THE PROBLEM OF PUBLIC MANAGEMENT OF SOCIO-CULTURAL FORMS OF ORGANIZATION IN EDUCATION, SCIENCE, INNOVATION: CURRENT PROBLEMS AND VECTORS OF DEVELOPMENT

Abstract. The paper presents the public management of socio-cultural forms of organization in education, science, and innovation. This paper aims to identify the actual problems in public management of socio-cultural forms of organizations in education, science, and innovation. The research notes the specificity of the nature of governing in socio-cultural forms on the one hand and problems that arise in the course of its implementation on the other. The study presents the main vectors of development in public management of these forms: vertical division of governing, horizontal division of governing (modular), transverse division of governing. Studies and publications from governmental and non-governmental organizations (e.g., OECD) and firms engaged in higher education or other areas of economics, science, and innovation were analyzed. Scientific articles, reports, and research are primary sources. The research recommends crucial areas in which international organizations should concentrate their R&D efforts. There is also an emphasis on ensuring that all parties participating in R&D operations are appropriately managed. In addition, it is discovered that higher education and science should strive to strike a balance between their tight ties to the public sector and their desire for independence.

Keywords: education; science; innovation; public management; law; regulation.

JEL Classification I28, H52, I22, I25

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ПРОБЛЕМА ДЕРЖАВНОГО УПРАВЛІННЯ СОЦІОКУЛЬТУРНИМИ ФОРМАМИ ОРГАНІЗАЦІЇ У СФЕРІ ОСВІТИ, НАУКИ, ІННОВАЦІЙ: АКТУАЛЬНІ ПРОБЛЕМИ І ВЕКТОРІ РОЗВИТКУ

Анотація. Розкрито ділему державного управління соціокультурними формами організації у сфері освіти, науки, інновацій. Метою статті є виявлення актуальних проблем державного управління соціокультурними формами організації у сфері освіти, науки та інновацій. У дослідженні описано специфіку природи управління соціокультурними формами, з одного боку, і проблеми, що виникають у ході реалізації управління, — з другого. У дослідженні представлені основні вектори розвитку управління такими формами: вертикальний поділ управління, горизонтальний поділ управління (модульний), поперечний поділ управління. Також проаналізовано дослідження і публікації урядових і неурядових організацій (наприклад, ОЕСР) та компаній, які займаються вищою освітою або іншими галузями економіки, науки та інновацій. Першоджерелами є наукові статті, звіти та дослідження. У дослідженні вказуються найважливіші галузі, на яких міжнародні організації мають зосередити свої зусилля у сфері НДДКР. Також особлива увага приділяється забезпеченню належного управління усіма сторонами, які беруть участь у науково-дослідній діяльності. Крім того, виявлено, що вища освіта і наука мають прагнути знайти баланс між державним сектором і прагненням до незалежності.

Ключові слова: освіта, наука, інновації, державне управління, право, регулювання.

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Introduction. The problem of public management of socio-cultural forms of organization is one of the significant challenges that many countries face in their development. The state has to organize this area in compliance with national-specific features, taking into account the particularities of socio-cultural organizations [1; 2]. The state is responsible for providing the conditions necessary to ensure the proper implementation of activities of socio-cultural forms, including public management [3—5]. At the same time, this area is different from other areas due to its modesty in terms of legal regulation and mechanisms for their implementation. Usually, regulatory acts are being developed at a low level, complicating their application in practice. During recent years countries have started to look into best practices that could be used as a basis for developing regulatory documents in the field of public management (legislation) [6; 7]. Some provisions are introduced into conventional laws on education, science, or innovation; others are contained in unique normative acts (decrees, regulations), which regulate free access to information, social standards, etc. [8; 9]. The paper presents the state regulation of socio-cultural forms in the education, science, and innovation sphere. The primary attention is paid to the practice of state regulation in this area. In particular, it discusses problems that can be attributed to: lack of a state policy for socio-cultural forms; weak legal regulation of activities of socio-cultural forms; low level of mechanisms for control over socio-cultural organizations, noncompliance with their statutory activities; insufficient legal protection of rights and legitimate interests of socio-cultural associations.
Literature Review. Many socio-cultural forms begin their existence on a selfless basis: they carry out activities for the good of society, and science-based on voluntary participation and free will. However, it is possible that sometime later, these associations may fail to meet public needs because of limited human resources, financial problems, or changes in priorities of those who participate in them [2]. That is why there should be mechanisms within such associations that allow new members to become involved when the number of existing members decreases or they lose interest in certain activities. Another option supported by many researchers is that socio-cultural forms should be able to transition into legal forms, which would allow these associations to meet the needs of society by becoming beneficiaries of state aid for implementing specific activities [3]. This is not possible with other existing forms because they are legally classified as either commercial or non-commercial. The socio-cultural forms should face new challenges and adjust their activities according to the changes taking place in society; this means that they need to constantly review their objectives, potentials, and responsibilities [8]. Researchers claim that public administration bodies should realize that these associations are self-governing bodies representing voluntary initiatives based on taxpayers’ money [7]. Therefore, it cannot be said that regulating public financial support for such forms is wasteful spending, nor can it be considered unwise if this support is not offered at all. The question that should be answered in such cases is whether these associations meet certain needs of society and if they can do it without state support. On the other hand, financial support provided by many states to socio-cultural forms in education and science cannot be considered a major issue in need of reform or change in policies and strategies. This does not mean that public administration bodies should become less tolerant when it comes to budget expenditures; however, their tolerance must also include what members of socio-cultural forms representing voluntary initiatives want to achieve with their activities [7].

The concept behind development policy within the European Union (E.U.) recognizes that renewable sources of financing must play an increasingly important role in ensuring equal opportunities for all people. States should be guided by this logic when it comes to developing national development policy. The question remains as to whether socio-cultural forms could become the foundation for the country’s «soft power» by promoting its cultural heritage, traditions, and practices; or whether these associations are capable of creating attractive brand images for other countries, which would result in foreign funding (investment) opportunities based on public diplomacy mechanisms. It is not enough to disseminate knowledge about culture and promote any country’s image abroad; it must also be backed up with practical efforts towards realizing specific projects [3; 10]. This will require innovative thinking; however, no compelling results have been achieved so far in any of the above areas because research has not been conducted, nor has there been much time to think about these matters. One of the possible reasons why socio-cultural forms do not attract much attention or support from the public administration is that they are often confused with associations of private individuals sharing similar interests [2]. The latter are not perceived as carrying out any public activities but would instead be lobbied to protect their claims against the public administration body or another association whose position differs from theirs. This lack of understanding may also lead to financial support for both types of organizations being halted because there are no mechanisms that would allow research institutions and universities to provide businesses with policy advice on how they can invest in new ideas and initiatives; this could be done through providing them with legal instruments necessary to carry out specific innovative activities [7]. Nevertheless, this would not happen because the above forms of socio-cultural organizations are often mistaken for businesses. The public administration’s perception that business associations in Latvia represent all non-governmental actors in society is also problematic [7]. Business associations in states have an essential role in ensuring their members’ interests are taken into account when it comes to state policies and strategies related to the national economy. Still, these same bodies expect support from the state when it comes to meeting their priorities or goals without having any obligations towards society or its development [3]. Regulating financial support given by public administration bodies through limiting the number of requests made by socio-cultural forms with long-term plans can be seen as a positive measure preventing misuse of
funds; however, this could work to the detriment of certain types of socio-cultural forms which are considered «weak» because of their low funding [2]. The change in the law will allow associations of private individuals with similar interests to receive more funds from public administration bodies, but this does not mean they are better organized or have a more significant impact on society [7]. Moreover, it is not clear whether this measure would also be applied to business associations. If there was an intention to apply these rules regarding limiting requests made by non-governmental actors to all organizations regardless of their legal form, then new criteria should be developed and used when distributing public funds; one option would be decided based on how much each organization benefits society as a whole [3].

**Research Purpose.** The purpose of this paper is to identify problems in the management of intellectual property by public actors.

**Problem of Public Management of Socio-Cultural Forms of Organization in Education, Science, Innovation: Current Problems and Vectors of Development.** The governmental approach of public management in education, science, and technology is applied worldwide. Its implementation can improve the system of governing work [3]. The need for public management arises from many sources. One of them is the necessity to ensure control over all areas of social life. Still, it should be based on professional knowledge, skills, and qualifications peculiar to each area (education, science, etc.) [2]. Public management includes three models: vertical division (vertical separation), horizontal division (division by modules), and transverse division (cooperation) [7]. **Vertical division** means establishing an effective link between general government agencies at different levels. Special government structures are directly responsible for governing activity in specific fields through thorough planning and programming. **The horizontal division** is used in areas where various forms of activity (education, science, culture, etc.) are intertwined. **Transverse division** of authorities has the following advantages: The possibility of cross-checking; Development of interdepartmental networks; Creation of horizontal ties between agencies involved in public management. The state regulation is carried out across three levels: international (through organizations that bring together countries), national and local. Specific features characterize each level, so the mechanism for regulating activities should be adjusted to their needs [8]. Indeed, globalization processes have led to changes in the systems of governing work at all levels. Today no country can solve problems on its own without taking into account global realities.

**International Institutions.** Regulating activities in the field of public management is primarily carried out by international organizations. They are given priority in handling the strategic work of the state, primarily in areas that are important for ensuring national interests or that affect their security. The critical international institutions include UNESCO, UNIDO, OECD, etc. [2]. International organizations are involved primarily in coordinating state policy on education, science, and technology through technical assistance programs aimed at achieving specific results abroad rather than objects for public management per se. For example, since 2007, Italy has been implementing an action plan to ensure effective research results in combating organized crime. The main problem with involving international organizations is their low level of activity concerning state regulation, as evidenced by their projects’ quantitative and qualitative characteristics. UNESCO programs are generally focused on training personnel to implement innovative technologies, develop research areas, and study developments in international education [7]. UNESCO also assists such mechanisms as «capacity building» (university programs), identifying the status of educational processes and other types of assistance to countries. An uncoordinated state regulation system significantly hampers the effectiveness of national public management: every governmental agency conducts its work independently from others [3]. Cooperation between government agencies at various levels should be established permanently to avoid overregulation or under the regulation that often happens in those fields where there is no single policy regulating all spheres that determine its effectiveness [2]. This problem becomes more acute, especially in globalization, when more active forms of regulation are required that allow for faster responses to changing needs. The transverse division’s main objective is to create an effective system of control
that ensures a balanced use of all available resources for maximum effect. This approach is devoid of barriers between governmental agencies, regulatory authorities, and other key players in education, science, and innovation systems. Transverse division means establishing an effective link between general government agencies at different levels. Unique government structures are directly responsible for governing activity in specific fields through thorough planning and programming. The horizontal division is used in areas where various forms of activity (education, science, culture, etc.) are intertwined. The transverse division has the following advantages: the possibility of cross-sectoral planning; the chance to account for market conditions in regulating activity; an opportunity to create a coordination system between government agencies. The main drawback is the absence of direct control over overall results.

Public Management: Key Factors. An important factor for public management is financial security, which can be achieved by creating effective programs with clearly defined goals. Financial resources should be directed not to financing current needs, but to stimulate innovation and provide qualitative development (modernization) [2]. Public management aims to achieve specific results subject to various factors: human, natural, economic, or social. In the education system, these factors include managing teachers’ skills and qualifications while ensuring a high-quality level of the teaching process to achieve a positive effect on students; such a model requires promoting interactive communication between linked educational institutions and industry to identify practical solutions for meeting modern demands [8]. Public management also focuses on preserving national identity while strengthening multiculturalism, which will enable the population to keep pace with changes occurring in society. In other words, public management is aimed at promoting cultural partnership and social cohesion.

Public Management in the field of science and innovation. The main aim is to achieve maximum results with minimal investments, which can be achieved by increasing the efficiency of programs and projects. Despite the self-sufficiency in funding research, cooperation between universities and enterprises should also be nurtured to reduce practical relevance. Such a system allows for resolving specific tasks within certain timeframes, which is essential when evaluating their activities. The innovative activity requires constant development based on research findings that need to adapt to actual needs (market) by introducing existing technologies or creating new ones [2]. This requires effective regulation through mechanisms like limiting access to information, which significantly contributes to developing the innovative activity. The main factors in public management of the education system are: quality; modernity; relevance; availability. Achieving these objectives will increase motivation among students and teachers involved in the teaching process while ensuring a high-quality level of teaching that provides quality educational services. Public management also focuses on preserving national identity while strengthening multiculturalism, which will enable the population to keep pace with changes occurring in society. In other words, public management aims to promote cultural partnership and social cohesion [2].

Public management seeks long-term planning by establishing efficient links between research and development (R&D) and enterprises as well as other institutions involved in technological processes [7]. As a result, this allows for at least partially reducing the gap between basic research and practical effects.

Public Management of socio-cultural forms of organization. The primary purpose of public management is to provide a high-quality level that will encourage investors and ensure a positive image for their activities. In contrast, low quality leads to a decrease in investments, which negatively impacts the image. Such an approach requires adequate measures to be taken — from industry promotion through direct investments into project implementation up to effective regulation aimed at stimulating development by involving both enterprises and organizations representing smaller companies (initiators). For such an initiative to succeed, it needs substantial financial resources, which can be achieved through appropriate regulation and attracting investors. Such a solution will increase the efficiency of managing funds in the industry while raising education and awareness. Public management seeks long-term planning by establishing efficient links between research and development (R&D) and enterprises and other institutions involved in
technological processes. As a result, this allows for at least partially reducing the gap between basic research and practical results [2]. The main objectives in public management system are: quality; modernity; relevance; availability; investment attraction/image preservation.

Data Analysis. The main problem is to achieve financial self-sufficiency through increased attractiveness of activities related to national identity, multiculturalism, industry promotion, effective regulation, long-term planning.

Objectives: 1) create mechanisms of financial self-sufficiency through improving the quality of activities related to national identity, multiculturalism, industry promotion; 2) improve mechanisms for attracting investments and developing innovative activity; 3) develop public management models aimed at improvement of organizational capacity which will enable sustainable development.

Critical Problems in Current System: lack of a unique model for managing intellectual property; the absence of specialized government agencies responsible for specific activities aimed at increasing innovation capacity; unsatisfactory level of investment attraction/image preservation due to weak mechanism that limits fund withdrawal by individual investors.

Vectors of Solution. Developing a unified model for managing intellectual property; Development of a particular model for public management aimed at increasing innovation capacity by creating specialized agencies; Introduction of mechanisms that will increase the attractiveness of activities related to national identity, multiculturalism, industry promotion.

Public Management Model. The public-private partnership with input from key role players like universities, research organizations, and investors is one of the most efficient ways to develop an effective system of managing intellectual property. On the other hand, it has three main elements — standardization, protection, and support — all crucial for its implementation. The first one implies information about trademarks, protection rights, and various life cycle phases like registration and licensing. The second element addresses specific methods used in promoting objects protected under intellectual property rights which is essential since it creates a basis for initiating commercialization processes. The last part concerns the treatment of intellectual property as a business asset which requires effective management, long-term planning, and well-defined procedures [11]. In addition to those conditions, there are several stages involved in the process of creating an efficient system aimed at managing intellectual property which include: formulation of strategy; technical content; organizational structure; harmonization with existing laws; relationship with stakeholders (including business community); new relationships between universities/research entities and innovation communities on one side, and investors on another side.

Other Recommendations. Other recommendations to resolve the problem of public management of socio-cultural forms of organization in education, science, innovation are:

1. Harmonization with existing laws is a critical element of the future system for managing intellectual property. In this context, two main directions can be identified — including intellectual property in private law and civil law provisions related to intangible assets.

2. It is necessary to build a mutually beneficial relationship between the business community and research institutions by creating a favorable environment for investment attraction and its withdrawal if necessary (in case of breach of contract).

3. Implementation mechanisms like: strengthening government agencies; improving administrative management methods; raising awareness about the importance of intellectual property; promoting innovative culture; developing / revision / harmonization with the national legislation governing these issues.

4. Introduction of selective tax incentives linked to commercialization activities aimed at promoting new objects created on Polish territory.

5. Creation of appropriate environment for maximizing the potential of intellectual property, including: adequate legal protection; effective administrative management; raising awareness among inventors and entrepreneurs involved in trade associated with intellectual property rights about the importance of protecting technological inventions / creations; stimulation of innovative activity by economic agents, including private actors.
Vectors of development: 1) Implementation mechanisms; 2) raising awareness; 3) selective tax incentives. Forms of organizations involved in developing vectors for this problem include Higher Education institutions, research organizations, universities, small-medium enterprises, and the business community. Key players in resolving this problem are private actors. The scope for solving the problem is intertwined with the future strategy related to research and development and innovation as critical elements of sustainable national development.

Methodology.

Sample. The research was conducted by analyzing scientific papers, reports, and studies of governmental bodies, universities, international organizations (e.g., OECD), companies providing analytic services related to higher education, or companies active in other branches of economy, science, and innovation.

Instrument. Primary sources of information include scientific papers, reports, and studies.

Data Collection. The first step of the research was to provide brief statistical data on higher education, science, and innovation. Then, papers describing the importance of public administration in education were analyzed. The second step was to identify influential international organizations that provide their vision regarding the significance of public administration for R&D activities, universities and innovation systems. The third step was to select companies that provide analytical services or are active in other branches of economy and science. The fourth step was to find governmental bodies that could give an insight into the extent of public administration and its effect on innovation systems. The fifth step was to provide an insight into the approaches of international organizations, companies, and governmental bodies regarding the public management of higher education and science. The sixth step was to put the research results into the context of globalization and its influence on public management of R&D activities. The last step was to provide suggestions on how to improve public management of the R&D system given current trends and challenges in globalization.

Data Analysis. Data analysis was conducted using various methods (e.g., classification, clustering) and techniques (deductive, inductive).

Scope. The scope of the article is limited to scientific and educational activities in higher education since both these areas support the innovation system. The content of the research does not include an analysis of mechanisms of how states contribute towards financing activities.

Hypothesis. If a state wants to have a strong innovation system, it must strengthen public management of higher education and science.

Results. The issues of public management, particularly in higher education and science, are becoming increasingly important. This is caused by the rapid globalization process that impact show countries’ economies are developing. As a result, this has an impact on various factors affecting the innovation system. Concerning the growing importance of public management and its effects on different actors, it is necessary to identify the problems associated with public administration in higher education and science. The paper provides insight into the impact of globalization that affects public management in higher education and science. Thus, it is believed that international organizations need to consider the importance of public management to generate and sustain competitive advantage. Also, it is found out that higher education and science should try to find a balance between their close connection with public administration and their own need for independence. This could be achieved by applying various mechanisms of public management that have been used in other sectors (e.g., public-private partnerships to ensure more comprehensive access to resources). In addition, it is necessary to identify the areas where international organizations can play a crucial role in improving the R&D system. It also explains how important it is to properly manage the interaction between universities and companies and between different actors involved in R&D activities. Overall, it contributes towards identifying research gaps explicitly related to public management issues.

Discussion. It is necessary to establish a mechanism involving the government, research institutions / universities, and investors to effectively manage intellectual property [11]. As a result, this will promote greater efficiency regarding funds for research projects since it provides complete
transparency and responsibility regarding using financial resources allocated for R&D activities. Adapting public administration to trends such as globalization and digitalization is a critical factor in ensuring quality university education. Due to the traditional perception that countries with high education levels have a high level of human capital to develop successful innovative political economies, emphasis is put on the quick creation of competitive national systems that could adapt to changing environments and provide sustainable development rapidly. One way to achieve these objectives is to transform higher education to render it more market-oriented. How to deal with demands which are presented by dynamic environments? One possible solution is establishing a competitive national system, such as strengthening universities’ ability to carry out research activities in line with various national interests or increasing the attractiveness of the learning process. The introduction of new forms of relations between the state, business community, and educational institutions are expected to contribute to innovative activity, representing a significant part of competitiveness indicator (strong innovation capacity contributes to improved PISA score). However, problems related to globalization include a growing number of studies that suggest intensified internationalization has a negative effect on societal cohesion and reduced governmental commitment towards financing R&D activities. Furthermore, there are growing concerns related to an increased number of multinational companies whose activities hurt the financial stability in host countries. To deal with all those challenges, it is necessary to establish a mechanism that harmonizes different interests. As a result, this will contribute towards preserving the identity of individuals and groups within society and strengthening cohesiveness. It is believed that academic institutions shall be more flexible when they are free from dependency from narrow interest groups.

**Conclusion.** The paper focuses on the importance of public management in higher education and science because of their role in the innovation system. The paper provides insight into various aspects related to international approaches to this issue. It also identifies critical areas where international organizations should focus their efforts to improve the R&D system.

### References


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Appendix A

Lyausheva. (2018). Globalization itself does not stand outside of T processes. It remains a significant factor in determining the course of development. Globalization strengthens the interdependence of states and societies, facilitates overcoming cultural and national borders, promotes unification of normative standards and value preferences in various countries. At the same time, contrary to scientific forecasts based on the popular theory «melting pot» in the mid-20th century, ethnic differences do not disappear. On the contrary, with the development of globalization, ethnic diversity is growing in countries involved in this process. It is important to note that ethnic identity in modern society is an important attribute. This does not allow us to assume that «globalization» itself destroys borders and boundaries, which is considered one of its main tasks. We need to understand the fact that modern society does not allow ethnic diversity to disappear.

Appendix B

Frolova. (2016). Due to the significance of social infrastructure to the growth of the state, society, and each person. Having a solid social infrastructure is essential for a city’s development. It helps meet the fundamental wants and interests of its residents and creates the circumstances necessary for their survival and reproduction. Russian regions’ functional social infrastructure will be examined in this context and elements that influence its growth. The primary research approach is the jury of opinion-leaders of local authorities who have enabled us to assess the essential resources and constraints in their operations to develop social infrastructure in current Russian circumstances... There is a discussion of the elements that influence Russia’s development of regional social infrastructure. The study reveals the monetary, economic, and political constraints on the growth of social infrastructure in a particular region. According to this article, cultural influences may be used to attract investment and build social infrastructure. The government may utilize the findings of this study when it comes to crafting legislation, conducting local government practices, and contributing to the development of social infrastructure.