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From ‘candidates’ to ‘grandmasters’: internationalization strategies of universities

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ABSTRACT

Relevance. Higher education is one of the main areas for the development of national and world economy. To remain competitive on the national and international markets of higher education, universities need to invest considerable financial, human and other resources into internationalization. There is, however, no ‘one-size-fits-all’ solution and universities may choose from an array of strategies to become more visible on the international arena and to move up the global rankings.

Research objective. The purpose of this article is to clarify the concept of internationalization in the field of higher education, to identify the key factors that influence universities’ success in internationalization and to explore the strategies and activities used by universities from different countries to internationalize.

Materials and Methods. Methodologically, this study relies on the methods of directed content analysis, cluster analysis with SPSS statistics, case studies and interviews. The sample included 32 universities from Western Europe, China and Japan, Russia and the USA – participants of international programs of competitiveness enhancement.

Results. 7 key factors that determine the success of a university’s internationalization efforts were identified, the most important of which are financial resources and international interaction. The study also proposes a methodology based on calculation of the internationalization index, which can be applied to determine this or that university’s type and choose the optimal activities to enhance its internationalization.

Conclusions. Relocation of the university to a type (cluster) of a higher level through the implementation of the proposed activities can be considered as a modern way of their internationalization.

KEY WORDS

internationalization of higher education, world class university, comparative analysis, integration into the world economic system, university internationalization, types of universities

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От «кандидатов» к «гроссмейстерам»: стратегии интернационализации университетов

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АННОТАЦИЯ

Актуальность. Высшее образование – одно из основных направлений развития национальной и мировой экономики. Чтобы оставаться конкурентоспособными на национальном и международном рынках высшего образования, университетам необходимо инвестировать значительные финансовые, человеческие и другие ресурсы в интернационализацию. Однако универсального решения не существует, и университеты могут выбирать из множества стратегий, чтобы стать более заметными на международной арене и подняться в глобальных рейтингах.

Цель статьи – прояснить концепцию интернационализации в сфере высшего образования, выявить ключевые факторы, влияющие на успех университетов в интернационализации, а также изучить стратегии и действия, используемые университетами из разных стран для интернационализации. **Данные и методы.** Методологически данное исследование опирается на методы направленного контент-анализа, кластерный анализ в SPSS, тематические исследования и интервью. В выборку вошли 32 университета из

КЛЮЧЕВЫЕ СЛОВА

интернационализация высшего образования, университеты мирового класса, сравнительный анализ, интеграция страны в мирохозяйственную систему, факторы интернационализации университетов, типы университетов

Западной Европы, Китая и Японии, России и США – участников международных программ повышения конкурентоспособности.

Результаты. Были определены 7 ключевых факторов, определяющих успех усилий университета по интернационализации, наиболее важными из которых являются финансовые ресурсы и международное взаимодействие. В исследовании также предлагается методология, основанная на расчете индекса интернационализации, с помощью которой можно определить тип того или иного университета и выбрать оптимальные направления деятельности для усиления его интернационализации. **Выводы.** Перемещение университета в тип (кластер) более высокого уровня за счет реализации предложенных мероприятий можно рассматривать как современный способ их интернационализации.

ДЛЯ ЦИТИРОВАНИЯ

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Introduction

Higher education is one of the areas of national economy which has recently attracted a lot of scholarly attention, since it is one of the main elements of the knowledge economy along with R&D, IT, and knowledge dissemination¹. This article builds on and develops the understanding of internationalization of higher education as the inclusion of the international dimension in the educational process (Hans de Wit, 2019).

Internationalization of higher education has been a major trend in Russia as well. In fact, it is one of the key goals of the national project 'Export of Education'². Its successful implementation is based on new forms and directions of the internationalization of universities as the main providers of educational services, since the traditional methods no longer cover the entire range of tasks (Danilchenko, 2015).

The purpose of this article is to clarify the concept of internationalization in the field of higher education, to identify the key factors that influence universities' success in internationalization and to explore the strategies and activities used by universities from different countries to internationalize.

Theoretical framework

Even though systematic studies of internationalization in higher education began only in the 1980s, as of today, in this area sufficient knowledge has been accumulated, which needs to be systematized.

¹ Asmyatullin, R.R. (2021) Export strategies of universities in the world market of educational services. Abstract of the dissertation for the degree of Cand.Sc. (Economics). Moscow: RUDN.32 p.

² Start of the priority project 'Development of the export potential of the Russian education system' until 2025 (as a continuation of the 'Concept for the export of educational institutions of the Russian Federation for the period 2011–2020').

Modern approaches to internationalization in higher education

Table 1 provides a general overview of the key concepts related to internationalization of higher education (*hereinafter* – HE internationalization).

The concepts described above reflect different aspects of internationalization; therefore, it is necessary to use them all comprehensively in order to understand the nature of modern HE internationalization.

Internationalization of universities: from local to global players

The international activity of a modern university includes several areas: export of higher education systems, dissemination of research results, academic mobility of students and scientists (Hans de Wit, 2019). The types of international activities depend on whether the university is publicly funded or uses specialized funds (Ayse Nil, 2018). Other forms of internationalization include creating exchange programs for students, lecturers, and researchers (exchange programs, internships); developing and implementing educational programs that meet international standards; attracting faculty members from the world labour market, increasing the number of faculty members participating in international conferences and competitions; stimulating the faculty to obtain foreign postgraduate and doctoral degrees; increasing the number of publications in international journals; expanding opportunities for obtaining grants in foreign organizations.

However, not all universities are able to compete successfully in the global market. Researchers have repeatedly emphasized that the greatest effect is achieved in large universities, which are sometimes described as 'global in size' (Sergeev & Ryzhkova, 2010). R. Asmyatullin draws an analogy with TNCs, emphasizing that

‘to increase competitiveness, the trends towards consolidation and integration in the education system have intensified; ... large global players appear, which offer various courses and have many campuses in different countries – equivalent of transnational companies in the global market of educational services, for example, companies Navitas, Academies Australasia, Apollo Education Group and many others’. Hans de Wit (2019) points out that an organization like a university is global in its nature.

Development trends in the world include formation of elite universities, which create competitive educational products. There may be not one but a range of university models (the current model is designated as University 4.0) – ‘evolutionary and informative models of a world-class university’ (Pavlov and Zashchina, 2020, p. 687). However, only the combination of these models can help universities achieve success on the international market. Moreover, the leaders of the world economy, as was mentioned above, operate within the framework of large companies, most often TNCs. In the light of the above, universities appear to be naturally evolving into world-class educational institutions.

World-class universities are diverse, although not so numerous. They form the ‘agenda’ and directions for the development of higher education in the world, they are fighting for a top

positions in world rankings, they are chosen by students as places for education and teachers as places for employment. Therefore, we consider the transformation of national universities into world-class universities as a new way of internationalization.

In connection with the above, there are two problems that should be considered: firstly, it is necessary to identify the types of universities that assume the role of global players; secondly, to develop strategies to promote regional and national universities on the international market.

Data and Methods

The research includes several stages.

Stage 1. Identification of the factors of university internationalization.

At this stage, we searched the key phrase “internationalization factors” through the databases Scopus, Web of Science, and EBSCO; then, an extra search word “universities” was added. We also analysed the data from the QS, THE, ARWU and MosIUR rankings, then the group of experts assessed the significance of factors, after that the data were uploaded to the SPSS program (Beliaeva, 2018).

Stage 2. Selection and identification of the university types based on a combination of the factors of internationalization. With the help of the SPSS statistical analysis program, we divided

Table 1

Main concepts of internationalization of higher education and their content

№	Concepts	Description
1	International activity	1. The education process is organized in accordance with the international standards (Knight, 1999). 2. Incorporation of an international dimension in the educational process (Hans de Wit, 2019). 3. Initially, internationalization was seen as equivalent to international education (Beregovaya and Kudashov, 2019) and it was associated with the implementation of a certain type of activities at the level of individual organizations (Bednyi, 2020)
2	Resource integration	The prevailing global knowledge economy «has made the field of science and higher education more important than ever» (Hans de Wit, 2019). Currently, it is important not only to educate students by calculating the volume of educational services, but also to produce knowledge by attracting (and providing) foreign resources in order to meet the changing technological and economic demand for highly qualified specialists in the country and the world (world labour market, global market for educational services)
3	Internationalized education process	Similar to how the final product in the industry is created within the framework of the global value chain, the modern educational product is also formed through the implementation of many stages. Internationalization affects almost all components and activities of the university, including research, postgraduate programs, international co-authorship, teaching and learning methods, brand (Hans de Wit, 2019).
4	Networking	In the field of higher education, networking is a modern way to gain knowledge and information about the market, which allows universities to expand international partnerships and interact freely and flexibly within a network structure. The most famous network educational organizations are NAFSA (National Association of Foreign Student Advisers) in North America, EAIE (European Association for International Education) in Europe, APAIE (Asia-Pacific Association for International Education) in Asia, which set the standards for the development of university internationalization

Sources: compiled by the authors based on (Knight, 1999), (Hans de Wit, 2019), (Beregovaya & Kudashov, 2019), (Bednyi, 2020); World Investment Report (2013). Global Value Chains: Investment and Trade for Development, 2013, United Nations Publication, New York and Geneva, 2013, p. 125.

Table 2

Factors and indicators of internationalization: results of content analysis

Name, year	Factors					
	Number of foreign teaching staff and student	Number of online courses	...	Income from R&D	Financial resources	Campus infrastructure
Hans de Wit (2019)	+	-	...	+	+	-
Papanastasiu, Pier, Zanfei (2021)	-	-		+	+	+
Lee, Kai (2018)	+	+		-	+	-
MsAlir, Nakamura (2019)	+	+		-	+	+
Glas, Lee (2018)	+	-		-	+	+
...
Asmyatullin R., Balykhin M.	+	+	...	+	-	+

Sources: compiled by the authors based on Hans de Wit (2019), Papanastasiu, Pier, Zanfei (2021), Lee, Kai (2018), MsAlir, Nakamura (2019), Glas, Lee (2018), Asmyatullin, R. (2015), Balykhin, M.G. (2009). Trends in the development of the international market for educational services: EU countries and the Russian Federation. Abstract of the dissertation for the degree of Cand.Sc. (Economics).

the group of selected world-class universities according to the specified factors into type-clusters (Beliaeva, Frolova, 2021).

Stage 3. Calculation and comparative analysis of the internationalization index for each type-cluster. For each type-cluster we calculated the index of internationalization (I_{ic}). The index is determined as the arithmetic mean of the factors identified at Stage 1.

Stage 4. Development of strategies and activities to enhance internationalization. On the basis of the comparative analysis of the information from the sites and interviews with the leading specialists from these universities, we have selected and systematized the activities from these universities' export strategies. The international experience is represented by a wide range of activities. There is no 'one-size-fits-all' solution and universities' export strategies may be developed depending on their own specifics and history as well as on the regional and national context.

Results

At the first stage, the factors of university internationalization were identified through directed content analysis. The search word 'internationalization' in the databases Scopus and WoS has brought us 433 publications between 2000 and 2020, and in the EBSCO database, 215 publications between 2005 and 2020. The search phrase 'internationalization of universities' has brought 33 search results in Scopus and Web of Science and 43 in EBSCO. We found that there are two groups of factors – external (political, macro-economic, etc.) and internal, which are directly influenced by the main stakeholders. Next, we identified the factors of university internationalization by analysing 76 selected publications.

Table 2 illustrates the results of content analysis based on the publications indexed in the Web of Science.

Academic and international student mobility had the greatest number of mentions (Taradina, 2021)³. Other factors of university internationalization include university websites in foreign languages and universities' online visibility (Arzhanova & Vorov, 2016). As for the economic factor, it is associated with making a profit not only from the export of educational services, but also from the residence of foreign citizens (Novikova, 2021; Stukalova, 2017; Stukalova, 2019).

Since the factors are also taken into account by world university rankings, we supplemented our analysis with data from the rankings QS, THE, ARWU and MosIUR (Table 3). The number of Russian universities that participate in rankings, for example, in QS, is growing and has increased 5 times since 2005 (Stukalova, 2019).

Table 3

Factors affecting the university's position in world rankings

Factors	ARWU	QS	THE	MosIUR
Academic reputation	+	+	+	-
Employer reputation	-	+	+	-
Number of prestigious international awards	+	-	-	+
Visibility in the Internet space	-	-	-	+

Sources: QS, retrieved from <https://www.topuniversities.com>, THE, retrieved from <https://www.timeshighereducation.com/world-university-rankings>, ARWU, retrieved from <http://www.shanghairanking.com/index.html> and MosIUR, retrieved from <https://mosiur.org>

³ Gorshkova L.Yu. (2012). Export of educational services of higher education: world experience and Russia. Abstract of the dissertation for the degree of Cand. Sc. (Economics).

As a result of directed content-analysis, we identified 19 factors. These factors were further grouped with the help of the SPSS statistical data processing program.

We also interviewed expert groups of 250 representatives from 15 countries. The experts occupied high positions in their HEIs and performed both administrative and research functions related to internationalization of higher education. Based on these interviews, we determined the significance of the factors (assessed on a 7-point scale).

We applied factor analysis, the main tool in SPSS, to split the array of variables into a small number of groups called factors. As a result, seven groups of factors were identified, which are further reflected in Formula 1 below. For example, the first group ‘Financial Resources’ includes such variables as government funding, income from research activities, income from students, including overseas students, contributions to the endowment fund. The second group ‘International Interaction’ included the variables corresponding to the number of programs taught in English, the number of overseas students, and the number of foreign faculty. Other groups of factors include university reputation, student competitiveness, transparency, publication activity,

and campus infrastructure. There are different approaches to the classification of these factors: for example, in their discussion of universities’ attractiveness to overseas students, L.D. Taradina et al. (2021) distinguish between the positive (associated with benefits) and negative (associated with the risks of studying abroad) factors. R. Asmyatullin (2015) considers only the demographic factor as the dominant one and argues that this factor should determine strategies for export of educational services.

At Stage 2 we considered a set of data of 32 international universities from different territories, namely, 8 US universities from the Ivy League; 9 universities that are the top performers in the competitiveness enhancement programs of Western Europe, China and Japan; and 15 Russian universities selected to participate in the 5-100 Competitiveness Enhancement Program, which ended in 2020 (Table 4).

According to the statistical data of these universities, between the 2016 and 2019 academic years, cluster analysis was conducted for the two factors – international interaction and financial resources. Using SPSS Statistics, we have classified these 32 universities into cluster types (each cluster corresponds to the cluster of points in the space of variables) (Fig. 1).

Table 4

International universities participating in the competitiveness enhancement programs

Country	Project	Start year	Participants	Finance (USD, billion)	Participating Universities / Winners
China	Project 211	1995	99	2.2	2 universities in top-100 THE (Peking University, Tsinghua University)
		2001	107	2.3	
		2006	118	1.6	
	Project 985	1998	9	1.6	
		2004	39	2.3	
Germany	Excellence initiative	2006	9	1.9	5 universities in top-100 THE (University of Göttingen, University of Heidelberg, Humboldt University Berlin)
		2012	11	2.7	
France	Excellence initiative	2010	8	7.7	2 universities in top-100 THE (ENS de Paris, Ecole Polytechnique (Paris))
		2014	3	2.2	
Japan	10/100	2014	14	0.1	2 universities in top-100 THE (Kyoto University, Tokyo University)
Russia	Competitiveness Enhancement Program 5/100	2011	9	1.5	Far Eastern Federal University, Kazan Federal University, MIPT, MISiS, Tomsk State University, Tomsk Polytechnic University, Higher School of Economics, MEPhI, Nizhny Novgorod State University, Novosibirsk State University, Samara National Research University named after academician S.P. Korolev, Peter the Great St. Petersburg Polytechnic University, St. Petersburg State Electrotechnical University, ITMO University, Ural Federal University
		2012	15	0.014	
		2015	21	0.0135	

Sources: THE, retrieved from <https://www.timeshighereducation.com/world-university-rankings>, excellence initiatives retrieved from <https://www.5top100.ru>, https://www.dfg.de/en/research_funding/programmes/excellence_initiative/, <https://op.europa.eu/en/publication-detail/-/publication/3cbc48f1-3f4e-11e6-af30-01aa75ed71a1/language-en>

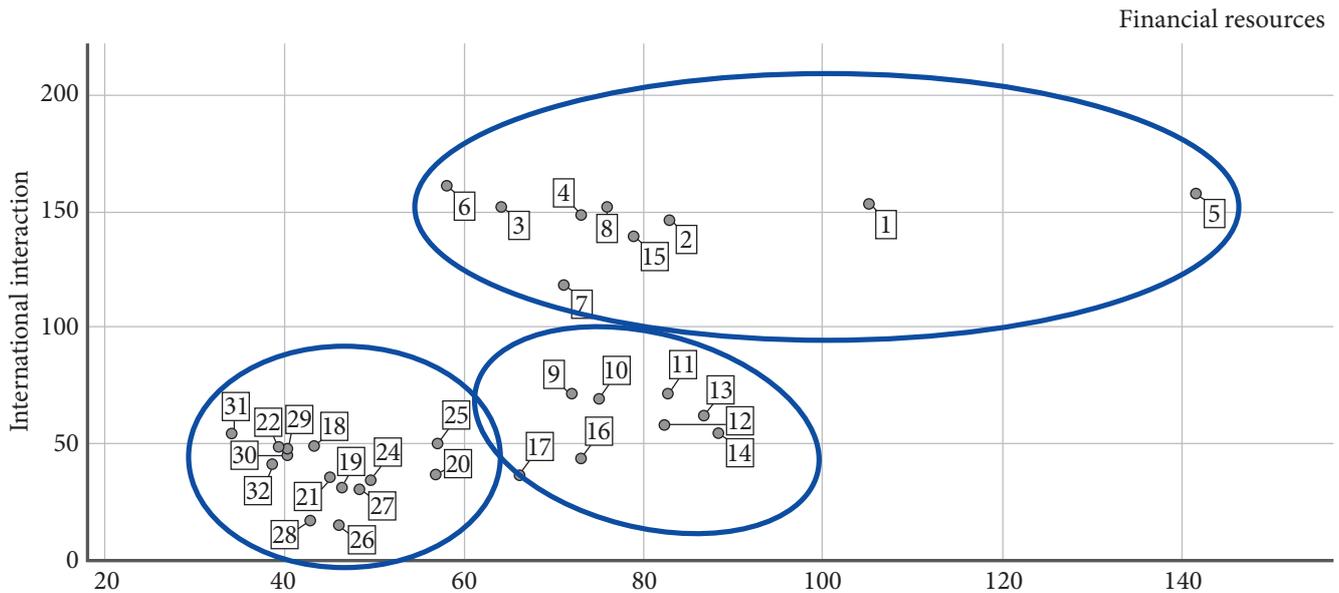


Figure 1. Diagram of the distribution of universities by cluster types (for two factors: international interaction and financial resources)

Source: Beliaeva & Mariev, 2020

As a result, we can see that nine universities with the best indicators are in the first cluster, eight in the second, and fifteen in the third. According to the level of achievement, we named the cluster types ‘grandmasters’, ‘masters’ and ‘candidates’. For example, the first cluster type includes American universities of the Ivy League and one French university – Harvard University, Columbia University, Yale University, Princeton University, Pennsylvania University, Cornell University, Dartmouth College, Brown University, and Ecole Polytechnique (Paris). French, Chinese, Japanese and German universities established in the 17th – 19th centuries were included into the second type, for example, Peking University and Tokyo University. Russian universities, including the Kazan Federal University and Moscow Physics and Technology University, belong to the third type and represent different regions of Russia. In terms of territorial distribution, we can see that universities are unevenly represented by type. Thus, the first type is dominated by American universities, the second is dominated by European and Asian universities, and the third is occupied by Russian universities.

At Stage 3, an internationalization index was calculated for each type-cluster. We have constructed this index (Formula 1) by using the arithmetic mean of the 7 factors of university internationalization.

$$I_{ic} = \frac{I_i + I_f + I_r + I_c + I_t + I_p + I_{inf}}{7}, \quad (1)$$

where I_i is the value of the factor ‘international interaction’; I_f , the value of the factor ‘financial resources’; I_r , the value of the factor ‘reputation of the university’; I_c , the value of the factor ‘students’ competitiveness’; I_t , the value of the factor ‘transparency’; I_p , the value of the factor ‘publication activity’; I_{inf} , the value of the factor ‘campus infrastructure’

The factor ‘Financial Resources’ is influenced by government funding, income from research activities, income from students’ tuition fees and contributions to the endowment fund.

The factor ‘International Interaction’ increases together with the increase in the number of foreign students, lecturers and programs in foreign languages.

The factor ‘Publication Activity’ depends on the proportion of articles cited in WoS and Scopus. This factor reflects the involvement of the university in the life of global academia, affects the university’s position in world university rankings and the trajectory of its development.

The factor ‘University Reputation’ reflects both the academic assessment of the university by experts and the assessment of the work of university graduates by employers, it is one of the decisive components of the university’s position

in the rankings. An increase in the ‘transparency’ of an educational institution will have a positive effect on its academic reputation.

The advantage of the proposed methodology is that it can be simplified by focusing on the two key factors – ‘International Interaction’ and ‘Financial Resources’. By calculating the index of internationalization, the cluster this or that university belongs to can be identified.

The index was calculated for each university and then we could compare the results of individual universities with each other, for example, the Harvard University’s score for the factor ‘Financial Resource’ is 105.074, and for ‘International Interaction’, 153.5, therefore, the index is 129.2871188. The scores of the Higher School of Paris are lower – 78.814 and 139.5, respectively.

For the ‘grandmasters’, the index range was from 94.7 to 149.8.

The calculation for other types was carried out in a similar way: for the ‘masters’, the index was from 58.2 to 77.2; and for the ‘candidates’, from 29.9 to 53.5. The universities in the fourth cluster have the index below 29.8.

Stage 4. Development of strategies for enhancement of internationalization in HEIs. In order to increase the level of internationalization, each university develops its own strategies and policies, for example, sets the target to increase the volume of exports of educational services or the mobility of students and lecturers. There are certain patterns, however, in the ways universities pursue internationalization depending on the national and regional contexts (see Table 5 below).

Using Immanuel Wallerstein’ world-systems theory, L.D. Taradina (2021) offers an unusual approach to explaining the export strategies of universities: student mobility flows are directed from the countries of the semi-periphery towards the core, and from the periphery to the semi-periphery. As was said above, R. Asmyatullin states that the directions of student mobility flows are largely determined by the demographic factor. Chinese scientists have proposed a concept of the export strategy for world-class universities as part of the large-scale ‘One Belt, One Road’ Initiative (Xu Hong, Zhan Jiahui, 2021).

The cluster approach reveals a set of techniques that world class universities use in their internationalization strategies. In Table 6 below, we summarized and compared the activities from the export strategies of the universities from the clusters. The data were obtained from the universities’ websites and interviews with their leading specialists. Hans de Wit (2019, p. 15) highlighted that the leading universities share a number of distinctive feature, for example, high concentration of talented scientists, an abundance of resources, and reputation. Thus, movement from lower to higher-level clusters can be associated with universities achieving higher degrees of internationalization.

Thus, in order to join the group of global leaders (‘Grandmasters’), a university needs to implement the measures listed in Table 4: to ensure the dominance of self-financing from endowment funds among their sources of funding; maintaining the franchise, to facilitate

Table 5

Comparative analysis of the prevalent internationalization strategies of universities

General for all regions	Special regions			
	Asia	Middle East	Europe	Russia
<ul style="list-style-type: none"> – stimulating the export of educational services; – promotion of the country’s brand; – increasing state funding for higher education; – strategies to attract foreign students; – development of the educational infrastructure; – active interaction with educational agencies and scholarship foundations; – positioning of the country as a world educational centre 	<ul style="list-style-type: none"> – Internet accessibility through mobile applications; – good infrastructure; – reduction of the cost of living; – creation of English-language educational programs; – incentives for lecturers to study abroad in order to adopt the Western teaching style; – facilitating student mobility 	<ul style="list-style-type: none"> – creation of offshore institutions – autonomous educational institutions; – positioning the country as an educational centre; – free economic zones in the field of higher education 	<ul style="list-style-type: none"> – blended financing of education; – reducing tuition fees; – ensuring the availability of the Internet through mobile applications 	<ul style="list-style-type: none"> – strengthening the regional component in the exports of educational services; – adaptation of foreign students; – reducing the costs of education

Source: compiled by the authors by using the data from the websites of leading universities and the evidence provided in Ammar Al Hauazh, Asmyatullin, 2016; Asmyatullin, 2015; Rogova, 2013; Ayse Nil, 2018; Scott, Nazli, 2018.

Table 6

Activities to enhance internationalization of universities

№	Type of activity	Internationalization activities	
		Transition from 'Candidates' to 'Masters'	Transition from 'Masters' to 'Grandmasters'
1	Pooling of resources	Creation of international consortia with partners of the 'Master' level	Creation of international consortia with 'Grandmaster' level partners
2	International mobility of the faculty	Attraction of foreign professors from universities from the 'Masters' group on the basis of the intercultural competence enhancement	Attraction of international faculty from universities from the 'GrandMasters' group to enhance cross-cultural competence
3	Sources of financing	Increasing the share of funding from endowment funds	Dominance of self-financing from endowment funds
4	Organizational and institutional development	Opening of franchise educational units	Opening branches in recipient countries of educational services
4	Recipient countries	Recruiting of students and lecturers from developing countries	Recruiting of students and lecturers from developed countries
5	Development of infrastructure	Development of individual elements of residential infrastructure for foreign students	Development of the infrastructure complex as a whole, incl. campus, in accordance with the best world practices

Source: Compiled by the authors based on the information from the official websites of Harvard University retrieved from <https://www.harvard.edu>, Princeton University retrieved from <https://www.princeton.edu>, Kyoto University retrieved from <http://www.kyoto-u.ac.jp/ja>, Ecole polytechnique (Paris) retrieved from <https://www.polytechnique.edu> and interviews with experts

the opening of branches in the countries which are the recipients of educational services; to target developed countries but continue recruiting students from developing countries through marketing campaigns and activities.

Conclusions

We identified 7 factors, the most important of which are 'financial resources' and 'international interaction'. We also found that universities might be grouped depending on their internationalization levels into three types (clusters): the first cluster comprises American universities, the second type, universities from China and Europe, the third, universities of different regions of Rus-

sia. According to the calculated index of internationalization, we have also identified one more type of universities – those whose internationalization level is below that of the universities from the 'Candidates' group.

We have also identified the activities included in the export strategies of universities from different clusters. Any university can calculate the internationalization index according to the proposed formula, determine its type and choose activities to move to a higher level. By implementing the selected export strategy and using the proposed activities, a university can internationalize more effectively and improve its prospects of becoming a world-class university.

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