Moscow International University Ranking "The Three University Missions"

THE REPORT ON THE STUDY OF THE CRITERION "THE NUMBER OF ONLINE COURSES OF THE UNIVERSITY, PUBLISHED ON THE LARGEST ONLINE PLATFORMS"

CONTENTS

SUMMARY

The following conclusions are a result of the research conducted:

- The accessibility of education to a wide audience is an important factor for determining the level of a university's influence on society.
- The value of this criterion is calculated by determining the number of massive open online courses (MOOCs) published on the largest global online platforms, Coursera and edX.
- Information on the number of courses offered by universities is accessible and easily verifiable. In order to compare universities from different countries using the same parameters, the two largest global online education platforms Coursera and edX were chosen as the data source.
- The main drawback of using Coursera and edX as data sources is that the limited number of online platforms taken into account favors only a narrow segment of leading American universities which control edX and Coursera and which have a huge array of information about the members of online courses. The criterion does not take into account online courses on national platforms, despite the fact that these platforms are actively developing in some countries.
- At the same time, the audience coverage on national platforms and online university platforms is substantially less than that of global platforms. **These global platforms constitute a widely available resource with a wide network of partners that can influence the accessibility of education on a global scale.**
- The calculations showed that the total number of online courses published by universities from the MosIUR short-list on the Coursera and edX platforms exceeded 2,700.
- Only a third of universities of the Moscow Ranking have courses on one of the two largest global platforms. At the same time, 30 leading universities account for 69% of the total number of all 'MOOC' online courses published by the participants in the ranking.
- The structure of online courses, published on global online platforms, shows the domination of the universities of North America; then, lagging behind, are the universities in Western Europe and Asia. Australia and Oceania dominate the average number of online courses per university.
- US universities (55%) account for more than half the total number of online courses for participants in the ranking on Coursera and edX. The universities of China (9%), Russia (6%) and the Netherlands (5%) follow accordingly.
- In terms of the average number of online courses published on global online platforms, the United States takes the leading position per university (34 on average per university). The universities of Switzerland (with 22 courses) and the Netherlands (with 15 courses) follow accordingly.

RATIONALE

The accessibility of education for a wide range of people is one of the important factors when determining the level of a university's influence on society. An example of an indicator of the accessibility of a university's educational programmes for a wide audience is the variety of massive open online courses (MOOCs) developed by the university and published for public access on educational Internet platforms. Over the past few years, online education has become one of the most relevant and discussed topics in the university community, and the creation of online courses is one of the top priority areas for the development of universities. For universities, the main benefit of creating massive open online courses is the expansion of their audience of students, which results in the growth of the university's societal influence.

The first massive open online courses began to appear in 2006-2008: the world's leading universities were among the pioneers. The real popularity of mass online courses began to gain momentum in 2011-2012, when the Coursera platform and its competitor edX, created by professors of Stanford University, were launched. They were created thanks to the efforts of Harvard University and the Massachusetts Institute of Technology. As of January 2018, 274 universities and training centres were available for audience members from around the world on the global online Coursera and edX platforms. And today, those regions that initially acted as consumers of online courses, for example, East Asia and South Africa, have actively begun to develop in the same direction. In particular, this activity is actively encouraged at the state level in South Africa. All this makes the development and promotion of open online courses one of the most important aspects of the work of a modern university.

Information on the number of training courses uploaded by universities is accessible and easily verifiable, since it is in the public domain. In order to compare universities from different countries using the same parameters, the two largest global online education platforms Coursera and edX were chosen as the data source. During the development and discussion of the ranking methodology, it was decided not to use national online platforms, as well as universities' own platforms, as a source of information. The audience coverage from national platforms and universities' own platforms is significantly less than that of global platforms. In addition, another justification for refusing to consider online courses on local platforms is the incompatibility of the requirements for the quality of online courses in different countries. However, this does not detract from the importance of developing local platforms that have great potential significance for their countries: specifically, the accessibility of educational materials in national languages; it is also a way to promote their own scientific schools, and, importantly, a tool for monitoring the students themselves. After all, only developers of platforms have access to huge arrays of information about students, their preferences, academic performance, and this, in turn, is a potent aid in the quest for intellectual betterment.

CRITERIA, ADVANTAGES, AND DISADVANTAGES OF ITS USE

The criterion "The number of online courses of the university published on the largest global online platforms" is structurally included in the group of criteria "University and Society" of the Moscow International University Ranking, with "Accessibility of Education" being one of the elements of a subgroup of the criteria.

The calculation of the criterion value is based on determining the number of online courses published by universities on the largest global online platforms Coursera and edX. According to Class Central, the service for finding online courses, the audience of Coursera in 2017 was about 30 million audience members, the service catalogue consisted of 2,700 courses, and the number of service partners consisted of 161 organisations from 29 countries. The second edition of the edX platform (14 million audience members) accommodates 1800 courses. The partners of edX consist of 114 universities and training centres. The main advantages of using Coursera and edX as sources of information are the wide coverage of the public by these platforms, the large number of partners and the ability to remotely measure the number of online courses. Thanks to global platforms, applicants, students, graduate students and other people interested in the field of academia and education can remotely assess the quality of education in a particular university. Opportunities, such as receiving free information about different areas of interest and listening to lectures given by world renowned professors free of charge, have become widely demanded by the public. And since MOOC became an effective and affordable tool for promoting universities in the world market, universities have begun to attach special importance to the quality of the proposed programmes and initiated cooperation at the international level.

The main drawback of Coursera and edX as a source of data is that these platforms increase the prevalence of American approaches to education and the American pedagogical model. A number of researchers call this phenomenon 'voluntary neocolonialism'. At the same time, huge marketing advantages are gained by a small group of universities, which de-facto control processes and have a huge array of information about the audience members of online courses. Due to this fact, the desire of a number of countries (China, Mexico, France, Russia, Finland, etc.) to develop national platforms of mass online courses seems logical. For example, Finnish universities are not represented in Coursera and edX, the University of Helsinki publishes its courses on the portal mook.fi, as it is one of the creators of this platform. There is a similar situation with Moscow State University. Moscow State University has preferred to publish its courses on its own platform "University without Borders" and on the national platform "Open Education".

However, a discussion of this problem with experts showed that publishing online courses on known and widely available resources has one indisputable advantage: the ease of searching and selecting the course for audience members from all over the world, as well as high standards of quality set by the creators of the platforms. Thus, the advantages of using global online platforms for calculating the indicator of this criterion in the ranking prevail over disadvantages. Global platforms are a widely available resource with a wide network of partners that can influence the accessibility of education on a global scale.

The developers of the ranking consciously chose the number of available online courses as the object of measurement, and not, for example, the number of certificates issued to audience members who successfully completed courses. This emphasis is due to the desire to assess the factor of accessibility of education, rather than the commercial success of the online product: Coursera users are offered the opportunity to pay to receive certificates and some other features.

Table 1. *Advantages and disadvantages of using the criterion "The university's contribution to accessible education" (The number of online courses of the university published on the largest global online platforms)*

Advantages	Disadvantages
The innovative nature of the criterion: For the first time in global rankings, a parameter that reflects the *availability of education* is being used, which measures the number of online courses published on the Coursera and edX platforms.	The criterion does not take into account online courses on national platforms, despite the fact that these platforms are actively developing in some countries.
The influence on society: the creation and promotion of their own online courses is one of the main development priorities of modern universities and significantly increases the university's degree of influence on society.	Limiting the number of online platforms under consideration creates preferences for a small group of leading American universities that control edX and Coursera and have a huge array of information about the audience members of online courses.
Audience coverage Global platforms are a widely available resource with a wide network of partners that can influence the accessibility of education on a global scale.	
International nature: educational courses on global platforms are available all over the world	
Data availability: information for calculating the indicator is remotely accessible, which facilitates proper verification of data	

FEATURES OF THE CALCULATIONS

Information about the number of courses published by universities on the Coursera and edX courses is completely open and accessible. An array of data on universities included in the shortlist for ranking preparation is generated manually and then checked.

The resulting data set contains the following fields:

- University ID;
- University name;
- number of courses published on the Coursera platform;
- the number of courses published on the platform edX;
- to calculate the value of the criterion, the total number of courses of each university published on Coursera and edX was used.

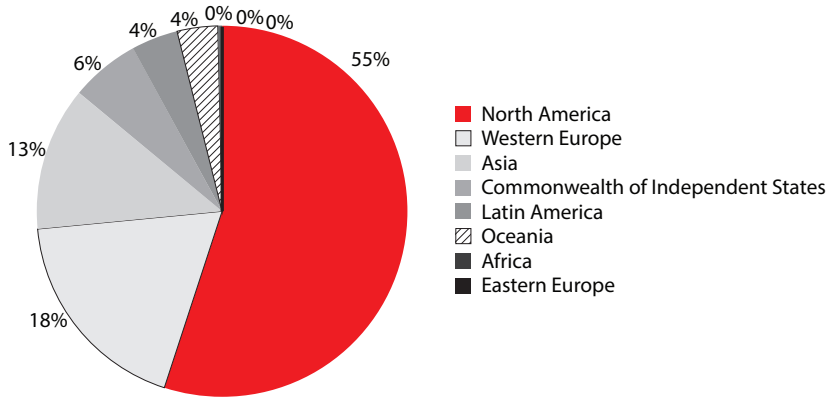
RESULTS OF THE CALCULATIONS

The calculations showed that the total number of online courses published on the Coursera and edX platforms by universities from the Moscow Ranking short list exceeded 2700. At the same time, about a third of the rating participants (112 universities) have their courses on one of the two largest global platforms. Intriguingly, 30 of the leading universities in terms of volume of MOOCs, managed to generate 69% of the total number of online courses published by the ranking participants.

Global geographical distribution

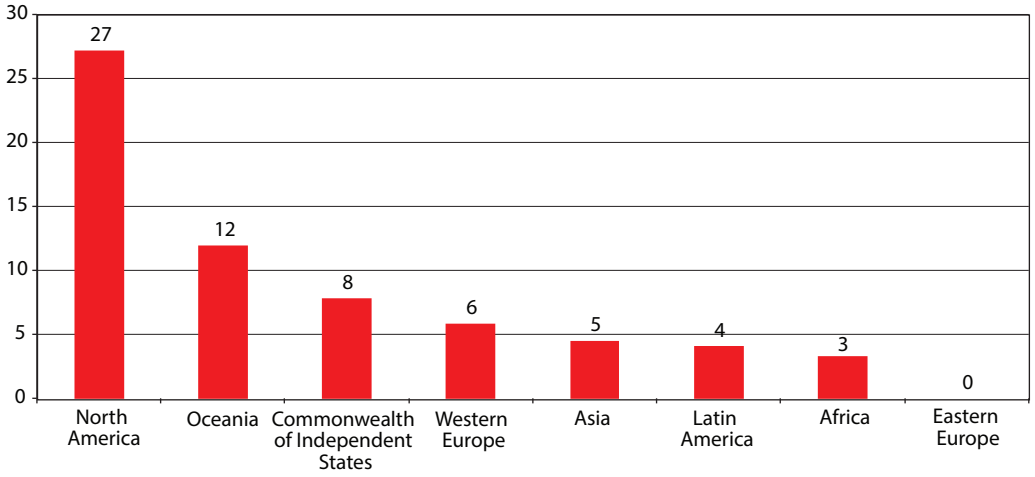
The structure of online courses, published on global platforms, shows the domination of universities located in North America, then, lagging behind, are the universities of Western Europe and Asia (Figure 1). Universities from these regions created 86% of all of the courses taken into account. The share of the MOOCs of universities from CIS countries was 6%, the share of the courses of universities in Latin America and Oceania was 4% each.

Figure 1. *The regional composition of universities in terms of the number of online courses published on the largest global online platforms, %*



However, when determining the average number of online courses on global online platforms per university, the composition of leaders changes significantly, and their separation from other regions is not so noticeable. North America retains the first place in this indicator; the universities of Australia and Oceania are in second place, and the universities of the CIS countries are not far behind (Figure 2). It is worth noting that the relatively high ratio of universities located in the CIS countries is achieved at the expense of Russian universities (the universities from other CIS countries which were considered do not have their own courses published on Coursera and edX).

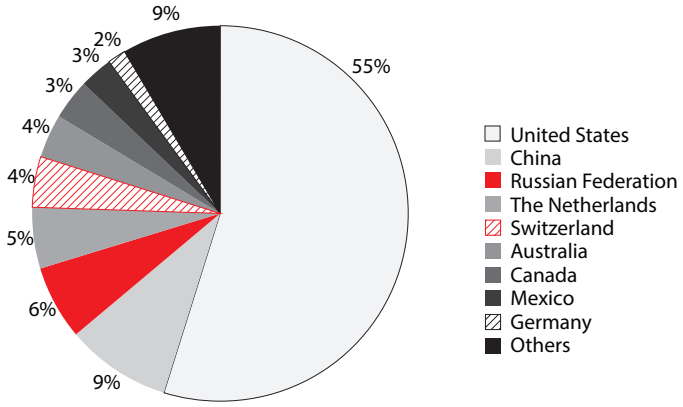
Figure 2. *Regional distribution of universities organised by the average number of online courses published on the largest global online platforms (number of courses per university)*



Distribution by country

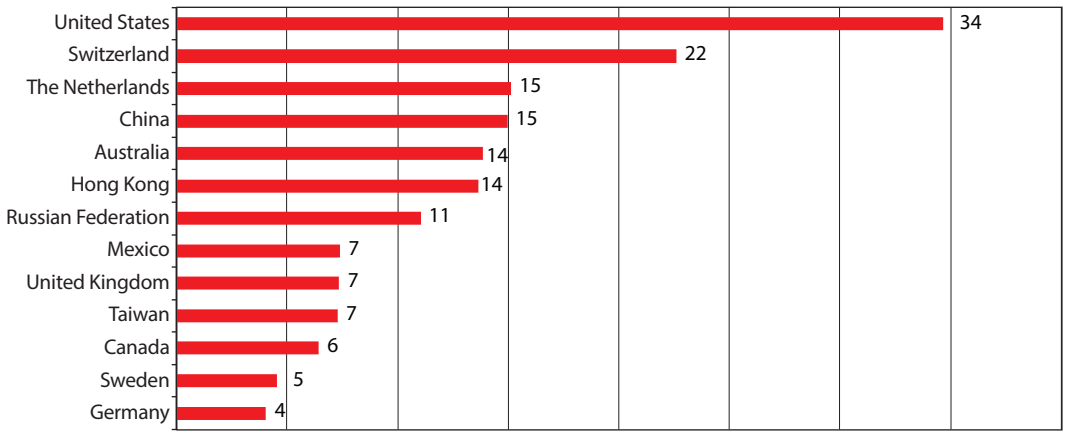
With regard to the proportion of online courses published by Coursera and edX, United States universities take first place, accounting for more than half the share of the total number of MOOCs. The second, third and fourth places are distributed among the universities of China, Russia and the Netherlands (Figure 3).

Figure 3. *The country-specific composition of universities by the number of online courses published on the largest global online platforms, %*



In terms of the average number of online courses published on global online platforms, the United States takes the leading position per university (with 34 courses on average per university. See Figure 4). The universities of Switzerland (with 22 courses) and the Netherlands (with 15 courses) follow accordingly. Russia ranks 7th (with 11 courses) according to this indicator.

Figure 4. *The country-specific distribution of universities by the average number of online courses published on global online platforms - the number of courses*



APPENDIX. SUMMARIZED INFORMATION REGARDING THE PROJECT

Moscow International University Ranking is a fundamentally new academic ranking system, the first to evaluate all of the three key university missions: education, research, and interaction with society. The ranking uses a number of new criteria calculated on the basis of objective data, and excludes any subjective reputation surveys. The initiative of creating the ranking has been supported by leading universities in Russia, China, India, Iran, Japan, and Turkey. The ranking methodology has been discussed widely in Russia and abroad. The first project of the Moscow International University Ranking methodology was developed as a result of a wide public discussion with a total of over 100 collective contributors: universities, rector councils, expert associations, and ranking agencies. In the next phase of developing the ranking model, the proposed approaches and criteria were tested using a sample from Russian universities. During the survey of Russian universities in February-March 2017, 215 universities from 80 Russian cities provided the requested information. After the model had been tested, the list of ranking criteria was submitted for consideration to the International Expert Council of Ranking. The council is comprised of 25 renowned higher education experts from the United States, United Kingdom, Brazil, China, India, South Africa, Iran, Italy, Belgium, Turkey, Poland, and Russia. On-site meetings of the Council took place on 8th and 9th June 2017 at Moscow State University, after which the consultations continued with the participation of experts on an individual basis. As the result of the model testing and joint work with international experts, the original list of indicators was amended. Due to many of the criteria being of an innovative nature, it was highly probable that the universities would not have part of the requested data in their record keeping systems. For this reason, the pilot ranking was compiled on the basis of an analysis of 17 criteria, data on which can be observed remotely, and, in many cases, can be obtained from sources, independent from universities. This has made it possible to provide equal conditions for all of the participating universities. However, in the future it will be possible to expand the list of indicators for better compliance with the structure of criteria that the international experts have approved.

SELECTION OF PARTICIPANTS

The principles used for the selection of the Moscow International University Ranking participants are as follows. The short list included universities from the top 100 international rankings of THE WUR and QS WUR, as well as leaders of national rankings from the IREG Inventory of National Rankings and universities that expressed a desire to take part in the ranking on an individual basis. At the same time, highly specialized universities were excluded from consideration, that is, those that do not have educational programmes in at least two of the six areas of knowledge, as defined by the OECD classification.

INFORMATION SOURCES

The pilot ranking uses only objective criteria approved by the international experts. Reputation surveys are entirely excluded from consideration. The ranking is based on data from official websites of universities and independent international sources: Data and metrics from InCites and Global Insititutional Profiles Project (GIPP), were provided by Clarivate Analytics. Elsevier, owner of the bibliographic and abstract database Scopus; online platforms for mass education Coursera and edX; Universal multilingual Internet encyclopedia Wikipedia; search engines Google, Yandex, Baidu; social network Twitter; web portals of international student academic competitions.

RANKING CALCULATION

The overall weight of indicators per group is: 45% for "Education", 25% for "Research", and 30% for "University and Society". The score of the participating universities on specific indicators of rankings was calculated as the ratio of the value of the indicator of a particular university to the difference between the maximum and minimum value for all participants in the ranking.

The calculation was carried out according to the formula:

$$x_i = \frac{a_i - a_{min}}{(a_{max} - a_{min})},$$

where:

x_i – score of the i-th indicator;

a_i – the value of the i-th indicator;

a_{max} – the maximum value of the i-th indicator;

a_{min} – the minimum value of the i-th indicator.

In cases where the linear calculation was hardly applicable, a normalisation method was used to make the distribution of evaluations more even. The scores gained by universities in each of the indicators were multiplied by the respective indicator ratios. The weighted university scores in each of the indicators were then summarised:

$$f = \sum_{i=1}^{n_x} x_i v_i ,$$

where:

f – ranking functionality (score);

x_i – score of the i-th indicator;

n_x – value of the ranking indicator;

v_i – weight of the i-th indicator.