UNIVERSITIES' COMPETITIVENESS MODELS IN ACADEMIC MANAGEMENT: A NATIONAL-LEVEL APPROACH

Andrey Belov[1], Galina Chernova[2], Vladimir Khalin[3], Natalia Kuznetsova[4]

[1] *Prof. Dr Fukui Prefectural University (Japan). Matsuoka-Kenjojima 4-1-1, Eiheiji, Fukui, 910-1195, Japan. Tel. +81-776-61-6000. E-mail abelov@fpu.ac.jp*
[2] *Prof. Dr Saint-Petersburg State University. Chaikovskii str., 62-191123, Saint-Petersburg, Russia. E-mail chernovagalina@yandex.ru*
[3] *Prof. Dr Saint-Petersburg State University. Chaikovskii str., 62-191123, Saint-Petersburg, Russia. E-mail vhalin@yandex.ru*
[4] *Prof. Dr Saint-Petersburg State University. Chaikovskii str., 62-191123, Saint-Petersburg, Russia. E-mail nataliakuz2010@yandex.ru*

The developing international education market requires additional qualitative and detailed information on the comparative characteristics of universities. This study suggests a single synthetic model for describing and assessing universities' competitiveness at the national level for advanced, emerging, and transitioning economies. The model is based on the same methodology as international university rankings, but employs different techniques for initial clustering and further analysis. We identified four different university clusters in the Russian Ministry of Education and Science database, distinguished by specific development goals. We argue that applying these clear and well-defined criteria as clustering attributes allows us to compare competitiveness in different settings, formulate academic management strategy and recommend policy guidelines tailored precisely for each university's requirements.
Key words: education market, higher-education competitiveness, models of competitiveness, academic management, university rankings.
JEL Codes: I21, I23.

1. Introduction

Since the late 1980s, one of the most important trends in world development has been the modernization of the welfare state concept, which includes the educational multicultural component (Kuznetsova, 1998), the globalization of markets, the scales and spheres of competition and expansion above state and regional borders. 'National competitiveness' has become a commonly used term that includes specific statistical components, such as the Global Competitiveness Index (by WEF, World Economic Forum) and IMD World Competitiveness Ranking (by IMD, International Institute for Management Development).

Since human capital, knowledge, and innovations are important elements of national competitiveness, educational and research systems (universities, primarily) became widely represented in these studies.

The developing international education market, the increasing cross-border mobility of students and teachers, and the improving international cooperation in research required more qualitative and detailed information on the comparative characteristics of universities. Consequently, description, presentation, measurement, and assessment of the problems of universities' competitiveness have gained wide representation in scientific literature (OECD, 2009; Salmi, 2009; Clark, 2011; Supjan, 2012; Khalin, 2015; Douglass, 2016; Project, 2018). These developments have further stimulated the growing demand for comprehensive and easy-to-access comparative information. Several public educational and private informational bodies have responded to the demand and started to provide relevant data. Among them, such entities as Shanghai Jiao Tong University, Times Higher Education (THE) magazine, and Quacquarelli Symonds (QS, provider of business education) have become de-facto global standard setters. By the end of 2010, the developed indices of the Academic Ranking of World Universities (ARWU, since 2003), THE World University Rankings (THE WUR, since 2004), QS World University Rankings (QS WUR, since 2010), and the corresponding databases became the most popular sources of information on the comparative positions of different countries' universities.

The mentioned indices quickly turned into universally recognized models of international competitiveness and began to shape the behavior of potential students, academics, and managerial officers of education. Being included in the world's top universities list became a coveted position and both universities and government bodies began making that a policy target. By 2008, that is, 4–5 years after the establishment of the rating system, improvement in the universities' positions was reflected in educational policy priorities in such diverse countries as Australia, Germany, China, Korea, Malaysia, Russia, France, and Japan (Hazelkorn, 2008). In most countries, academic administrations and management have adjusted their activities to improve competitiveness (Carson, 2013).

The wide use of the ratings results has led to changes in both educational and research activities of universities worldwide. As the developments in the United States, Australia, and Europe are well documented (Lombardi, 2016; LH Martin Institute, 2014; Paleari, 2015), we focused mostly on Asian and Eurasian dynamics just due to a lack of data mining and research in these regions. We found out that the rich oil-producing Persian Gulf countries aimed at attracting high-rating foreign universities to specially created educational zones (Ashour, 2016). Moreover, large Muslim countries, such as Indonesia, have developed an optimal policy for the speediest increase in international positions for the single largest university in each country (Dewi, 2015).

The most relevant developments for Russia and other transitional economies (from the standpoint of educational system reformation and experience implementation) were those seen in the countries and territories of East Asia belonging to the

Chinese (Confucian) cultural area, that is, Hong Kong, China, Korea, Malaysia, Singapore, Taiwan, and Japan. A catching-up type of industrialization and mentality of these countries' ruling class can be considered a common feature of the listed states. In these countries, increased international competition in higher education and the emergence of university rankings in the early 2000s led to a strong sense of them lagging behind the leading economies and a desire to catch up (Shin, 2015). The result was the adoption of programs to eliminate gaps and enhance national education competitiveness. These programs, although differing from country to country, generally had several common features. The implemented policies were aimed at strengthening the positions of leading universities in world rankings. The policies focused on public universities' corporatization and expanding independence, developing and implementing measures to attract foreign students and teachers, strengthening the competition for research funds, and consolidating higher education institutions (Belov, 2014). Systematic work within the framework of adopted programs has significantly increased the competitiveness of higher education in most East Asian countries (Chan, 2018).

The same measures that were applied in the countries of East Asia have formed the basis of higher education modernization in Russia since the late 2000s. For almost 10 years, the country's universities have changed dramatically, but the overall assessment of the ongoing reform results has been contradictory (Dokukina, 2016). Why did similar measures in Russia and East Asia produce different results? What factors have determined the uncertain dynamics of Russian educational institutions? Unequivocal answers to these questions are hardly possible, as the comparative positions of universities are determined by a wide range of macro and micro characteristics (OECD, 2016).

In order for universities (as well as national research and educational systems) to gain a sustainable competitive advantage, the application of a sophisticated and multi-dimensional strategy is required. In this regard, describing and assessing universities' competitiveness plays an indispensable role in compiling detailed qualitative information for academic management. Most countries analyze their respective educational entities by applying the same approaches as those used in comparatively simple international ratings, which are based on two general parameters: the goal and the means. The goal is to acquire a competitive edge in order to win investments and grants as well as attract capable researchers, teachers, and students. The means involves infrastructure development, productivity and quality gains, and amongst other factors reputation enhancement.

We assert that at the national level, research and education policy modelling should expand beyond these narrowly defined boundaries of market competitiveness and find a way to determine the scope of the public and private sectors, establish clear rules for competition and cooperation, and develop effective institutions for the market and non-market provision of public goods. The complexity of the mentioned tasks in practice leads to the grouping of national universities and the formulation of academic policies separately for each group. Such a multi-layered approach to the

development of universities in several Asian countries allowed significant achievements and therefore, can be regarded as the internationally viable best practice example. We argue that the application of such a multilayered approach to the definition of academic policy can be beneficial for economies in transition.

Effective use of global best practices is indeed a challenging task for academic management. However, for this particular field of research meaningful results can be obtained by applying novel analytical tools. The hypothesis of this study is that a single synthetic model for describing and assessing universities' competitiveness can be developed and used effectively for both advanced, emerging, and transition economies, including Lithuania and other Baltic states. The goal of the study is construction of the principal framework for such a model.

The methodology is based on the comparative analysis and clustering of the universities, according to the world ratings data and the database for monitoring the effectiveness of higher education institutions compiled by the Russian Ministry of Education and Science (Ministry…, 2018). In our previous study, we performed a cluster analysis of the competitiveness level of some 300 universities in terms of education quality, scientific research level, degree of internationalization, and contribution to territorial development (Khalin, 2018). In this research, we conducted an expert assessment of these universities' competitiveness policies, taking into account the results previously observed but employing different techniques for initial clustering and further elaboration. More specifically, we categorized the policies into four components: 1) sustaining present positions within university groups; 2) acquiring better placement within a group; 3) rising to a higher-level group; and 4) entering a group from a 'non-grouped' zone. We then divided our dataset into four different clusters, distinguished by these specific development goals. Finally, to test our hypothesis, we revisited the original data and checked the clusters hypothetically identified against the policies actually implemented by the universities. Therefore, this study's methodology involved consistently applying expert estimation, theoretical generalization, and empirical verification techniques. The rest of this paper presents the theoretical framework for competitiveness modelling, suggests the general models for specific university clusters, and discusses the connections between the general models and existing world university rankings. The study concludes by summing up the findings and providing some policy implications.

3. Conclusion

1. The classification and comparison of universities at the national level requires formalized techniques for initial clustering as well as for further analysis. Therefore, we suggest a general model of competitiveness with two parameters for different university clusters. These are distinguished by four university-specific development goals: 1) entering the cluster, 2) retaining positions, 3) gradual improvement, and 4) climbing to the higher ranked cluster.

2. The model employs the same methodology as international university rankings. Simultaneously, using the clear and well-defined criteria as clustering attributes, we can better compare the ability to compete in national settings. We can also formulate policy guidelines that are tailored more precisely for the requirements of each university. An empirical check confirms that the model effectively describes nearly all types of development strategies observed amongst the 300 Russian universities that were analyzed. In general, the model can be effectively applied to several emerging and transitioning economies.

3. This study does not exhaustively analyses the enormous pool of problems associated with the adequacy of information provided for the purpose of enhancing educational competitiveness. At the same time, university clustering with development goals as attributes, elaborated in this research, is a novel idea, without direct parallels in the related literature. Despite of the inevitable sketchiness of the topic, this study may develop a solid foundation for a broader scientific discussion.

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UNIVERSITETŲ KONKURENCINGUMO MODELIAI: NACIONALINIS POŽIŪRIS Į AUKŠTOJO MOKSLO VALDYMĄ

Andrey Belov[1], Galina Chernova[2], Vladimir Khalin[3], Natalia Kuznetsova[4]

[1] *Fukui prefektūros universitetas (Japonija),* [2, 3, 4] *Sankt-Petersburgo valstybinis universitetas*

Santrauka

Straipsnyje lyginamas skirtingų šalių universitetų konkurencingumas, kuris apsprendžia specialų metodologinį požiūrį į konkrečių konkurencingumo modelių nustatymą. Tyrimo tikslas yra empirinis tokių modelių nustatymas. Tikslui pasiekti autoriai naudojo apie 300 tarptautinių ir Rusijos universitetų duomenų bazes bei jų plėtros programas. Siūlomi bendri konkurencingumo modeliai, atspindintys universitetų vystymosi tikslus ir konkurencinio pranašumo reikalavimus. Šie parametrai skirtingiems universitetams skiriasi, o tai lemia modelių įvairovę. Straipsnyje siūlomas papildomas universitetų konkurencingumo vertinimo modelis, siekiant paaiškinti aukštojo mokslo reitingavimo skirtumus.

Raktiniai žodžiai: švietimo rinka, aukštojo mokslo konkurencingumas, konkurencingumo modeliai, akademinis valdymas, universitetų reitingai.

JEL kodai: I21, I23.