University’s Export Capacity Building as Driver for Increasing Competitiveness and Leadership in Higher Education

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Abstract The global education market in the framework of modern economy development is the most promising and rapidly developing field of activity. Under the boost of the information economy and a challenging job market for young people, higher education has never been more important than it is today. The concept of lifelong education has become a leading one, due to new challenges, accelerating the pace of life, the impact of new technologies over all spheres of life. All this cultivates the cutthroat competition among the universities, which are critical players responsible for educating highly skilled specialists. The export of education is included in the list of priority projects at the state level, which creates a springboard for universities development and demands their active promotion on the international arena. The government of Russian Federation currently makes huge efforts to raise the competitiveness and the attractiveness of national higher education on the global market. Leadership in education considers University’s export capacity building as one of the crucial factors for top positions in global ranking. This paper is dedicated to the analysis of the main features of export of educational services with the view in Peter the Great St. Petersburg Polytechnic University (SPbPU). The focus is put on the marketing toolkit used in building the export capacity of the university, taking into account the digitalization of education, the state of the Russian market for the export of educational services by example of Peter the Great St. Petersburg Polytechnic University. The main indicators of export capacity of SPbPU are defined and recommendations for gaining leadership in education are developed.

Keywords: University, export capacity, competitiveness, leadership, higher education

1 Introduction

The contribution of higher education to the social and economic welfare, including economic development, export market extension, unemployment cut off, advancement of the quality of the human capital, R&D acceleration activity and the prosperity of every nation is evident. Internationalization of Higher Education and Training is one of the strategic goals and crucial challenges Russian Federation faces in terms of building up a globally competitive educational system. It is not by chance that one of the pillars of competitiveness set by the World Economic Forum is precisely the one for Higher education and training.

The recent changes in today’s life caused by digitalization, globalization processes, penetration of the new IT technologies into all spheres and fields of activities initiated the updated requirements to higher educational system in the framework of economy of knowledge and the concept of lifelong education. All this cultivates the cutthroat competition among the universities, which have become the critical players responsible for educating highly skilled specialists.
It is necessary to take into account that the international integration of higher education is becoming increasingly important and requires recognition from academic researchers all over the world and all in practice experts from the “edu-abroad market” to achieve leadership in the field of higher education (Kozlova 2011). Higher education institutions engaged in the export of educational services inevitably face the problem of making the efforts for developing international activities more systemic like building up the target models for cultivating University’s export capacity.

2. Methods and plans

The purpose of this study is to identify the most effective toolkit of University’s export capacity building. In order to achieve the goal, the authors conducted a thorough analysis of Peter the Great Saint Petersburg Polytechnic University insights, identified stable patterns that determine the perception and the attitude to international programmes, evaluated the prospects for modern approaches to cater University’s export capacity building as a crucial driver of increasing competitiveness and leadership in the field of higher education.

The methodology of the research is based on the current governmental approaches and recommendations, works of leading foreign and domestic specialists in the field of higher education. The research methods include general theoretical, empiric and specific method (a field study).

3. Results and discussion

Education Export Performance in Russian Federation

The global education export market is now boosting rapidly and is characterized by a cutthroat competition between traditional market actors and new players seeking to enter new markets and take the top positions in world ranking.

Focusing on Russian education exports market it is worth mentioning that the launch of the federal project "5-100" in 2012 had an enormous impact on market development and dynamics. The project "5-100" is a state program, initiated by the Ministry of Education and Science of the Russian Federation and aimed at providing the leading Russian universities with governmental support and financing.

The aim of the project is to bring at least five universities from among the participants of the project in the Top 100 best universities of three honoured world rankings: Quacquarelli Symonds (QS), Times Higher Education (THE), and the Academic Ranking of World Universities (ARWU) (Project "5-100" 2013).

However, the international activities of Russian universities received a more powerful round of development in 2017 after the approval of the priority state project "Development of export potential of Russian education system". The key objective of the project is to increase the attractiveness and competitiveness of Russian education in the international market of educational services, which in turn will increase non-resource exports of the Russian Federation (Passport of the national project "Education" 2018).

Within this framework, it is worth considering the dynamics of education exports of Russian Federation for the period from 2013 to 2018 presented in Table 1.

<table>
<thead>
<tr>
<th>Table 1. Russian education exports market in 2013-2018, thousand people.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign students, total, thousand people</td>
</tr>
<tr>
<td>citizens of the countries:</td>
</tr>
<tr>
<td>CIS, Baltic Countries and Georgia</td>
</tr>
<tr>
<td>Europe</td>
</tr>
<tr>
<td>Asia</td>
</tr>
<tr>
<td>Central and South America</td>
</tr>
<tr>
<td>North America (USA and Canada)</td>
</tr>
<tr>
<td>Africa</td>
</tr>
<tr>
<td>Share of foreign students in the total number of students, %</td>
</tr>
</tbody>
</table>

Source: Arefiev (2018)

After analysing the data presented in Table 1, the following conclusions can be drawn:
• the number of foreign students studying in Russian Universities increased from 205.5 thousand people to 260.1 thousand people or 26.4% during the period from 2013 to 2018;
• students from CIS, Baltic States and Georgia prevail in the total number of foreign students;
• students from the USA and Canada are presented poorly yet;
• the share of foreign students in the total number is rising steadily: +2.5% for the period from 2013 to 2018.

All in all, we can state a positive trend of escalating the number of overseas students enrolled in Russian Universities’ academic programs. To gain a more complete Russian educational exports estimation it is reasonable to identify its positive and negative features (Socionauki 2013):

Positive:

• functioning of a large number of higher education institutions providing educational services at a high level;
• affordable price for training compared to other export-leading countries;
• long-term background in the market of education;
• the fundamental nature of Russian education.

Negative:

• lack of innovative technical base and infrastructure;
• poor ability to combine full-time work with education;
• lack of the essential foreign students security in some particular regions;
• limited number of programs in English;
• presence of visa restrictions;
• still existing issue of integration of the Russian education system into the Bologna process, the most urgent is Russian Diplomas recognition abroad;
• intense internal competition between the Russian Universities.

The target models of Russian Universities activity on export of Russian education we discussed in this paper are made with a focus on Peter the Great St. Petersburg Polytechnic University experience. The priority project “Development of export potential of Russian education system” was introduced by RF Government in 2017 and set the key objective to increase the attractiveness and competitiveness of Russian education in the international market of educational services and thus increase non-resource exports of the Russian Federation. The project implementation period is from May 2017 to November 2025 (inclusive). The implementation of the priority project should increase the attractiveness of Russian educational programs for foreign citizens, improve the conditions of their stay during the period of study in Russia, as well as increase the awareness and status of the "brand" of Russian education in the international educational market and, as a result, significantly increase the revenue from the export of educational services (Priority project 2017).

As part of the project, it is planned to develop new forms of joint educational programs and programs in English, develop online education for foreigners, educational tourist routes and summer training programs for foreigners, as well as create a single Internet Navigator for the Russian education system.

In order to increase Russian universities’ export capacity building, five target models were proposed to be developed and implemented in the 20 universities and from 2021 in all universities of the country. These models are generative models that are refined as they are implemented the Roadmap of International development. The content of the target models of export of Russian education depend on the current, short- term and long- term goals of the University and of the current and target position in international ratings.

The model of internal internationalization assumes the foreign students involvement for the being enrolled on higher educational programs at all levels (pre-University training, bachelor's, master's, postgraduate, professional development programs) in full-time, part-time and distant forms exclusively on the territory of the Russian Federation (in accordance with the WTO fixed method of delivery of services "Consumption of services abroad").

The economic effect of this model (income from exports) consists of funds raised from students as payment for the cost of education, as well as funds "left" in the Russian economy during the study period (living expenses, food, transport, mobile communications, etc.).

SPbPU is one of the leading Russian Universities that implement this model successfully. In the 2017-2018 academic year, the total number of foreign students who have studied at SPbPU, increased by 26.7% and amounted to 7264 foreign students compared to the 2016 – 2017 academic year (5731 students).
During the period of 2017-2018 academic year, students from 120 countries studied at Peter the Great Polytechnic University.

Based on the data presented in Figure 2, China, Uzbekistan, Kazakhstan, Tajikistan and Vietnam became the leaders among the countries from which foreign students came to SPbPU in the 2017-2018 academic year.

The joint educational programs are the principal Bachelor’s, Master’s or postgraduate programs, which are executed mutually by two or more educational organizations (domestic and international). This approach assumes the joint contribution in curriculum creating and executing. As the results of the successful completion the students are awarded two (or more) diplomas. There are the following types of joint educational programs:

1. **Included learning programs** – programs implemented at all levels of training (pre-University training, bachelor’s, master’s, postgraduate, professional development programmes) based on a jointly developed curriculum by both partner universities, assuming unequal periods of training, as well as the documents of completion of educational program (for example, students can get diploma of Russian University and certificate of advanced training/passing courses from the partner University).

2. **Programs of Double Degree diplomas** are the basic educational programs of higher education, which are executed at all levels of studying by two or more (in the format of Consortium) educational organizations (domestic and international). As the results of the successful completion the students are awarded two (or more) diplomas. The fields of study in the framework of the DDD may be the same or
different depending on the program matching curricula and requirements fixed in bilateral (or multilateral) Agreement.

Peter the Great St. Petersburg Polytechnic University offers the wide range of joint educational programs for exports. The types and the numbers of programs are presented in Table 2.

**Table 2.** Types of joint educational programs implemented in Peter the Great St. Petersburg Polytechnic University

<table>
<thead>
<tr>
<th>Joint Educational Programs</th>
<th>Type of joint educational program</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Included learning programs:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>short-term programs</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>(summer/winter schools)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Programs of Double Degree diplomas:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bachelor's degree</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Master's degree</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: Own results

The institutional presence of Russian educational institutions abroad can be explained in a model that involves the expansion of institutional presence of Russian educational organizations abroad in various forms:

1. Opening of foreign branches;
2. Support of Russian educational institutions abroad as independent legal entities (Slavic universities, Russian schools);
3. Opening of representative offices and support centres for Russian education, Russian foreign language centres, courses of Russian as a foreign language.

There are two main representative offices of Peter the Great St. Petersburg Polytechnic University abroad:

- **SPbPU Representative Office in Shanghai (China):** On April 21, 2016 the Representative Office of Peter the Great St. Petersburg Polytechnic University was opened in Shanghai (China). SPbPU became the first Russian university with an official representation in China. The activities of the Representative Office are aimed at organizing broad cooperation between Russian and Chinese universities, companies and organizations, as well as involving other countries of the APR in this cooperation.

- **SPbPU Information Center in Madrid (Spain):** The SPbPU Information Centre was opened in 2017 in Madrid as a forepost of the Russian academic and scientific community at the central point of Ibero-American space. The primary goal is to raise awareness about SPbPU’s programs and promote Russian technical and economic education, cultivate new contacts within the business community and other stakeholders.

Online learning/education (e-learning) is studying via information and communication technologies. The authors of the report "E-learning in European Higher Education Institutions" (Gaebel et al. 2014) identified the following target groups interested in e-learning: University’s campus or branches students, including students with disabilities; graduate students, including foreign students; foreign students for whom online learning is an alternative to learning on campus; working students; students of retraining and advanced training courses and unemployed for qualification; adults studying as leisure.

Peter the Great St. Petersburg Polytechnic University is one of the leading Russian Universities that implement this model fruitfully. The most popular areas in online education of SPbPU are the following: business and management, computer science, engineering, and technical sciences.

The growing popularity of online education is due to a number of reasons, including: tighter migration policies in a number of countries, lower tuition fees, the ability to combine work and study, the growing confidence in diplomas obtained online (Korchagina and Shvetsova 2018).

In addition to the wide range of online courses available for both Polytechnic students and other domestic students from other Russian Universities in 2018 SPbPU managed to launch 9 courses on international online platform Coursera. This can be recognized as a huge contribution in University export capacity building for the sake of improving the leading positions worldwide (Table 3).
Table 3. List of courses in English represented by SPbPU on Coursera online platform

<table>
<thead>
<tr>
<th>No.</th>
<th>Course represented by SPbPU</th>
<th>Online platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Additive technology</td>
<td>Coursera</td>
</tr>
<tr>
<td>2</td>
<td>Astrophysics: From Stars to the Universe</td>
<td>Coursera</td>
</tr>
<tr>
<td>3</td>
<td>Introduction to Kotlin</td>
<td>Coursera</td>
</tr>
<tr>
<td>4</td>
<td>Linear algebra and analytic geometry</td>
<td>Coursera</td>
</tr>
<tr>
<td>5</td>
<td>Logistics</td>
<td>Coursera</td>
</tr>
<tr>
<td>6</td>
<td>Marketing</td>
<td>Coursera</td>
</tr>
<tr>
<td>7</td>
<td>Raster graphics. Adobe Photoshop CC</td>
<td>Coursera</td>
</tr>
<tr>
<td>8</td>
<td>HR management</td>
<td>Coursera</td>
</tr>
<tr>
<td>9</td>
<td>Digital signal processing</td>
<td>Coursera</td>
</tr>
</tbody>
</table>

Source: Own results

The main directions of networking within University consortia are, first, the development of academic incoming and outgoing mobility of students (Kozlova 2012). Promising areas of networking within University consortia: implementation of cross-border education programs (franchising, validation, etc.) on the territory of the Russian Federation, pre-University training on the basis of organization and conduct of training in Russian as a foreign language in partner universities.

Sources of financing of network interaction can be budgetary funds, and extra-budgetary funds of universities. Due to the fact that the network interaction covers national universities of different countries, for universities in the framework of recruitment campaigns, this provides an additional opportunity to recruit students from partner universities. In addition, as a rule, the activities of the University within the framework of network partnerships are supported by the leadership of universities, organizational and financial resources are allocated for it.

A number of universities use participation in the consortium of network universities very actively in the admission campaign. For example, open days are held in partner University campuses organize summer schools for partner University students, as well as study tours and short-term academic exchanges. All these events increase the international recognition of the University and can become one of the recruiting tools. A great advantage of recruiting students within the network of universities is also that a number of preferences are created for students, grants are provided, conditions for admission to training is negotiated and accepted by all universities - members of the network. The disadvantages are that not all educational programs of the University are implemented within the framework of network interaction, in addition, there may be restrictions on the number of students participating in these educational programs (Maslova et al. 2018).

In 2017, 452 students and postgraduates of SPbPU participated in various types and programs of academic mobility abroad. 113 students were nominated to partner universities as part of student groups, and 339 - were enrolled in the framework of individual programs. Table 4 illustrates students’ academic mobility at different levels of education.

Table 4. Participation of SPbPU students in international academic mobility programs

<table>
<thead>
<tr>
<th>Degree in SpbPU</th>
<th>Exchange</th>
<th>Bachelor’s Programs (DD)</th>
<th>Master’s Programs (DD)</th>
<th>Short-term Programs (DD)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelors</td>
<td>103</td>
<td>22</td>
<td>0</td>
<td>137</td>
<td>262</td>
</tr>
<tr>
<td>Specialists</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Masters</td>
<td>59</td>
<td>0</td>
<td>40</td>
<td>63</td>
<td>162</td>
</tr>
<tr>
<td>Postgraduates</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>166</td>
<td>22</td>
<td>40</td>
<td>224</td>
<td>452</td>
</tr>
</tbody>
</table>

Source: Own results

All in all, 1,413 foreign students were accepted to study in various short-term programs at SPbPU in 2017. Traditionally, students from Germany, Italy, Finland and China build up almost half of the foreign students who took part in academic mobility programs. Over the past 5 years, the number of participants in academic mobility programs (both incoming and outgoing) has increased significantly (Fig. 3).
Thus, academic mobility programs are developing rapidly and gaining more popularity among the students and making the great contribution into increasing the competitiveness and leadership in the field of higher education.

Assessment of the current competitiveness of Peter the Great St. Petersburg Polytechnic University in comparison with key competitors. To gain this, it is necessary to consider the position of the University in the world and Russian rankings of leading universities presented in Table 5.

**Table 5. University in world rankings for 2017-2019**

<table>
<thead>
<tr>
<th>Ranking</th>
<th>2017, position</th>
<th>2018, position</th>
<th>2019, position</th>
</tr>
</thead>
<tbody>
<tr>
<td>QS World University Rankings</td>
<td>401-410</td>
<td>404</td>
<td>404</td>
</tr>
<tr>
<td>QS BRICS</td>
<td>55</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td>QS EECA</td>
<td>36</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>THE World University Rankings</td>
<td>601-800</td>
<td>601-800</td>
<td>601-800</td>
</tr>
<tr>
<td>THE World University Rankings by Subject (Engineering &amp; Technology; Computer Science)</td>
<td>301-400</td>
<td>201-250</td>
<td>151-175</td>
</tr>
<tr>
<td>THE BRICS</td>
<td>105</td>
<td>87</td>
<td>18</td>
</tr>
<tr>
<td>RUR World University Rankings</td>
<td>532</td>
<td>518</td>
<td>500</td>
</tr>
<tr>
<td>UniRank (4 International Colleges &amp; Universities)</td>
<td>1161</td>
<td>895</td>
<td>678</td>
</tr>
<tr>
<td>The SCImago Institutions Rankings</td>
<td>568</td>
<td>645</td>
<td>649</td>
</tr>
<tr>
<td>Global World Communicator RankPro</td>
<td>296</td>
<td>464</td>
<td>248</td>
</tr>
<tr>
<td>US News Best Global Universities Rankings</td>
<td>681</td>
<td>619</td>
<td>485</td>
</tr>
</tbody>
</table>

Source: Vuzoteka (2018)

According to the information presented in Table 4, SPbPU is one of the 1000 best universities in the world, as well as one of the top 100 best higher education institutions of various countries, for example, BRICS or EECA, which indicates its recognition in the international market. The ambitious goal in 2019 has been achieved in raising positions in the World THE rankings for Engineering & Technology and Computer Science. The current successful positions are a new steppingstone to gain leadership and improve the reputation and attractiveness of SPbPU abroad.
New marketing toolkit for cultivating University’s export capacity building. The ambitious goals of cultivating University’s export capacity building require implementing the innovative approach and inventing the new marketing toolkit that caters the educational needs of the youngsters. Recently, the following marketing tools have been released:

1. Customized short-term programs
Customized programs at SPbPU can be delivered via dynamic lectures, interactive discussions, applied exercises, relevant case studies, group activities, and field trips. In 2017 – 2018 and 2018 – 2019 academic years the following short-term customized programs were delivered:
   - Physical and electronics basics of telecommunications
   - Innovative Technologies for Materials Science and Processing
   - Modern research methods in the power system
   - Intercultural and interdisciplinart research of infrastructure projects “One belt - one way”
   - The dynamics of international business: the Russian focus
   - “TANDEM" Russian-German business communication”

2. Set of Summer/Winter schools
Recently, the set of Summer/Winter schools has been launched on year-to-year basis simultaneously and considered as a single Grand event for international students to really feel like a resident of the global village. In 2019 SPbPU has hosted about 1400 international students during summer and winter school courses.

3. Joint project marathon
The purpose of University’s export capacity building requires innovative non-standard approaches in the creation and promotion of short-term educational programs. SPbPU’s experience can be estimated as a great success in that case- the international student marathon was launched and had been implemented in collaboration with Graz University of Technology for one year.
The leading idea of the marathon was to unite the efforts of the academic, industry and business community in solving practical cases and designing new students’ projects. The key advantage of this approach is practical orientation and maximum proximity to the present conditions of doing business. Such marathons stimulate the interest to University’s educational activities, make practice-oriented approach to become the most appreciated aspect of training and open the new opportunities for participants to build up their professional skills and fit the modern challenges on global labour market.

4. SMM promotion
The Digital era has erased territorial and social boundaries between people, gave birth to connectivity. Now it is insufficient just to inform the potential students to come providing them the information on the University’s website. Today the alumni help to promote the Universities’ brand becoming not only the satisfied ex-students but the even “brand advocates”. Now, it’s no longer “shut-your-eyes-and-hope-for-a-good-admission-policy”- students can effectively make a decision based on their peers’ experiences. That is why it is vital to maintain conversation, not the ordinary advertising, and use the digital platforms popular among the youngsters worldwide.

Peter the Great St. Petersburg Polytechnic University has official international Instagram accounts in the following social media: Facebook; Instagram and put the great efforts to communicate and highlight the advantages and attractiveness of becoming the part of Polytechnic team (#GreatToBe).

4. Conclusions
Our findings indicate that the participation of SPbPU in the governmental program “5-100-2020” provides additional motivation for improving academic performance and language training of SPbPU students, opening up opportunities for them to get acquainted with foreign educational, scientific and cultural achievements with financial and organizational support from the university.
Moreover, it is also worth noting the growing interest in participating in the export’s programs for students from foreign universities which is facilitated by the development of international English programs at SPbPU, as well as the internationalization of Russian education in general.
Nowadays, it should be kept in mind that if one stands still, she or he would move back, and if one walks – she or he also stands still, and only if one runs, she or he would move forward. The leading Universities should put
great efforts for growing export capacity building as a crucial driver of increasing competitiveness and leadership in the field of higher education.

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