RESEARCH UNIVERSITIES DEVELOPMENT TRENDS
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Resumé
The article addresses issues related to the trends in development of research universities, in particular, business-university collaboration as one of their important focuses. The problems of Ukrainian research universities are mentioned.

Key words: research university, university-industry collaboration, higher education

Introduction
In the Information and Knowledge Society, scientific research is an essential part of its economic development. It drives economic growth, innovation and improved wellbeing. The scientific potential of a country is concentrated in the universities, especially research ones. Their mission among other things is to ensure radical transformation of education to a new level, corresponding to the current pace of scientific and technological progress. In order to advance people's intellectual and social condition through quality teaching, interuniversity cooperation is gaining importance in the context of globalization and increasing competition. The process of European integration is accompanied by the deepening of international cooperation. The research universities multiply their power by creating international consortia and launching joint international projects.

1. Research Universities in the USA
In 1994, the Carnegie Classification defined research universities as those that:
• offer a full range of baccalaureate programs;
• are committed to graduate education through the doctorate;
• give high priority to research;
• award 50 or more doctoral degrees each year;
• receive annually $40 million or more in federal support [1].

According to the Carnegie classification of higher education institutions, U.S. universities presented in the Integrated Postsecondary Education Data System of the National Center for Education Statistics are classified as:
• DRU – Doctoral/Research universities
• RU/H – high research activity universities like, for example, Claremont Graduate University, George Washington University or Florida International University
• RU/VH – very high research activity like Harvard University, University of Houston, Arizona State University, University of Iowa et al.

The major trends of their development are:
• affordability and access
2. Research Universities in Europe

The main objective of the Bologna Process is creating The European Higher Education Area (EHEA) to ensure more comparable, compatible and coherent systems of higher education in Europe. Europe's research universities are making a huge economic contribution. They educate the future workforce, perform research, and make discoveries and inventions are put directly to work by the private sector to generate economic return [2].

Altbah, J. and Salmon, J. [3] see the keys to success in:

- primary focus on knowledge-intensive university model, in which the emphasis is on human resources and quality of research;
- deliberate business–university collaboration;
- collaboration with world’s leading universities and research networks, resulting in an active adaptation of the best international training programs and modern research methodology to the specific national educational context;
- making issues of national importance (including basic social and economic reforms) the objects of research and analytical work;
- mobilization of investment in universities as centers of sciences.

The League of European Research Universities – an association of 21 leading research-intensive universities – was found in 2002 in order to share the values of high-quality teaching and researching. “A set of global education initiatives aimed at cultivating a sense of global citizenship and leadership amongst students was also jointly developed under IARU. The Global Summer Program, the Sustainability Fellowships, and internships offer opportunities for students at the IARU member universities to engage critically as global citizens in an increasingly interconnected world. Besides enriching students, the Alliance also brings considerable diversity in the promotion of institutional joint working among its members, inter-university networking and staff development. Projects include Women and Men in Globalising Universities, Value of Research Intensive Universities, Alumni Association and Academic IP & Collaborative Technology Transfer” [4].

3. Research Universities Worldwide

The International Alliance of Research Universities (IARU) is an example of fruitful collaborative research aimed at jointly addressing grand challenges facing humanity and enabling student mobility. It is a collaboration between ten of the world's leading research-intensive universities established in late 2005.

At the conference in Barcelona in May 2012 on the present and future role of research universities in Europe, the leading scientists exchanged views with their counterparts from outside Europe and noted the unique contribution that research universities make to the economy and society, made an appeal to governments to:

1) "understand the university enterprise as a complex, interacting whole and as a source of multiple, separate benefits to society;

2) realise that RIUs are one of a few real trump cards in their hands in the fierce global competition for leading edge research and creative human talent;
3) value universities’ freedom and autonomy to set their own course, so that they’re able to participate in the competition without having one or both hands tied behind their backs” [5].

Today, a group of the nation’s leading universities announced plans to launch a new, innovative program that transforms the model of online education [6]. Semester Online™ is going to be first of its kind featuring rigorous, innovative, live courses for credit from a consortium of universities to college students from anywhere in the world.

4. Research Universities in Ukraine

Nowadays, one of the main priorities of Ukraine is “the striving to build Information society in focuses on the interests of people, opened for everyone and directed on the development of Information society where everyone could create and collect information and knowledge, have free access to them, use and change them, to enable everyone to realize his potential, promoting social and individual development and improving the quality of life. The importance of information cannot be overestimated. It contributes to the national interests, increases productivity, improves literacy, provides development of intellectual potential of the nation and improve the social and economic relations, enrich spiritual life and further democratization of society, the culture of communication [7]”.

According to article 1 of the law of Ukraine “About the National Program of Informatization”, it is a “set of interrelated political, social, economic, scientific, and industrial processes aimed at creating conditions to meet the information needs of society through the creation, development and use of information systems, networks, resources, and information technology” [8].

A partnership with industry is now one of the important focuses of our research universities. They are becoming entrepreneurial. This idea was developed in G. Itskovits’ concept of the "Triple Helix" [9]. According to his theory, universities are prime moves of the innovation process. They actively collaborate with business, doing research to ensure continuous improvement of their products and services: education, research, innovation introduction of high technologies, and they bring their products to the market (technology transfer). Keeping all the academic components, research universities must focus on developing of students' entrepreneurship. This form of the innovation process G. Itskovits calls "a model triple helix", where the main actor of the innovation process are the state (it must provide resource, political and legislative support), universities and high-tech business (the main customer and supplier of high technology markets). In his model university should be the main center of effort and application of public resources for innovation.

Unfortunately, lack of the efficient mechanisms to encourage and promote innovation, contradictory legislation and taxation systems as well as lack of investors are hampering the innovation development in Ukraine. Nevertheless the Ukrainian research universities have outstanding achievements and experience to share with our partners. As an example, Science Park “Kyivska Polytechnika” established on the basis of National Technical University of Ukraine “Kyiv Polytechnic Institute” (NTUU “KPI”) in compliance with the Law of Ukraine “On Science Park “Kyivska Polytechnika” No. 523-V of December 22, 2006. It is a form of scientific and research process organization which promotes effective commercialization of high-tech developments. Its main project aim is to organize the system of interaction between business and university [10].

The merger of business and academia is a widely used model at the world's top research institutions. In Ukraine, the university-industry collaboration has also grown considerably. A Tempus IV Joint European Project MERCURY (Towards Research and Entrepreneurial University models in the Russian, Ukrainian and Moldavian Higher Education) within the
eligible period from January 15, 2009 - January 14, 2012. Joint European Projects aimed to increase cooperation and network-building between actors in higher education in EU Member States and partner countries, and help the higher education sector propagate its knowledge outside academic institutions addresses the need of Russian, Ukrainian and Moldavian universities to improve their university business relations via creating a university system for research and entrepreneurial activities support able to facilitate improvements in general climate for spin-off businesses creation, technology transfer, self-employment of students, staff members and graduates, intellectual property protection [11].

**Conclusion**

Globalization has profoundly influenced higher education. Globalization is defined as the reality shaped by an increasingly integrated world economy, implementation of information and communications technology, and the emergence of an international knowledge network. Increasing students’, teachers’ and scholars’ mobility are the results of the radical changes in higher education. In order to advance people’s intellectual and social condition through quality teaching, interuniversity cooperation is gaining importance in the context of globalization and increasing competition.

**Bibliography**


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