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MODEL OF THE VALUE OF POSTGRADUATE AND DOCTORAL STUDIES FOR THE ECONOMIC CULTURE OF CITIZENS

ABSTRACT

In the modern world of the knowledge economy, the culture of people has a strong proven connection with their economic activity, which has received the name "economic culture" in the scientific community. As numerous studies and statistics show, it directly affects both the personal success of a person in life (in terms of financial and material well-being and active career growth), and the efficiency of the economic development of the state and its society (primarily at the level of the indicator of innovation). At the same time, the leading drivers and catalysts for increasing the share of a high (or developed) economic culture in the structure of the economic consciousness of society in the modern world have firmly become people with high intelligence and syste-

matic scientific knowledge - graduates of postgraduate and doctoral studies (scientific and educational programs). In our study, we propose a model developed by us of the value of these departments of universities for the development of the economic culture of their graduates on the example of the Russian New University as the largest and leading non-state higher educational university in Russia.

KEYWORDS: Postgraduate study. Doctorate. Economic culture. Relationship.

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1. Introduction

It is generally accepted that culture influences the pace of economic development. A classic example of such an influence can be considered the position proved by M. Weber about the influence of religious values on the volume of production using the example of the Protestant work ethic with its values of hard work and frugality as a duty (WEBER, 2002).

The existing relationship between culture and the economy as autonomous public spheres gave rise to the concept of "economic culture", which in modern Western science, in our opinion, most accurately defined by S. Porter as beliefs, attitudes and values that affect the economic activities of individuals, organizations and other institutions (POTTER, 1999). In the Eastern European academic space, economic culture is mainly interpreted as a social value, characterized by a set of acquired economic knowledge, the development of economic thinking, professional skills and practical skills, law-abidingness, the degree of inclusion in economic activity, through which business features are manifested (initiative, entrepreneurial spirit, respect for other people's property), as well as a set of material and spiritual achievements of people in various areas of socio-economic activity; as a result of material spiritual creativity, the realization of material interests, the improvement of living conditions and the spiritual growth of a person. M. Benito and R. Romera, studying economic de-

velopment in the regions of Europe based on the data of the World Values Survey, came to the conclusion that cultural characteristics are strongly correlated not only with the economic development of European regions, but also with economic development and institutional results in a wide sample of countries of the world (BENITO, ROMERA, 2013;). It can be reasonably argued that culture largely determines the level of economic development in relation to the region, historical moment and market challenges. In this sense, we fully agree with the opinion of S. Hancock and E. Welsh that considering cultural analysis and cultural changes, along with policy and project development factors, can significantly accelerate the pace of economic development (HANCOCK, WALSH, 2016). In our opinion, economic culture is formed in the process of general economic practice and leads to the formation of stable norms and rules of economic interaction that contribute to the transfer of accumulated experience, due to which it is a mechanism for the reproduction and development of economic relations between society as a whole and the individual in a variety of activity and subject forms. At the same time, the formation of a culture of correct perception and adherence to the established state and public institutions among people is important for the formation of an effective economy.

The most important role in instilling the right institutional culture of citizens belongs to the education system, especially the higher and research components. Thus, a number of modern scientists see doctoral students as the latest form of renewable energy in a world driven by a knowledge-based economy (BOULOS, 2016; CONLON, PATRIGNANI, 2011; GUTHRIE, BRYANT, 2015; TEMPLE, 2012). It is not surprising that doctoral educational programs in many countries in the XXI century. include the development of broader than purely professional competencies (for example, the development of management and teamwork skills, the ability to present oneself to employers).

Numerous statistical and analytical data allow us to assert that in recent decades, graduates of postgraduate and doctoral studies have become new drivers of innovative, including economic, development, using their knowledge, competencies and intellect not so much in academic as in economic (industrial, business, IT) sphere. According to various researchers, they are aware of the capital that their knowledge base provides (HANCOCK, WALSH, 2016; KALAFATIS, LEDDEN, 2013) and report the positive impact of scientific experience on their career growth and life in general.

Thus, it is obvious that there is a direct connection between the results of training in scientific and educational programs (postgraduate and doctoral studies) and further successful economic activity. At the same time, the degree of such influence remains debatable, and the direct value, expressed in specific indicators and characteristics, has not been practically studied until today.

2. Materials and methods

To measure the capacity of the model, both formative and reflexive indicators were used. In the first case, the requirements for the formation of a certain capacity are studied, in the second case, the manifestations of this capacity. Requirements or conditions may be external or internal, but manifestations are always the subject of analysis. When capacity is implemented using formative indicators, the validity of measuring the choice of indicators remains a hypothesis until capacity values are correlated with institutional effects or performance outcomes.

The capacitance measurement is justified only when it refers to a distinctive phenomenon, i.e. to a non-additive, collective result of the dynamic functioning of the administrative system, which has a common effect on the implementation of all parts of the system. If perceived events can be adequate explanations for visible objects, agents, or processes, there is no reason to regard administrative capacity as a generalization. Administrative capacity refers to the

inherent trait or ability of the chosen administrative system and should be considered as a latent variable in empirical analysis.

The used internal factors assessment matrix is a tool that is designed to assess the main weaknesses and strengths of the organization. They help SWOT analysis by generating numerical values for external and internal factors. Here we will focus on the use of the Internal Factors Assessment Matrix (IFE Matrix) as it is often used to assess the health of both business and public sector organizations.

Strengths and weaknesses are assessed as key internal factors. The general rule is to identify 10-20 internal factors, but it is preferable to identify as many factors as possible. Each key factor is given a weight from 0.0 (low value) to 1.0 (high importance). If the weight is not defined, all factors will be equally important, but this is too rare in the real world. The sum of all weights must be equal to 1.0. The scores in the matrix refer to how strong or weak each factor is. The numbers range from 4 to 1, with 4 being a major strength, 3 a minor strength, 2 a minor weakness, and 1 a major weakness.

Strengths can only get scores of 3 and 4, weaknesses 2 and 1. The scoring process in the IFE matrix can be simplified using comparison with the best (benchmarking) or divergence from established goals (GAP analysis). The assessment of any internal factor is obtained as the product of its weight and rating score. The overall weighted score is the sum of all individual weighted scores. Organizations it can receive an overall score ranging from 1 to 4, resulting in 2.5 being the average. The IFE matrix applied in our model has the following advantages:

- 1) ease of understanding (the factors being assessed have a clear meaning to everyone in or outside the organization; there is no confusion about the terms used or the implications of the matrix);

- 2) ease of use (the matrix does not require experience, a lot of staff or a lot of time to build; the company is focused on the key factors that are most

important for the success of the organization, and not on all of its parameters);

3) the possibility of using for the construction of SWOT-analysis, PEST and PESTEL-analysis, as well as comparative analysis.

At the same time, there are some limitations in using the IFE matrix, such as high substitutability (it can be replaced almost completely using PEST analysis, SWOT analysis, competitive profile matrix and some other analyzes) and the fact that it is not a direct tool for strategy formation. (The latter helps to identify and evaluate factors, but does not directly determine the next strategic step or the best strategy, so the use of other strategic tools is required).

It is possible that the assessments of criteria for individual areas of administrative capacity are assessed not only by characteristics such as "good", "average" or "poor", but also with a more detailed description. With the help of the specified specification of the characteristic, it is possible to achieve the most accurate description of the corresponding criterion to the real state of the organization being assessed. For example, when conducting an assessment in terms of various aspects of administrative capacity, in which some aspects will have several components. The ratings in the matrix from 1 to 4, in the fields corresponding to each rating, will describe the various states of this aspect / component, in gradation from the most unfavorable - 1, to satisfactory - 2, good - 3 and excellent - 4.

Thus, the assessments made allow us to draw up a competitive profile of the organization being assessed, which can be compared with the assessments of other organizations of the same type or with the average assessments of organizations of the same type. The profile of the university being assessed considers those aspects in which its assessments are most at odds with the average or with those that we take as a model. It should be noted that both discrepancies with a negative sign, in the sense that the organization's estimates are lower, and discrepancies with a positive sign are important. Both areas of admini-

nistrative capacity need to be developed, some to reach the others and others to maintain competitive advantage.

This method was applied in the preparation of an assessment of the value of postgraduate and doctoral studies in improving the economic culture of teachers of the Autonomous non-profit organization of higher education "Russian New University" (Moscow, Russian Federation).

For the assessment components, materials from a survey of interns from PolyU (the Hong Kong Polytechnic University (PolyU) WIE program (abbreviated from Work-Integrated Education - "learning through work experience"), which has been implemented at RosNOU since 2019 in a remote format) were used.

3. Results

The structure of our model of the value of postgraduate and doctoral studies for the economic culture of citizens consists of several semantic blocks, which can be represented in the form of the following formulas (Figure 1):

1. Values of postgraduate and doctoral studies for the state (Y):

- total value for the state - career value + social value;

- total costs - public spending on education;

- total value for the state + total costs = the level of economic culture of the country.

2. Values of postgraduate and doctoral studies for citizens (f):

- total value for citizens - career value + skills value + social value + personal value;

- general costs - monetary costs + time costs + energy costs + emotional costs = the level of economic culture of citizens.

- $Y = f$, where the values of postgraduate and doctoral studies for the state and the values of postgraduate and doctoral studies for citizens.

The capacitance in both models is denoted by the symbols (η) and (ξ).

The first formative model indicates that the prior explicit factors (x_i) are the causes of the subsequent latent construct (η). For example, certain institutional arrangements, operational structures, or administration resources may also be assessed in a combined assessment to conclude that there is a certain level of capability. These factors precede and together determine potential. The perturbation boundary (ζ) is that part of the construct (η) that is not explained by explicit institutions, structures or resources (x_i). Parameters (γ_i) depict the magnitude of the impact of explicit factors on the structure.

The second reflective model indicates that the previous implicit construct (ξ) has a direct impact on subsequent explicit factors (x_i). For example, bureaucratic measures, behaviors, or performance outcomes such as observed phenomena can be evaluated and collectively used to infer the existence of a certain level of capability. Ability, of course, precedes and partly determines these behaviors or performance effects. The difference in manifestations (x_i) is due to the dependence of these factors on the main hidden structure (ξ) and the error characteristic of each factor (δ_i).

Load factors (λ_i) depict the magnitude of the effect of latent construction (ξ) on other factors (x_i). This model of reflective formative measurement is used to build scales. Governance indicators based on measures of bureaucra-

tic action or perceptions of these actions are examples of such magnitudes.

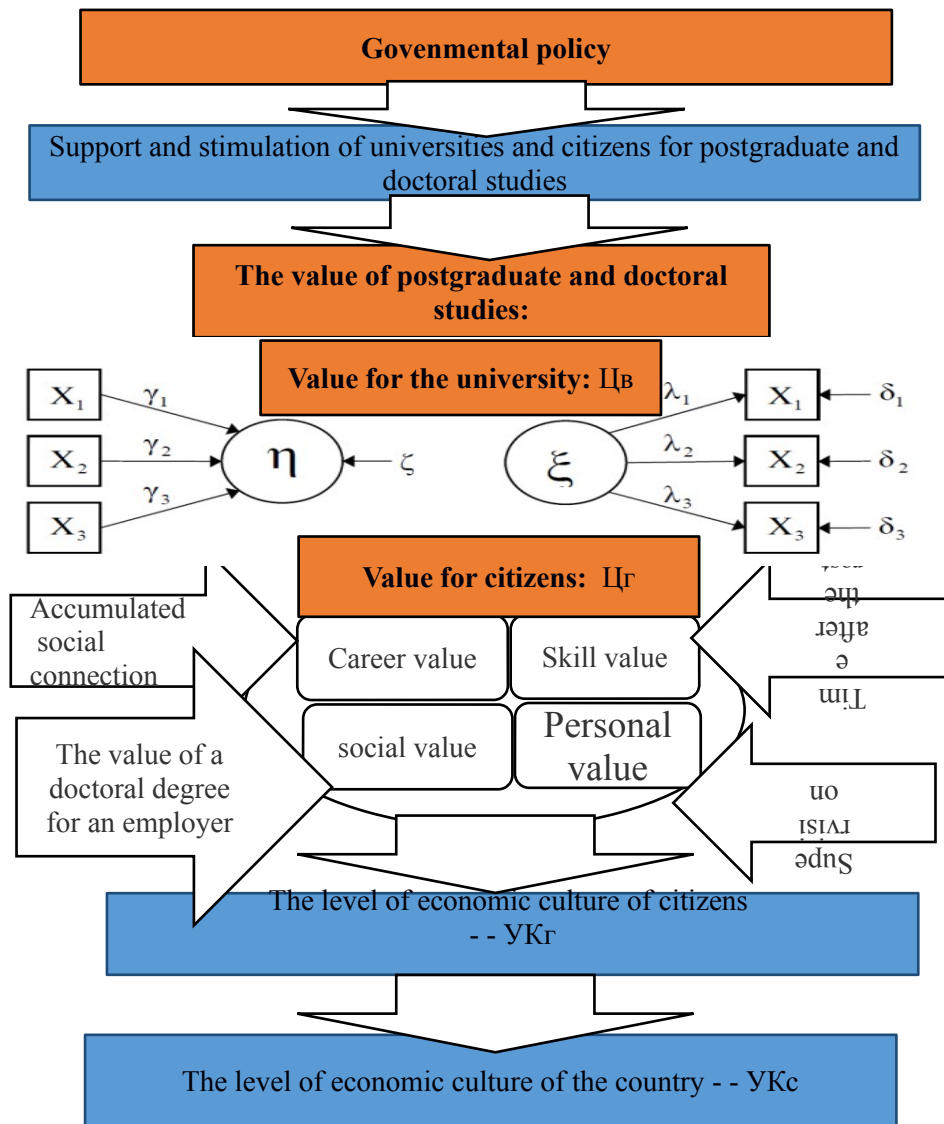


Figure 1. -Model of the value of postgraduate and doctoral studies in improving the economic culture of citizens.

Extrapolating the model described above to the corresponding components in the Autonomous non-profit organization of higher education "Russian New University" (official abbreviated name - RosNOU), we assessed the

value of postgraduate and doctoral studies in improving the economic culture of its teachers (Figure 2).

Resources	Criteria	Content (characteristics) of the criteria	1	2	3	4
1. Teaching staff (information about the criteria for the teaching staff is used. 3.2.2 for institutional licensing, respectively. criteria 1.2, respectively 1.2.1. for licensing)	1.1. The university has the necessary teaching staff.	1.1.1. The number of defended and non-defended teachers of the CTD provides the declared ability when applying for a license. 1.1.2. The level of workload of the teaching staff who defended their teaching position of the TUD ensures the quality of the training of the requested teaching staff when applying for licensing.				
	1.2. The university has additional teaching staff.	1.2.1. The number of defended and non-defended teachers 1.2.2. Teaching employment/level of teaching.				
2. Logistics and information base (Information about criteria 3.3 is used, respectively 3.3.1. And 3.3.2. Institutional component.	2.1. The university provides the material and technical base for training and research activities	2.1.1. The number of classroom seats and the extent to which they are used in the HE provides the declared capacity when applying for a license. 2.1.2. Number of workplaces for practical training The degree of their use provides the declared capacity when applying for a license.				
	2.2. The university	2.2.1. The number of places in the library and the degree of their use				
criteria 1.3, respectively 1.3.1. and 1.3.2. software licensing)	provides an information base for teaching and research.	provide the declared capacity when applying for a license. 2.2.2. The number of seats in the information centers and the degree of their use provide the declared capacity when applying for a license.				
3. Resources for managing and administering the quality of education.	3.1. The university has the managerial and financial resources to ensure the quality of education.	3.1.1. The university has administrative capacity, maintains structures and ideologies for quality assurance 3.1.2. The university provides the necessary financial resources to ensure the declared opportunities when applying for a license.				

Figure 8. - Evaluation of the value of postgraduate and doctoral studies in improving the economic culture of teachers of the Autonomous non-profit organization of higher education "Russian New University" *.

*Note:

1. Criteria for determining potential are used in institutional licensing and in programmatic accreditation of a professional direction or specialty of a regulated profession.

2. The degree of workload (in percent) of teachers is determined as the arithmetic average of the individual workload of individual teachers, which is the ratio of actual hours to those specified for the academic year.

3. The degree of use (in percent) of jobs is determined as the ratio of actually occupied jobs to those available for the academic year when using the schedule of classes by days of employment of classrooms (laboratories, libraries, information centers, etc.).

4. When requesting a change in capacity, information must be provided on the above criteria (characteristics) of changes that occurred when applying for a change in audience capacity compared to the last licensing.

4. Results and discussion

The identified discrepancy requires the application of a number of measures, such as linking public funding with quality and applicability to the labor market; abolition of tuition fees for professions for which there is a shortage in the labor market; additional funding for qualifications in demand in the labor market; limiting the number of places in study areas for which there is an oversupply. Some positive trends are noticeable (eg., a decrease in the number of business administration students and an increase in the number of students in ICT and medical specialties). The attractiveness of the STEM fields (science, technology, engineering and mathematics), for which there is strong demand in the labor market, is still too weak. This situation can be partially ex-

plained by weaker results in science and mathematics among young people (as reported by PISA), with insufficient career guidance, and a visible gender imbalance in participation in higher education, in particular in some fields of study. In addition, employers report that graduates have gaps in knowledge and skills, including social skills and some other transversal skills.

Postgraduate and doctoral studies should be a key element in the planning of scientific and technological policy to improve the economic culture of citizens and build a new intellectual potential of the nation. Graduate and doctoral studies serve a number of important purposes. For example, PhD graduates are innovators and enhance a country's ability to deal with more complex problems.

5. Conclusion

Our conceptual model of the value of graduate and doctoral studies in raising the economic culture of citizens can help strengthen the planning and implementation of doctoral programs, increase understanding of the value of a doctoral degree, and increase readiness for a range of employment contexts. Institutions can use this model to rethink doctoral training and design development programs. Raising awareness of potential career opportunities at an early stage and providing researchers with access to various support systems and institutional resources is paramount to encourage value-added opportunities. Personalized development that aligns with individual career trajectories (rather than a set of “employability skills”) can help align the needs of society and employers with individual satisfaction of specialization needs. This model can help raise awareness of the value of hiring PhD graduates and improve partnerships with employers. The diverse benefits that doctoral graduates can bring in office should also be understood, both from an employer and alumni perspective, so that the supply and demand for doctoral graduates is consistent

and mutually rewarding, and for the state in developing strategic plans and strategies to improve the economic culture of citizens.

References

BENITO, M., ROMERA, R. (2013). How to boost the PHD labour market? Facts from the PHD system side (Working paper). Retrieved from <http://e-archivo.uc3m.es/bitstream/handle/10016/17545/ws132824.pdf?sequence=1>

BOULOS A. (2016). The labour market relevance of PhDs: An issue for academic research and policy-makers. *Studies in Higher Education*, 41(5), 901–913. doi: 10.1080/03075079.2016.1147719

CONLON, G., PATRIGNANI, P. (2011). The returns to higher education qualifications. London: Department of Business, Innovation and Skills.

GUTHRIE, B., BRYANT, G. (2015). Postgraduate destinations 2014: A report on the work and study outcomes of recent higher education postgraduates. Melbourne: Graduate Careers Australia.

HANCOCK, S., WALSH, E. (2016). Beyond knowledge and skills: Rethinking the development of professional identity during the STEM doctorate. *Studies in Higher Education*, 41(1), 37–50. doi: 10.1080/03075079.2014.915301

KALAFATIS, S., LEDDEN, L. (2013). Carry-over effects in perceptions of educational value. *Studies in Higher Education*, 38(10), 1540–1561. doi: 10.1080/03075079.2011.643862

WEBER, Max (2002). *The Protestant ethic and the "spirit" of capitalism and other writings*. Penguin.

POTTER, S.M. (1999). Nonlinear time series modelling: an introduction. *Journal of Economic Surveys*, 13(5), 505-528.

TEMPLE, P. (2012). *Universities in the knowledge economy: Higher education organization and global change*. London: Routledge.