NETWORK INTERACTIONS OF UNIVERSITIES AS A FACTOR OF DEVELOPMENT OF THE HIGHER EDUCATION IN THE RUSSIAN MACRO-REGION

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Abstract

Today there are about 900 universities functioning within the system of Russian higher education, almost 300 of them are located in two metropolitan cities – Moscow and St. Petersburg. All the rest are located in 83 regions of the country, united in 8 macro-regions, called federal districts. The concentration of universities is very uneven – from 25 minimum to 140 maximum. However, this quantitative inequality does not seem to be the only issue. The main problem is related to the fact that within those regions and micro-regions these universities are almost not connected, they often duplicate each other's activities and at the same time are separated and distanced from one another. Being under the authority of the federal units and receiving budgetary financing from the center, they are not fully concerned about the problems of their macro-regions and regions and do not contribute to the systematic development of the higher education. Meanwhile, speaking about these territories, there are a lot of specific economic, social, scientific, cultural issues of regional and macro-regional level, that need to be addressed. This requires network interactions between universities, their joint coordinated partnership efforts.

The object of the study is higher education in one of the most developed macro-regions of Russia – the Ural macro-region. The subject of the study is network interactions between its universities. The goal is to analyze the possibilities and perspectives for constructing these interactions for solving a wide range of macro-regional problems. The research hypothesis is that, due to the inclusion of network interactions between universities in the common educational space, the possibility of transforming the higher education of the macro-region into a driver of its social, economic, scientific and cultural development can be created.

The article shows interdisciplinary research methodology, which examines the principles of the theories of network, system and institutional analysis, as well as the theories of exchange, stakeholders and resource dependence. The empirical base of the research includes statistics of 50 Ural universities, the results of a semi-formalized in-depth expert interview (N=30).

As the result of the study, the possibilities for designing various types of network interactions between the universities and the stages of this process were identified. The main types of interaction include creation of joint educational programs for the preparation of bachelors, masters, postgraduate students in the same or similar areas of training, as well as joint research activities. An important condition should be provided – the established network interactions should be of social, economic, scientific and cultural interest not only for the universities, but also for the macro-region itself. Therefore, both the universities themselves and the authorities’ structures of the macro-region should initiate their creation and step-by-step development.

Keywords: Network interaction between universities, Russian macro-region, development of the higher education.

1 INTRODUCTION

Russian higher education needs further reform. One of its tasks is to overcome the disunity of universities. Today in Russia there are about 900 of them, with about 600 located in 83 regions of the country, while the rest are in Moscow and St. Petersburg. All regions are united into eight federal districts, which we consider macro-regions.

Every Russian university has to survive independently in difficult conditions of socio-economic and political crisis, reduction of budgetary and extra-budgetary funding. At the same time, it enters the competition with other universities in its region. This leads to concentration of efforts on solving not strategic, but local, particular tasks. Meanwhile, the real perspectives for the development of
universities are related to two conditions: 1) when universities support development projects for their own region and macro-region; 2) when in order to achieve these goals they try to unite their resources with the resources of other universities in this macro-region. In this case, they are interested in integration with universities that are close to the profiles of training specialists and topics of scientific research. Consequently, the interaction of universities becomes necessary. Thus, the more multilateral and close it will be, the more effective will be the development of each university included in these interactions.

Speaking about the world system of higher education as well as the one in Russia, network interactions are considered one of the most useful and effective types of university interaction. In this regard, the aim of the article is to determine the possibilities and perspectives for creating networking interactions between Russian universities in the macro-region, which are necessary for solving a wide range of macro-regional problems – socio-economic, cultural, and educational. The object of the study is the higher education of one of the socially and economically most developed macro-regions of Russia – the Urals Federal District (UrFD). It includes six regions – Sverdlovsk, Chelyabinsk, Tyumen, Kurgan regions and two autonomous districts – Khanty-Mansi and Yamal-Nenets, where more than 50 universities are functioning today. The subject of the study is the construction of network interactions between universities in the Ural macro-region.

We assume that, thanks to the development of network interactions between universities within the framework of the common educational space of the macro-region, mechanisms will be activated for the transformation of the higher education system of the macro-region into a driver of its social, economic, scientific and cultural progress. We also put forward a hypothesis that this process will allow each university to enter macro-regional structure of the network cooperation to reach the new level of development.

Our study of the network interaction of universities as one of the key problems of the development of higher education in the macro-region is based on the number of theories and practices. Their development is promoted by active interest in concepts and particular cases of partnerships and networking in the higher education system. This scientific interest is developing everywhere in the world, especially in Western Europe. The researchers study in detail not only inter-university relations and interactions, but also partnership relations between universities and industry [1], authorities [2], scientific and educational organizations [3]. The studies of international, national and regional partners and strategies of interaction with them in the system of higher education are conducted [4].

Russian researchers are also paying attention to the issue of network interaction between educational organizations. Their works are devoted to the problems of social partnership in the framework of profile training [5], the corporate environment within the boundaries of network interaction [6], the study of the structure of the university network [7], the practices of social interaction of universities [8]. The problem of partner networks for Russian universities that form a new mission and the goals of their development in the context of the globalization of higher education is becoming topical [9].

2 METHODOLOGY

The development of the theoretical and methodological foundations for the study of the network interaction of universities in the Ural macro-region was preceded not only by the generalization of these specific research and practical approaches, but also by the search for fundamental interdisciplinary methodology. Firstly, it is based on the concepts of information and network society [10], according to which in modern conditions, partner networks of universities appear to be special format of social networks. The exchange paradigm is important for understanding the features of interuniversity cooperation [11]. It helps to reveal the essence of network interaction between higher education institutions as the process of exchange between acting agents and actors at different levels of cooperation.

The study of network interaction between universities relies on theories of stakeholders and resource dependence, according to which it is asserted that organizations and systems, on the one hand, depend on their environment, on the other, they themselves are able to influence the environments in which they are functioning [12]. These theories enable us to analyze the role of stakeholders in the formation of interuniversity partner networks.

Since under the influence of the development of partnership interactions higher education acquires such qualitative characteristics as flexibility, dynamism, openness, reflexivity, it was necessary to involve the concept of nonlinearity of social systems for their analysis [13]. These characteristics of
higher education, in fact, are nonlinear. Under the influence of partner networks, they are gradually extrapolated to all areas of activity within the system of higher education, thus, creating the prerequisites for its transition into a nonlinear model.

The empirical basis of the study includes statistical data concerning the socio-economic, scientific and cultural development of the Ural macro-region. The statistics of 50 Ural universities are of particular interest as they show the dynamics of the processes of quantitative and structural changes in the higher education of the Urals macro-region over the past 15 years and allow to reveal their further prospects. A method of deep semi-formalized expert interview was used (N=30). The acting and former rectors, pro-rectors, directors of institutes, deans, heads of departments, leading professors of Ural universities acted as experts. A questionnaire survey of teachers (N=810) and students (N=1860) of Ural universities on the quota sample was also used, which took into account their main types, training directions, structure of branches, and geographical location.

3 RESULTS

Formation and development of the partner network of universities is an obligatory condition for their existence under the conditions of social and economic uncertainty. Many of today's forms of cooperation between universities are not something new. They have already existed in their previous practices and with a greater or lesser degree of efficiency continue to function today. Traditional forms of links between universities are most often irregular, implemented on the ad hoc principle and affect the interests of usually two (rarely more) participants.

In addition, these relations usually cover no more than one or two areas of their activities. For example, a strong university can provide assistance to weak (regional and municipal) educational institutions in the preparation of highly qualified scientific and pedagogical staff, admission of candidate examinations, postgraduate studies, dissertations, skills development, edition of publications, etc. The object of traditional forms of cooperation is the organization of joint big events – congresses, conferences, etc. The usual cooperation can be attributed to the different types of University internships that the students are involved in. Analysis of the traditional forms of partnership between universities shows that most of them can be considered as linear links, allowing each of its participants to benefit, but no more. The level of cooperation between them is obviously insufficient today for the development of higher education in the Ural macro-region. There is a need for new forms and ways of interuniversity cooperation, which would be corresponding with the modern challenges to the Russian higher education system. Ideally, there should be such forms of communication and partnership that would ensure, on the one hand, the perspective development of its every single participant, and, on the other hand, would be the driving force for the development of the entire higher education system within the macro-region and the macro-region itself. Networking interaction as a new format of cooperation between universities can provide a synergistic effect and increase significantly the resource and effectiveness of each of them separately. It is the type of interaction that has features of non-linearity referring to different aspects.

The network interaction of universities is being understood by the author as the system of their inter-relationships in the spatio-temporal educational continuum, created by the universities. Mechanisms for the implementation of innovative projects in the field of higher education content, management and research work are functioning in this continuum. It can be inferred that cooperation, partnership, and network interaction of universities creates certain conditions for the design and implementation of innovative projects in the creation of joint educational programs, preparation and implementation of scientific research, management of these processes.

The author considers the network interaction of universities as an element of a new, nonlinear model of higher education. It includes a number of other elements:

- transformation of the university management system;
- change of the trajectories of academic mobility from external (foreign) to internal (macro-regional);
- active cooperation between the universities and stakeholders;
- adoption of new formats for higher education;
- strengthening of the innovativeness of the educational and research process;
• introduction of new principles of interaction of the educational communities in the universities, region and macro-region;
• elaboration of normative regulation of network interaction and non-linear education in the universities.

An important conclusion is that the network interaction of universities has a profound impact on all these elements of the nonlinear model of higher education.

The peculiarity of network interaction consists of two points. On the one hand, it unites universities to solve common, similar development tasks for each of them, as well as the region and the macro-region. On the other hand, network interaction unites brings together all the elements of the nonlinear model of higher education in the macro-region.

It should be marked out, that in Russia in general and in the Ural macro-region in particular, network interaction began to develop only recently. At the same time, as our studies show, it is being implemented via partnership and cooperation with either foreign universities or with large educational institutions in Russia, which are located, as a rule, outside its own macro-region.

Our survey showed that referring to educators, there is certain understanding of the importance of this problem. Thus, 4.9 % of respondents were in favor of the idea of cooperation only with foreign partners, 22.5 % of respondents supported cooperation only with Russian universities, but 66.9 % were of respondents welcomed cooperation both with Russian and foreign universities.

Meanwhile, in the context of the problems of our research, we could not ignore the fact that within the macro-region the links between universities are quite weak. So far there has been no expected synergistic effect from the network interaction.

The generalization of the results of studying the practices of network interaction in the Ural universities revealed the presence of positive trends in this direction of the development of the higher education of the macro-region. In general, management of the universities, scientific, pedagogical and student communities feel positive about new forms of inter-university cooperation. They assume, this will provide them with great opportunities, and promote future development of their own universities and higher education system of the country and the macro-region. The problems arising in the implementation of network projects and programs are classified as barriers that can and should be overcome, but are not seen as the ground for refusal of the partner networks development.

The survey identified the main factors restricting the development of network links between universities in the Ural macro-region (see Tab. 1).

Table 1. The teachers' opinion about the factors restricting the development of network links between universities in the UrFD, %

<table>
<thead>
<tr>
<th>Development of relations with partner universities in the Urals limited by the lack of...</th>
<th>%</th>
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<tbody>
<tr>
<td>A well-developed normative base on forms of labor payment and load distribution to teachers, elaboration of network curricula</td>
<td>47.8</td>
</tr>
<tr>
<td>The material capacities of universities</td>
<td>44.5</td>
</tr>
<tr>
<td>A well-developed normative base for the academic mobility of teachers and students, the implementation of electronic forms of education, open education</td>
<td>40.1</td>
</tr>
<tr>
<td>Practical applications</td>
<td>34.2</td>
</tr>
<tr>
<td>Organizational conditions</td>
<td>28.0</td>
</tr>
<tr>
<td>Teachers' interest</td>
<td>27.6</td>
</tr>
<tr>
<td>The interest of the administration of universities, the availability of managerial will</td>
<td>23.3</td>
</tr>
<tr>
<td>Understanding the perspectives for the development of universities</td>
<td>22.6</td>
</tr>
<tr>
<td>Students' interest</td>
<td>15.6</td>
</tr>
<tr>
<td>Instructions (orders, recommendations) from higher educational authorities</td>
<td>10.3</td>
</tr>
<tr>
<td>Unlimited</td>
<td>5.9</td>
</tr>
</tbody>
</table>

*The sum of answers exceeds 100 %, because respondents had the opportunity to choose several answer options.*
It is obvious that the main factors restricting network communications are the lack of normative base regulating the main aspects of interaction between universities and their insufficient material capacities. Without this, it would be rather difficult to create functioning system of higher education in the macro-region. Meanwhile, we consider network interaction to be at the core of the integrated system of higher education, and its nonlinear model.

What kind of the goals of networking interaction lying beyond the interests of separate universities are relevant to the macro-region? This is the rational use of human, financial, material resources available in the macro-region. This implies high economic effect regarding the investment return to the network projects. Another goal is real opportunities to attract the attention of the leadership and stakeholders of the macro-region, regions and cities to higher education, the creation of unified basic values of education and culture, activation of their own internal resources, sources and mechanisms for the development of higher education. We should not forget about such goal as receiving and translation of advanced educational, scientific and managerial experience, «cut out» for the specifics of the macro-region, as well as turning the network interaction of universities into innovation space.

4 CONCLUSIONS

Our study has shown that under conditions of social and economic uncertainty network interactions between universities can become an important factor in the development of not only higher education in the Russian macro-region, but also the macro-region itself, its economy, science, and culture. Here are these conditions.

1 Involvement of representatives of various power structures (from the federal district, its regions, city administration) should take place in the discussion on higher education of the Ural macro-region. It has been proved that the combination of the initiative «from below» and serious support «from above» can help to solve the problem of distancing between the authorities and higher education, as well as interuniversity dissociation.

2 Such network interaction between universities that «implants» the stakeholders themselves could become truly effective in the Ural macro-region. Business, production, science, culture in the macro-region are represented by groups of very strong stakeholders, many of whom are really interested not only in partnership with universities, but also in their cooperation with one another, simply because this interaction provides, at least, quality training of specialists.

3 The perspectives for networking interaction among the universities within the macro-region can become realistic, because the already existing, although not large-scale, experience of intraregional cooperation, as well as common sense and the availability of interested actors precondition them.

Networking interaction between universities can become a significant factor in the development of the macro-region by penetrating the entire process of transition to a nonlinear model of higher education.

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