooperating, embedded in leadership capacity for visionary and responsible decision taking activities in making choices. Croatian universities seemed to remain at a distance: they did not show any proactive efforts to participate in designing solutions along those mega changes, and at the same time there were no serious requests neither from the side of the government or the business sector towards universities to partner them in solving problems of functioning new political and economic system. The only case of potential partnering at the policy level is the Croatian Competitiveness Council, which includes representatives from academia, government, employers and unions, since 2002.

In the last twenty years universities were occupied with their teaching mission, mainly by adding new programs and implementing the Bologna reform. Research activities simply continued, as business as usual, with some minor additional topics, but stayed fragmented, underfunded, and disciplinary focused. Commercialization of universities' intellectual property is not established as an organized university function (first technology transfer offices are in the process of establishing, but there is no expertise on how to run them, yet).

On the scale of ignoring, observing, participating or leading positive changes, for the purpose of measuring vitality of Triple Helix interactions, Croatian universities are located more between ignoring and observing position. To move them towards a leading position, coordinated and consistent policies will be

needed in order to focus on eliminating identified blockages, which will be seen from the case of J.J. Strossmayer University in Osijek.

5.1. Case of J.J. Strossmayer University in Osijek

J.J. Strossmayer University in Osijek is one of seven public universities in Croatia, located in eastern Croatia. The war devastation of human capital (lives), social capital (destroyed relationships among different ethnic groups) and physical capital (infrastructure, business facilities, nature - one of the most mined areas in the world) led to mistrust, unemployment (up to 40%) and impoverishment of the region which once, during the former Yugoslavia time, was one of the richest regions. Living there, it actually was a question of how to survive in a globalized world (after the war). A group of professors, business people and local government officials from eastern Croatia, without knowledge of the Triple Helix concept (beginning of the 1990s) decided to do something. This was later verbalized in an answer which is the umbrella for all our activities in the last twenty years: to develop an enterprising society based on individual and institutional capacity for innovativeness, competitiveness and cooperation.

The first reaction to the situation was to get money to helping people who want to start their own business. Microfinance institution NOA (www.noa.hr), based on Grameen Bank experience was established with a grant from USAID, in 1996 (sustainable, very successful), but soon it was clear that money is not enough – knowledge how to identify opportunity, how to start a business, how to manage it and how to grow it was needed. It led to the next step of establishing the Center for Entrepreneurship, using US Small Business Development Center experience as the model. The initiative to start it as a part of the university was rejected by the University Rector on the grounds that self-employment and small businesses are not part of the university focus. Center for Entrepreneurship (www.poduzetnistvo.org/centar) was established by a group of professors, business people and local government officials as an NGO, outside the university, in 1997.

Today, it is a financially sustainable institution, providing education, training and counseling services to small business owners interested in growing their businesses, as well as to anyone interested in self-employment, including a special training program for university students interested in starting their own business. Today, CfE is widely credited for its pioneering role in developing such centers across Croatia. But it opened a legitimate question: why provide training for adults only, why not educate younger people to be empowered with confidence and knowledge & skills for self-employment, to keep them in the region, because without them, the region would be lost for a long time. It led to a project of starting an university based educational program in entrepreneurship. Using an extensive review of what was going on in the entrepreneurship education in the world in late 1990s, mainly in the US, where university based courses and programs in entrepreneurship were mushrooming, we developed a proposal for master's degree program in entrepreneurship using expertise of many experts in the field, such as Allan Gibb and Jerome Katz, and contextualized it to Croatian situation. The program was rejected by the Ministry of Science (its agency) with comments that "small business is not vital for the economy", that "entrepreneurs are street smart people". After two years of fighting, the approval was obtained and the program started in year 2000 (www.pspefos.hr). This fee-based, demand driven program, as the first, and still the only program in entrepreneurship in Croatia, is financially sustainable and in 2009 it enrolled its 13th cohort of students, meaning that in some years there were two enrollments. In late 2009, doctoral program in cooperation of five universities (Turku, Finland; Maribor, Slovenia; Klagenfurt, Austria; Durham, UK) will be started. Additionally, close cooperation with BIOS - Business Incubator (www.inkubator.hr), owned by the Municipality of Osijek, provided additional opportunities to bring some of students' projects into real life.

After thirteen years of working on establishing and developing different institutions and programs (NOA, Center for entrepreneurship, BIOS, university based entrepreneurial studies) it can be said that

pieces of an entrepreneurial university were developed, but mostly outside the university due to lack of the collegiate leadership at the university. The good thing is that people are the strongest link – students and faculty engaged in all of them.

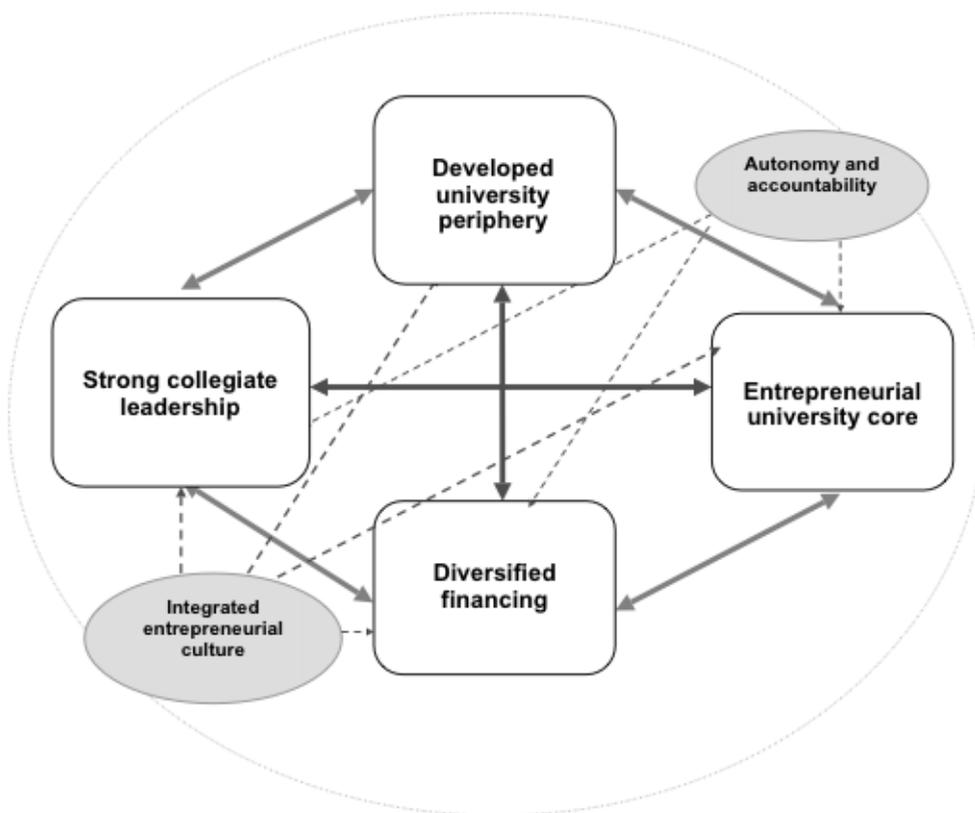
5.2. *What is missing?*

Oberman Peterka (2008) developed a model of an entrepreneurial university (Figure 1):

Using Oberman Peterka's model of entrepreneurial university as a diagnosing tool, and combining it with the findings from interviewing deans, researchers, faculty and students, the J.J. Strossmayer University is not an entrepreneurial university and as such is not ready for proactive role in developing Triple Helix relationships with its surroundings. Everything is missing: there is no entrepreneurial university core, university periphery is not developed (pieces are developed outside of the university), university depends on government financing and students' fees, with some exceptions, but there is no strategic vision of the university as a unifying tool for university activities. Even university autonomy is questionable – e.g. all educational programs have to be approved by a government agency, even changes in the already approved programs (which usually takes from 6 to 12 months!). There is no integrated university as the principal part of the entrepreneurial university core: research activities are encapsulated mostly in small teams, usually underfinanced, without interdisciplinary approach; educational programs are also confined within departments – despite the legal possibility of taking courses across campus, that is practically impossible. Institutional deficiency (especially in university periphery) as well as missing interrelations between already existing components of the model, such as between research groups and educational programs are not result only of the lack of financial resources, but mostly of the lack of entrepreneurial culture and leadership.

With appropriate entrepreneurial culture and leadership, many missing components of the model, such as practitioners in the teaching process, enriching teaching function with problems from the real

Figure 1: Entrepreneurial university model



Strong collegiate leadership: joint vision, interdisciplinarity, changed nature of contracts with students, building relationships with external stakeholders

Entrepreneurial university core: integrated university, based on principle of entrepreneurship across campus in teaching, researching and commercializing university intellectual property

Developed periphery of university: technological park, incubator, office for commercializing IP, center for entrepreneurship

Diversified financing: government, grants, commercialization of the university IP, students' fees
Integrated entrepreneurial culture: pro-activity, innovativeness, readiness to undertake risks

world, linking research capacity of the university to the social and economic development issues and vice versa... could be solved, even with present, very limited financial resources. But, in order to achieve that, some legal obstacles should be resolved first, such as making it possible to elect university officers (rectors, deans) from the world-wide pool of talents and expertise, and not be confined on human resources available at the university only.

6. Concluding remarks and call for actions

Without the Triple Helix concept there is not enough capacity to handle such scale and intensity of changes with which developing countries are faced in the process of catching up. No single player (University, Industry, Government) can do it on its own without partnering with others, no matter how committed, knowledgeable and entrepreneurial they are individually. And the question is not who will make the first move, but each of them is accountable to participate in the process of establishing innovative society based on hybridization of knowledge (Etzkowitz and Leydesdorff, 2000).

Low internal efficiency (World Bank, 2008) measured by the average time needed for completion of a four-year program (6.7 years), the dropout rate (about two-thirds), the warning to “link expected supply and demand for particular skills and occupations”, the low level of R&D transfer to business sector, and the absence of focus on entrepreneurship education should be quite clear messages to Croatian universities to re-think their performance and missions. There is an obvious need to define the universities’ third mission of serving to the community. Subsidiarity principle makes everyone accountable, on individual and institutional level, and universities cannot be an exemption: their autonomy makes them even more accountable for contributing to positive changes in their immediate surroundings (regional, national).

If the government or the business sector do not see universities as a vital partner in solving social,

economic and business problems, they will be looking for an alternative partner. But if universities do not have anything to offer, then ignoring the reality will not help them. They will end up as losers.

Therefore, two calls for action: to avoid such situation, universities should focus on two key words: relevance and accountability, which will help them transform into a leading actor in developing Triple Helix concept of social and economic development.

At policy level, Triple Helix concept should be used on both levels, the EU and national governments, in designing consistent policies, programs and instruments to link together national and international efforts in helping developing countries catch up. European University Association and European Union should work together on opening space for free movement of not only students, faculty and researchers, but administrators and leaders also, as a vital instrument in creating entrepreneurial universities in developing countries. Figure 1: Entrepreneurial university model

LIST OF REFERENCES

1. Clark B. (2001). *The Entrepreneurial University: New Foundations for Collegiality, Autonomy, and Achievement*, Higher Education Management, 13(2)
2. Creswell J W. (2003). *Research design, Qualitative, Quantitative and Mixed Methods Approaches*, Second edition, SAGE Publications
3. Economist Intelligence Unit (2008). *The future of higher education: How technology will shape learning*, London
4. European Innovation Scoreboard 2008: Comparative analysis of innovation performance (2009). Retrieved March 13, 2009, from Pro Inno Europe site: <http://proinno-europe.eu/metrics>
5. Etzkowitz H and Leydesdorff L. (2000). *The Dynamics of Innovation: From National Systems And "Mode 2" To A Triple Helix Of UniversityIndustryGovernment Relations*, Research Policy 29(2) 109-123
6. Etzkowitz H and Leydesdorff L. (2001). *Universities and the Global Knowledge Economy, A Triple Helix of University – Industry – Government Relations, Science, Technology and the international political economy*, London-New York
7. Etzkowitz H. (2006). *The new visible hand: an assisted linear model of science and innovation policy*. Science and Public Policy, 33(5), 310-320
8. Gibbons M et.al. (2004). *The new production of knowledge, The dynamics of science and research in contemporary societies*, SAGE Publications
9. *The Global Competitiveness Report 2008-2009* (2008), World Economic Forum
10. *Global Entrepreneurship Monitor, 2008 Executive Report* (2009). Babson College
11. Gros D and Roth M (2008). *The Post-2010 Lisbon Process: The key role of education in employment and competitiveness*, CEPS Working Document No. 308. Retrived March 15, 2009, from Centre for European Studies site <http://www.ceps.eu>
12. Oberman Peterka S. (2008). *Poduzetnicka sveucilista u funkciji efektivne diseminacije intelektualnog vlasništva sveucilista (The role of entrepreneurial universities in disseminating its intellectual property)*, Doctoral Dissertation, J.J. Strossmayer University in Osijek, Croatia
13. Polsek D. (2004). *Higher education in Croatia and requirements of the European Union*. In K. Ott (Ed), *Croatian accession to the European Union: Institutional Challenges* (pp273-300).Zagreb
14. Singer S et al (1999). *The University – A missing link in developing entrepreneurial potential of the SMEs sector in Croatia*. In *Third International Conference on «Enterprise in Transition», Proceedings*, Split
15. Singer S (2008). *Innovation in SMEs in the Western Balkans – findings of focus group meetings held in Western Balkans countries in November-December 2007*, Working paper prepared for the OECD Investment Compact for South East Europe
16. World Bank (2008), *Report on Croatia*29.Smaghi, L.B., 2007. "Real convergence in Central, Eastern and South Eastern Europe". ECB Conference on Central, Eastern and South Eastern Europe. Frankfurt. Available from: [http://www.ecb.int/press/key/date/2007/html/sp071001_2.en.html]
17. Šabić, A., 2006. "Reforma pakta o stabilnosti i rastu"[online]. *Financijska teorija i praksa*. 30 (3): Available from: [<http://www.ijf.hr/FTP/2006/3/sabic.pdf>].
18. *The Maastricht Treaty*, <http://www.eurotreaties.com>.
19. Wyplosz, C., 2009. "The Euro's Fines Hour?" [online]. *Finance and Development*. 9: 22-24. Available from: [<http://www.imf.org/external/pubs/ft/fandd/2009/06/pdf/wyplosz.pdf>].

Prof. dr. sc. Slavica Singer

Sveučilište Josipa Jurja Strossmayera u Osijeku

Ekonomski fakultet u Osijeku

Doc. dr. sc. Sunčica Oberman Peterka

Sveučilište Josipa Jurja Strossmayera u Osijeku

Ekonomski fakultet u Osijeku From Ignoring to Leading

OD IGNORIRANJA DO VOĐENJA PROMJENA – KOJU ULOGU IMAJU SVEUČILIŠTA U ZEMLJAMA U RAZVOJU? (SLUČAJ HRVATSKE)

SAŽETAK

Koristeći model poduzetničkog sveučilišta, članak predstavlja glavne blokade (institucijska rigidnost sveučilišta, fragmentirana organizacija, nedostatak međusobnog povjerenja između poslovnog sektora i sveučilišta, nepostojanje stvarnih benchmarka, pravni okvir ne podržava otvaranje sveučilišta novim inicijativama) Triple Helix interakcijama u Hrvatskoj. Uspoređivanje identificiranih blokada s očekivanjima (višedimenzionalni kampus, suradnja s poslovnim sektorom i drugim stakeholderima u oblikovanju novih obrazovnih i istraživačkih programa) koje su izrazile ustanove visokog obrazovanja u razvijenim zemljama širom svijeta (EIU istraživanje iz 2008.) ukazuje na nove izazove za sveučilišta u zemljama u razvoju. Primjenom Triple Helix pristupa, koji nije ograničen na prostor unutar nacionalnih granica, već predstavlja priliku za međunarodno umrežavanje, ovi se izazovi mogu promatrati kao prilike, dok u suprotnom predstavljaju prijetnje. Na ljestvici ignoriranja, promatranja, sudjelovanja i vođenja pozitivnih promjena u svojem okruženju, u svrhu mjerenja vitalnosti Triple Helix interakcija, hrvatska se sveučilišta nalaze između pozicije ignoriranja i promatranja. Kako bi ih se pomaknulo prema vodećoj poziciji, neophodne su koordinirane i dosljedne politike kako bi se fokusiralo na uklanjanje identificiranih blokada. Sveučilišta trebaju preuzeti vodstvo u ovom procesu, jer u suprotnom gube vjerodostojnost kao poželjni partneri u razvijanju prostora za Triple Helix interakcije.

KLJUČNE RIJEČI

poduzetničko sveučilište, regionalni razvoj, odgovornost sveučilišta, Triple Helix