

# The Role of University in Regional Development – Case Study

Maja Lamza - Maronić<sup>1,\*</sup>, Zdenka Barišić<sup>2</sup>, Jerko Glavaš<sup>1</sup>

<sup>1</sup>Josip Juraj University of Osijek, Faculty of Economics in Osijek, Osijek, 31000, Croatia

<sup>2</sup>Josip Juraj University of Osijek, Osijek, 31000, Croatia

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**Abstract** Universities play a very important role in regional development as they contribute to regional economies and regional development. It is a generally accepted fact around the world that human capital is a major tool for achieving competitive advantages in the global market. An efficient society, which builds its competitive advantages on knowledge, must have a flexible labour market, adequate levels of employee security and protection, but also a system that continuously fosters and rewards investment into knowledge. People, their needs, motivation and satisfaction have therefore come into the focus of human resource management. An autonomous university, which is willing to adapt to changes and fulfil the requirements of the community, is a driving force behind overall development. The aim of this paper approach is to improve interactive communication, and to make broader use of university resources in the process of higher education.

**Keywords** University, Regional Development, Human Capital

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## 1. Introduction

Exponential and continued growth of overall human knowledge offers new possibilities for its creative application and continuously generates new needs. The process of European Union accession has accelerated the changes in economic development of the Republic of Croatia. The Bologna process marks the start of harmonization in the area of science and education. The aim of the paper is to formulate a subsystem of control model for education process. The model should allow a dynamic and transparent monitoring of the Bologna process application, harmonization with European Union countries, and be a constituent part of the economic development strategy in Eastern Slavonia, Croatia and other areas which naturally gravitate to this region.

## 2. Josip Juraj Strossmayer University as a Regional Leader

There are universities throughout the Union's regions. Their activities often permeate the local economic, social and cultural environment. This helps to make them an instrument of regional development and of strengthening

European cohesion. The development of technology centres and science parks, the proliferation of regional cooperation structures between the business sector and the universities, the expansion of university regional development strategies, the regional networking of universities, are all illustrations of this dimension of university activity. The regional dimension of the university activity is thus set to get stronger, given its essential role in achieving the Europe of knowledge, particularly looking ahead to enlargement. The European Union supports these developments, particularly through the Structural Funds. In addition, the role played by the universities as a source of expertise and a catalyst for multiple partnerships between economic and social players within a range of networks is very relevant at the regional and local levels. The increased involvement of the universities locally and regionally should not, however, overshadow a more outward-looking international perspective and a constant endeavour to improve their excellence in research and education. These remain essential and will indeed enable the universities to make a more effective contribution to the development of their local and regional environment.

Universities play a very important role in regional development as they contribute to regional economies and regional development. They are frequently major employers and buyers of services. This direct connection is extensively presented in a well documented study. Universities take care of the cultural, sports and physical infrastructure in a region. They provide leadership in a community. In regional development, universities work together with state and local

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\* Corresponding author:  
maja@efos.hr (Maja Lamza - Maronić)

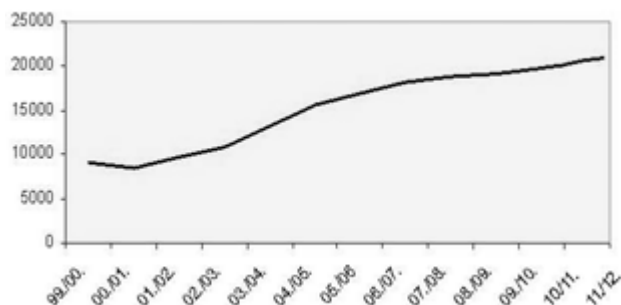
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authorities, as well as with local industry. The University in Osijek is a major factor in the development of eastern Croatia. It creates and transfers knowledge that is important for economic and social welfare at regional, national, but also at the global level. Universities should be founded on well organised research capacities and research-based teaching. The principal goal of the transition of Croatian universities is to be transformed into integrated, competent, research-oriented and efficient universities, striving for institution and programme accreditation and quality enhancement. Quality assurance is one of the fundamental principles of the Bologna process. It is therefore essential for Europe to have a coherent policy based on the tenets that institutional autonomy creates and requires accountability, and that universities are the nodes of accountability in the process of developing an internal culture of quality. Its expected results refer to consistent implementation of the Bologna process and university driven actions for regional development. The paper demonstrate how universities (and similar institutions of higher education) play an important role in local and regional economy. The significance of the research is in line with the Bologna declaration which emphasizes that knowledge-based Europe is recognized as an irreplaceable factor of social and human development. This increases the role and responsibilities of universities. The results of the paper are in the function of economic development of the Republic of Croatia. A growing demand for sophisticated services in education and science has recognized the University as a polycentric nexus of the expected changes.

### 3. Performance Indicators of the Bologna Process Implementation at the J. J. Strossmayer University in Osijek – 2005-2012

An overview of the number of the enrolled students at the University of Osijek from the academic year 1999/2000 to 2011/2012 shows that there has been a slight increase in the number of enrolled students in 2002/2003 when compared to previous years, as well as a significant increase in the number of enrolled students since the academic year 2003/2004.[1]



**Figure 1.** Enrolled students at the University in Osijek from the academic year 1999/2000 to the academic year 2011/2012

This is the result of the fact that new university studies and higher vocational studies were introduced that year, as well as classes at the satellite college in the area of Vukovar-Srijem County. Therefore, the aforementioned increase in the number of enrolled students could be directly linked to the keen interest of students in these new studies. A development of new studies, which are harmonised with the Bologna process and developed according to the Act on Scientific Activity and Higher Education, begins in the 2005/2006 academic year, resulting in 16,818 enrolled students, which is 7,782 students more when compared to 1999/2000. In 2011/2012 academic year was more than 21.000 enrolled students.

In percentage terms, this is a significant increase in the number of enrolled students in 2005/2006, 87.2% when compared to 1999/2000. The last four years show steady increase in the number of enrolled students in comparison to previous years. When comparing certain years within this twelve-year period, it can be concluded that the last four years show a steady increase of enrolled students. Furthermore, there are 10,681 students more in the last observed year, by comparison with the initial academic year, which represents an increase of 118%. In the academic year 2009/2010 there were 1,464 students at postgraduate doctoral studies and specialist studies at the University.[1]

#### 3.1. Results and Activities

Some of the results of the Bologna process implementation at the Josip Juraj Strossmayer University in Osijek achieved in the period from 2005/2006 academic year to 2011/2012 academic year can be summarised within the framework of the following conclusions:[2]

- A mentoring programme of student counselling has been organised at all faculties and departments of the University;
- A continuing monitoring, evaluation and assessment of student activities has been introduced at most faculties and departments;
- Successful implementation of the 2007 -2010 strategic plan for quality improvement at the University;
- Student and staff mobility process has successfully started (Erasmus);
- According to most indicators, student performance has been increased at almost all faculties and departments of the University, which is especially noticeable at the faculties and departments with previously extremely poor student performance;
- According to one of the most important indicators, the overall exam pass rate at the level of the University increased by more than 20% (compared to the reference year 2004/2005).

According to the strategy and the principles of the Bologna Declaration, it is of utmost importance to continue achieving the following activities:

- working with smaller groups of students and reducing staff and adjunct faculty workload

- more efficient activities with smaller groups of students

- ensuring further development of the system for higher education quality monitoring at the University

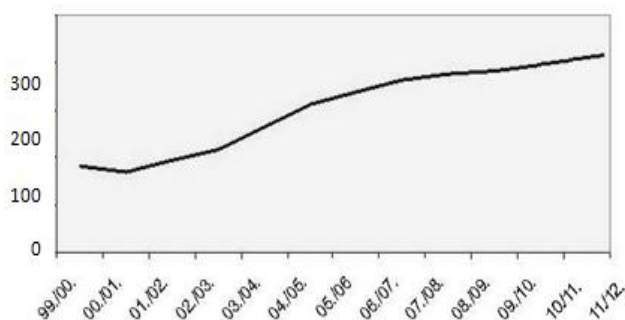
- to increase activities of the University as a whole and its members for continuation and strengthening of student and staff mobility processes (Erasmus).

The efficiency of higher education system at the University of Osijek as well as the success of integrating higher education system of the Republic of Croatia in the common European educational system will directly depend upon the efficiency of implementing these measures.

### 3.2. Publishing Activity

The fundamental task of the publishing activity is to contribute to the development of teaching, scientific, educational and other activities of the University and to encourage creativity within them. In the last eleven years, the University Senate has approved the publishing more than 300 course books. According to the overview of the published university course books, it can be seen that the majority of university course books have been published in the field of Social Studies at the Faculty of Economics, the Faculty of Law and the Faculty of Teacher Education, a total of 76.

They are followed by 68 course books in Technical Sciences at the Faculty of Electrical Engineering, the Faculty of Civil Engineering and the Mechanical Engineering Faculty, 47 published course books in the field of Biotechnical Sciences at the Faculty of Agriculture and the Faculty of Food Technology, 44 publications in Humanities at the Faculty of Philosophy and finally by 34 published course books in Biomedicine and Health at the Faculty of Medicine.



**Figure 2.** University course books published at the University in Osijek between academic years 1999/2000 and 2011/12

In the field of natural sciences, University departments (Department of Biology, Department of Physics, Department of Chemistry and Department of Mathematics) have published 15 university course books and in the field of Art at the Academy of Arts 3 course books have been published.

### 3.3. Scientific Research Activity and Scientific Projects

**Table 1.** Overview of scientific projects at scientific-teaching components of the University

SCIENTIFIC PROJECTS	
Faculty of Agronomy	45
Faculty of Medicine	27
Faculty of Economics	16
Faculty of Philosophy	12
Faculty of Food Technology	13
Mechanical Engineering Faculty	11
Faculty of Electrical Engineering	8
Faculty of Law	7
Faculty of Civil Engineering	5
Faculty of Teacher Education	5
Department of Biology	4
Department of Mathematics	3
Catholic Faculty of Theology	1
Department of Physics	1
Department of Chemistry	1

According to the Act on Scientific Activity and Higher Education, fundamental principles of science and higher education have been determined. Scientific activity and higher education represent activities of special interest for the Republic of Croatia and are a constituent part of the international, especially European, scientific, art and educational area. Scientific activity is based on the freedom and autonomy of creativity, research ethics, transparency of work, relationship with the system of higher education, international quality criteria as well as the encouragement of and respect for specificities of national contents and the protection of intellectual property. Higher education is based on the inseparability of university educational activities and scientific research, i.e. artistic creation. The University in Osijek encourages the unity between educational and scientific and research activities, which is the main precondition for the development of the University as it contributes to the development of knowledge-based society. Scientific and research activity is based on scientific, fundamental, applied and developmental research. It is carried out through scientific and research activities of university teaching staff within the framework of scientific projects, as well as through training and promotion of scientific novices, i.e. junior researchers. Research and development aims to create a higher education area of high-quality, in support of economic, social and humane development of a knowledge-based society. Scientific and research activity encompasses the research work of scientists within the framework of scientific projects as a basic means of research and development at the faculties and departments of the University of Josip Juraj Strossmayer in Osijek within various scientific areas and accompanying scientific fields. Scientific and research activity at the University in Osijek as the scientific centre of Eastern Croatia has been developed for decades, along with the maintenance and development of scientific and research infrastructure that includes scientific laboratories and equipment, the use of modern information

technologies. Furthermore, it provides avenues for presenting the results of scientific research and publishing of scientific papers. The University of Osijek has been in charge of systematic scientific training of postgraduates (master's and doctoral degree candidates), as well as training junior researchers for research activities. The analysis of scientific and research activities of the University of Josip Juraj Strossmayer in Osijek shows that in the last ten-year period, the majority of scientific projects granted by the Ministry of Science, Education and Sports was carried out in the period from 2007 to 2011.

In the academic year 2009/2010, 159 scientific projects approved by the Ministry of Science, Education and Sports were carried out at scientific-teaching components of the University. The table 1. shows the overview of scientific projects at scientific-teaching components of the University (situation in September 2012.).

### 3.4. International Cooperation and Inter-University Cooperation

International cooperation and inter-university cooperation at the University of Osijek has been achieved within the framework of bilateral cooperation with European universities, according to the signed Treaty of International Cooperation. At present, 31 Treaties of International Cooperation have been signed at the University level. Membership in international associations, such as the European University Association (EUA), Rectors' Conference in the Alps-Adria region and the Danube Rectors' Conference (DRC), obliges the representatives from the University of Osijek to actively participate in international meetings that are thematically related to dynamically including higher education institutions into European research activities. Furthermore, with the aim to efficiently respond to the challenges of general internationalization in science and education, the international activities of the University of Osijek have been realised within the mobility programme (Erasmus), by participating in international scientific and research projects, as well as in activities of postgraduate European Studies of the University of Osijek. The intensification of bilateral international cooperation in the next period is one of the priorities in the development of the University of Osijek. Its goal is to increase the level of international recognisability that will be achieved by participating in the programmes of the European Commission with scientific and research projects, programmes of cross-border cooperation and mobility programmes.

## 4. Conclusions

When speaking of improvements, i.e. the necessary changes in Croatian higher education we have to start from the quality level of the former education system. The higher education system in the Republic of Croatia has experienced

a profound change and now it will take a certain amount of time to complete the harmonization of the entire system with the European system of higher education. The quality assurance system at the University of Josip Juraj Strossmayer in Osijek is undoubtedly an important segment of the overall reform of Croatian higher education (the Bologna process), and the reform at the Osijek University itself. Quality assurance system is a kind of benchmarking for universities, based on comparisons of performance at our University with performance at leading or our partner universities. The findings show clearly where the major problems and deficiencies are, and which changes and improvements are necessary. These changes and improvements, carried out through the quality assurance system as a benchmarking tool, have to be based on self-evaluation, resulting in the University's advancement and enhanced competitiveness. Benchmarking is not a one-time assessment of the situation at the university; rather, it is a continuous process that can be implemented in different ways.

The use of knowledge in order to revolutionize both traditional and advanced sectors of the economy requires a radical change in the development policies. The economy continues to depend on foreign loans and knowledge imports since structural reforms are not undertaken which should create knowledge-based manufacturing and service sectors. In this way the vicious circle of indebtedness, unproductive spending, technological lagging behind, reduced investment into research and development is perpetuated and spread, covering in concentric circles an ever larger number of social actors. Future analyses need to focus on the socio-cultural and value-driven aspects that determine the behaviour of social actors and thus impact the creation of social and economic environment in which the knowledge society concept can and must be the driving force behind necessary reforms.

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