

Higher Education Institutions in Terms of Governance and Collaboration with Municipalities

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Abstract: Modern higher education institutions perform many functions, including training highly qualified specialists, acting as scientific and practical research centres, and playing an important role in integrating education, public administration and business. Interaction between higher education institutions and communities requires the implementation of partnership mechanisms and overcoming challenges to their practical strategic cooperation. The article outlines the mechanisms, challenges and prospects of interaction between higher education institutions and communities in the context of the public administration system. The article aims to identify the most promising strategies for interaction between these entities and assess their implementation's effectiveness. The research was conducted using analytical methods, questionnaires, comparison of the results obtained and statistical assessment of the effectiveness of implementation of the strategies of interaction between higher education institutions and communities, which were identified as the most effective. To select the most effective strategies for cooperation between higher education institutions and communities, criteria and indicators for their evaluation were developed. Improving the quality of management decisions based on the provision of expert advice, applying the principles of digitalisation and public-private partnerships, developing and forming clusters and start-up incubators to support businesses and communities, conducting advanced training and courses at higher education institutions, and using scientific developments of higher education institutions to address infrastructure and sustainable development issues were identified as the most effective and require further implementation during the expert assessment. The statistical assessment of the effectiveness of interaction between higher education institutions and communities before and after implementing the proposed strategies showed a positive effect of their implementation. In the context of sustainable and long-term implementation of the outlined strategies, higher education institutions can perform educational and scientific functions and be full-fledged subjects of public administration, contributing to the socio-economic development of all participants in such interaction.

Keywords: public administration, decentralisation, university-community partnerships, socially oriented learning, public service of higher education institutions.

Introduction

Higher education institutions play an important role in the public administration system; they generate knowledge and participate in the socio-economic development of communities. They build partnerships with NGOs and state and local governments, which contribute to the formation of highly qualified personnel, the development and implementation of innovations, and the implementation of effective education policy. However, digitalisation, globalisation and the challenges of modern society are creating challenges that require the introduction

of interaction mechanisms and a comprehensive approach to addressing the integration of higher education institutions and communities [1].

There is a need to increase the level of interaction between higher education institutions and communities. However, there are several problematic factors, including the need to involve communities in the activities of higher education institutions, to focus educational programmes on the needs of regional development, the low level of coordination between higher education institutions and government agencies, and the limited material and technical resources of public administration of university-community interaction. The ways to solve these problems can be to orientate higher education towards a practical approach, revise funding mechanisms and develop partnership strategies.

Effective integration of higher education institutions and communities contributes to improving the quality of educational programmes and training highly qualified personnel that meet the conditions of the labour market and the sustainable development of public administration systems [2]. Changing labour market conditions and social destabilisation require interaction between government agencies and higher education institutions. Therefore, an important factor in improving the interaction between higher education institutions and communities is to analyse the mechanisms of their integration, identify challenges that need to be addressed, and find promising ways to enhance the role of higher education in public life.

Aim of the study. The article is devoted to studying the mechanisms of interaction between higher education institutions and communities and searching for promising ways to increase the level of their interaction and their evaluation.

Literature Review

Mohamed et al. [3] identified critical success factors for the interaction between public administration and universities that support the sustainability of higher education institutions. These influencing factors were considered to support the efficiency and sustainability of the success of public, private and foreign academic institutions. Education is one of the most important sectors for achieving the development goals of any country [4]. Kumar's study [5] presents attempts to achieve quality teacher education and the use of various e-governance platforms for the public administration sector.

Gavkalova et al. [6] outlined the current state of local budgets and complex tasks assigned to local authorities: scarcity of their own sources of income, almost complete dependence on the state budget, lack of transparency of budgetary relations in providing financial assistance from the center, additional assistance revenues and economic expenditure of budget funds. Chernov et al. [7] propose the model of the formation of self-sufficient territorial communities in the conditions of administrative-financial decentralization. This model provides optimal distribution of powers between local governments and executive bodies at different levels of administrative-territorial structure.

The research of Artyushok et al. [8] revealed that the general basis of institutional support for property relations over natural resources should be corporatization, development of rent relations, improvement of fiscal mechanisms in resource use, market-economic evaluation and capitalization of all-natural resources without exception at the local, regional and national levels. As well as Smolinska et al. [9] substantiated that assertiveness in the organization structure of time perspective is a flexible and constructive strategy and tactic of behavior of degree-seeking students in higher education and it plays a crucial role in public governance and community engagement.

Rahman et al. [10] outline the implementation of cloud computing in the management of higher education institutions. The study by Syani et al. [11] explored how COVID-19 has accelerated the digital transformation of research management in higher education institutions. As COVID-19 has become a global issue, these findings are also helpful for other research management departments, including those outside of higher education institutions, to learn how different forms of digital technology can improve the delivery of research management services. The article by Pinheiro and Santos [12] outlines approaches to the digital transformation of higher education governance that must be implemented at the institutional level. Alves et al. [13] analyse the current state of training offered by public higher education institutions. The training favours the development of technical competence, using methodologies based on theoretical and practical classes, where the teacher teaches the theory in a lecture and the practice is carried out through solving cases and exercises. Ramli and Yahya [14] outline a model of LMS implementation for the organisation of educational and administrative activities of higher education institutions. The article by Kryshchanovych et al. [15] determines that cybersecurity of the public administration system today is the basis of national security, which forms and ensures complete protection of society and the public administration system in cyberspace. The main external threats that affect the cybersecurity of the public administration system are identified, which, accordingly, have a risk potential for higher education institutions, especially in research in engineering and military technologies.

Information plays a fundamental and crucial role in government decision-making. For public policy to be effective, the state must invest in information based on needs and by the principles of economics [16]. However, in the current public policy decision-making process, several problems often arise, especially information problems, which pose serious challenges for public policy information management. Therefore, An and Liu [17] investigate the need and possibility of information management in terms of the peculiarities of public policy formation and changes in the external environment and optimise the public policy information system model. Public administration requires the training of its officials aimed at developing managerial skills. Venturini et al. [18] study the effectiveness of public management techniques in education. It shows how a training project for officials can be developed and managed with remote participation.

Ziguras et al. [19] explore how professional associations representing those working in international education can influence the shaping of national systems and thus change a country's international engagement. They outline a wide range of issues related to international engagement, including student welfare, outward mobility, curriculum, migration, and transnational education.

Higher education institutions also play a role in public administration [20]. They accumulate and shape intellectual capital and contribute to the sustainable development of communities [21]. Trishch et al. [22] emphasise the importance of state regulation of higher education institutions and note the importance of autonomy in making personnel and educational decisions. Higher education institutions are potent drivers of economic development, training highly qualified personnel for communities, implementing partnership programmes, and launching innovative start-ups [23, 24]. Babenko et al. [25] and Oliynik et al. [26] note the impact of online education on the restructuring of educational systems and their interaction with public administration systems. The introduction of digital education and the development of public-private partnerships contribute to integrating higher education institutions into the economy [27], and there is a need to study the integration of communities and higher education institutions.

Methods

The first stage of the study analyses the mechanisms and challenges of interaction between higher education institutions and communities. Based on this analysis, the prospects and strategies of interaction between higher education institutions and public administration bodies of communities are formed. The study is based on the methods of analysis, questionnaires, and evaluation of the questionnaire results to identify the most promising strategies and further statistical evaluation of their implementation. The study was conducted in 2023–2024 based on the Municipal higher education institution “Mykhailo Hrushevsky Bar Humanitarian and Pedagogical College” and the Institute of Higher Education of the National Academy of Sciences of Ukraine.

Based on the criteria for assessing the effectiveness of implementing strategies for the interaction of higher education institutions and communities outlined in the study, a questionnaire was developed, which is presented in Appendix 1. Academic staff, representatives of the management of higher education institutions, and representatives of the public administration of communities were involved in the survey to determine the effectiveness of this interaction. A total of 24 respondents took part in the study.

The evaluation was carried out on a 10-point scale, where 0-3 points indicated the inexpediency of implementing the strategy, 4-6 points outlined the fact that the implementation of this strategy needs to be corrected, and 7-10 points showed the feasibility and effectiveness of the strategy. During the evaluation, the average score for each strategy was calculated, and the most promising strategies implemented to improve the quality of interaction between higher education institutions and communities were identified.

The next stage of the study was comparing the input and output levels of implementation of the most effective strategies for interaction between higher education institutions and communities and its statistical evaluation according to the Spearman criterion by the respondents' survey indicators.

Results

Higher education institutions contribute to developing the public administration system by training highly qualified personnel for state and public administration, developing and implementing research on public policy, developing models of social management and development, and providing expert support to community representatives. Table 1 analyses the mechanisms, challenges, and prospects for interaction between higher education institutions and communities.

Table 1. Analysis of mechanisms and challenges of interaction between higher education institutions and communities

Mechanisms of interaction between educational institutions and communities	
Implementation of educational initiatives	Higher education institutions should develop training courses and programmes for community representatives and civil servants.
Scientific research as an aspect of partnerships	Integration of the initiatives of teachers and students to solve problems in the public administration system.
Implementation of social projects	Higher education institutions serve as a platform for volunteer programmes and social initiatives.
Holding forums and public discussions for strategic planning of community development.	Higher education institutions can act as platforms for discussing public policies.
Involvement of experts from higher education institutions to support community initiatives.	Presentation of initiatives and recommendations for implementing sustainable community development initiatives.
Challenges in the interaction of educational institutions and communities	
The need to overcome bureaucratic obstacles	Difficulties in the context of integrating scientific research into public administration
Difficulties with financing	Insufficient resources for social and research projects
Organic combination of theory and practice	The need to improve the quality and quantity of practice-based learning
Lack of information	Low level of citizen involvement in initiatives of higher education institutions due to low awareness

Source: compiled by the author

Table 2 presents the prospects and strategies for cooperation between higher education institutions and communities.

Table 2. Prospects and strategies for cooperation between higher education institutions and communities

Perspective	Strategy	Designation
Higher education institutions as centres of intellectual capital Accumulation: providing expert data and forecasts for public administration	Development of innovative solutions for community development	C1
	Improving the quality of management decisions by providing expert advice.	C2
	Implementation of digital hromada management	C3
Implement public administration courses in the educational programme and improve personnel training.	Application of the principles of digitalisation and public-private partnership.	C4
	Conducting training and professional development of personnel in the field of public administration.	C5
	Conducting internships in government agencies and introducing the principles of practice-oriented learning.	C6
Implementation of partnership programmes with local communities	Participation in community development programmes.	C7
	Acceptance by higher education students of participation in the work of public self-government bodies.	C8
	Development and formation of clusters and start-up incubators to support businesses and communities.	C9
Promoting science, integrating innovative approaches and educating community representatives to develop regional communities.	Holding open lectures and educational events for community representatives by educational institutions	C10
	Conducting advanced training and courses based on higher education institutions	C11
	Implementation of acceleration programmes for higher education institutions.	C12
Development of technologies and implementation of	Establishing cooperation with the IT sector to automate services.	C13

innovative ecosystems for public administration	Developing and conducting training on the implementation of state digital technologies.	C14
	Use scientific developments in higher education institutions to solve infrastructure and sustainable development problems.	C15

Source: developed by the authors

Higher education institutions have significant potential for developing the public administration system. This includes training highly qualified personnel and participating in community development that improves the population's lives. To do this, creating conditions for productive cooperation between higher education institutions, communities, and businesses is necessary.

In order to assess the effectiveness of the implementation of the strategies of interaction between higher education institutions and communities outlined in Table 2, evaluation criteria and indicators were developed. Table 3 presents the criteria and indicators for assessing the effectiveness of interaction between higher education institutions and communities.

Table 3. Criteria and Indicators for assessing the effectiveness of interaction between higher education institutions and communities

Criterion	Indicator
Management criterion (MC)	Freedom of management decisions of higher education institutions.
	Ensure transparency and provide control mechanisms.
Socio-economic criterion (SE)	The contribution of higher education institutions to the development of entrepreneurship and the creation of qualified personnel.
	Implementation of partnership programmes with higher education institutions and NGOs.
Inclusive criterion (IC)	Empowering vulnerable groups of people.
	Implementation of professional development and retraining programmes.
Scientific and innovation criterion (SI)	Creating research projects and implementing their results in practice.
	Creation and coordination of start-up incubators and research centres.
Public criterion (PC)	Involvement of higher education students and academic staff in community projects.
	Organising social and educational programmes.

Source: developed by the authors

According to the criteria outlined in Table 3, the effectiveness of cooperation strategies between higher education institutions and communities was assessed. Table 4 presents the generalised results of assessing the effectiveness of strategies for cooperation between higher education institutions and communities. The evaluation was carried out according to the questionnaire developed based on the criteria presented in Appendix 1 and designed on a 10-point scale, where 0-3 points is an unsatisfactory indicator, 4-6 points – the strategy needs correction, 7-10 points – the strategy is determined to be effective.

Table 4. The results of the evaluation of the effectiveness of strategies for cooperation between higher education institutions and communities.

Criterion/ Strategy	MC	SE	IC	RI	CC	Average
C1	4	6	7	5	6	5,60
C2	8	9	9	9	8	8,40
C3	5	7	8	5	7	6,40
C4	9	8	9	8	8	8,40
C5	5	5	6	7	7	6,00
C6	6	6	7	4	3	5,20
C7	4	3	5	5	3	4,00
C8	3	5	6	4	4	4,40
C9	8	9	9	9	7	8,40
C10	3	4	4	5	6	4,40
C11	8	8	9	8	8	8,20
C12	5	5	6	5	5	5,20
C13	5	4	4	4	4	4,20
C14	6	4	3	6	6	5,00
C15	7	10	9	9	9	8,80
Average	5,73	6,20	6,57	6,20	6,07	

Source: developed by the author

Notes: MC – managerial criterion, SE – socio-economic criterion, IC – inclusive criterion, RI – research and innovation criterion, CC – community criterion; C1-C15 – strategies of interaction between higher education institutions and communities (Table 2)

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Figure 1 visualises the assessment of the effectiveness of strategies for cooperation between higher education institutions and communities.

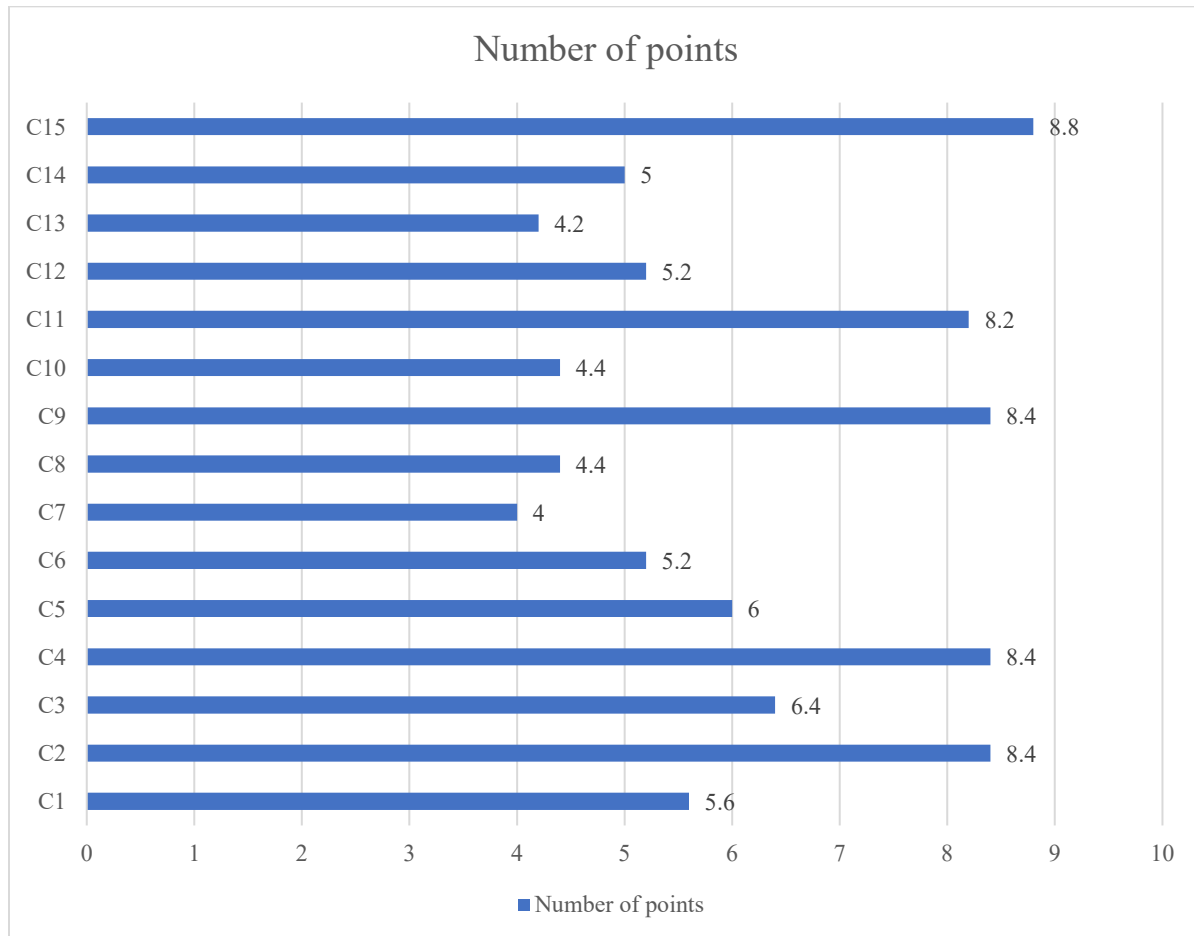


Figure 1. Visualisation of assessing the effectiveness of interaction strategies between higher education institutions and communities

Source: developed by the author

Notes: C1-C15 – strategies of interaction between higher education institutions and communities (Table 2)

Analysing the results of the evaluation of the effectiveness of strategies of interaction between higher education institutions and communities presented in Table 4 and Figure 1, the average score is above 7, which corresponds to strategies with high efficiency:

C2 – improving the quality of management decisions based on expert advice;

C4 – application of the principles of digitalisation and public-private partnership;

C9 – development and formation of clusters and start-up incubators to support businesses and communities;

C11 – conducting advanced training and courses based on higher education institutions;

C15 – use of scientific developments of higher education institutions to solve infrastructure and sustainable development problems.

Based on the higher education institutions that participated in the study, by improving management decisions through expert advice, academic and administrative staff of higher education institutions held several consultations and roundtables with community representatives on strategies for their interaction and improvement of public administration. Higher education institutions provided advanced training for civil servants by taking courses in modern

digital governance and strategic planning. In developing digitalisation strategies and using scientific developments of higher education institutions, a competition was held for student start-up projects to introduce artificial intelligence and analytics, and the best developments were implemented in local administrations. In addition, during the formation of clusters for the interaction of education, business and communities, private companies supported the best start-up projects during practical implementation. To implement these strategies, close cooperation between higher education institutions, businesses and communities was a key success factor.

The last stage of the study was a statistical test of the effectiveness of interaction between higher education institutions and communities before and after implementing their interaction strategies, taking into account the assessment of each of the 24 experts, which is presented in Table 5.

The Spearman's criterion was applied to statistically calculate the effectiveness of interaction between higher education institutions and communities before and after implementing the proposed strategies. The critical values for the sample with $n=24$ are: $\rho \leq 0.05 = 0.41$; $\rho \leq 0.01 = 0.52$.

Table 5. Statistical assessment of the effectiveness of interaction between higher education institutions and communities before and after the implementation of the proposed strategies

No.	The value of A	Rank A	The value of B	Rank B	d (rank A – rank B)	d ²
1	3	2.5	8	5	-2.5	6.25
2	5	11	8	5	6	36
3	3	2.5	10	24	-21.5	462.25
4	5	11	9	16	-5	25
5	8	22.5	9	16	6.5	42.25
6	3	2.5	8	5	-2.5	6.25
7	5	11	9	16	-5	25
8	7	19	9	16	3	9
9	3	2.5	8	5	-2.5	6.25
10	8	22.5	9	16	6.5	42.25
11	4	6.5	8	5	1.5	2.25
12	7	19	9	16	3	9
13	6	15.5	9	16	-0.5	0.25
14	4	6.5	9	16	-9.5	90.25
15	8	22.5	9	16	6.5	42.25
16	5	11	9	16	-5	25
17	6	15.5	9	16	-0.5	0.25
18	4	6.5	9	16	-9.5	90.25
19	6	15.5	8	5	10.5	110.25
20	7	19	9	16	3	9
21	4	6.5	7	1	5.5	30.25
22	6	15.5	9	16	-0.5	0.25
23	8	22.5	9	16	6.5	42.25
24	5	11	8	5	6	36
Sums		300		300	0	1148

Source: developed by the author

Notes: N-expert number, A-value is the expert indicator of the assessment of the effectiveness of interaction between communities and higher education institutions before the implementation of strategies according to the questionnaire scale; B-value is the expert indicator of the assessment of the effectiveness of interaction between communities and higher education institutions after the implementation of strategies according to the questionnaire scale; rank A, B - ranking of the expert assessment of the effectiveness of interaction between communities and higher education institutions according to the questionnaire scale, respectively, before and after the implementation of strategies.

Spearman's rank correlation method allows for determining the closeness and direction of the correlation between two attributes or two attribute profiles. The study tested the effectiveness of interaction between higher education institutions and communities before and after implementing the selected strategies. Based on the calculation of the sum of squares $d^{(2)}$, the rank correlation coefficient r_s was calculated using formula (1).

$$r_s = 1 - 6 \cdot \frac{\sum d^2}{N \cdot (N^2 - 1)} \quad (1)$$

It is determined that $r_s = 0.501$. Therefore, the correlation between A and B is statistically significant; thus, it can be concluded that the effectiveness of applying the outlined strategies for the interaction of higher education institutions and communities.

Discussion

Strategic integration between communities and higher education institutions can be achieved by introducing e-collaboration as a new ICT experience, one of modern management's features. Ahmed et al. [28] proposed a model for applying e-collaboration components to achieve strategic integration between higher education outcomes and labour market needs in the public and private sectors. Based on structural synergies between e-collaboration components, the outlined model was developed using an e-collaboration platform that enables strategic integration through the combination of components, tools and methods provided by this collaboration platform. The study by Faraasyatul'Alam et al. [29] analysed the effective university management relationship of an education management information system based on a university hub. The results showed that effective governance of a higher education institution can significantly impact the education management information system, excellent service, and direct student trust. *Implementing* the digitalisation strategy outlined in this study will allow for strategic integration and harmonisation to achieve compatibility between higher education outcomes and labour market requirements in the public and private sectors.

Creating personalised learning pathways and the ability to identify new entrepreneurial opportunities are among the key competences that make a higher education leader an entrepreneur. The article by Rahim et al. [30] discusses the results of a survey conducted to examine the self-assessment of entrepreneurial leadership competence among higher education leaders. The results show that elements of entrepreneurial leadership were practised and manifested at different job levels in a public university. *This study* confirms that academic career experience and contact with private corporate culture and the public provide managers with practice-oriented experience. At the same time, community representatives acquire professional knowledge and improve their skills at higher education institutions.

Salim et al. [31] examine the effectiveness of educational governance development on campuses, focusing on planning and management processes. Improving educational governance is crucial to improving the quality of education on campuses. Comprehensive research and surveys assessed internal capabilities and external service quality. The results indicate that educational management functions are practical, but their implementation remains insufficient. Improvements in service capabilities are needed to achieve the goals of the initiative. In addition, the study considers integrating advanced educational technologies into engineering education in line with the innovation orientation, which opens the way for improving learning outcomes at universities. *The authors' opinion* also correlates with the above studies; in particular, it is noted that scientific clusters created based on higher education institutions significantly contribute to the development of public-private partnerships and act as a stimulus for innovation.

The study by Hergüner [32] aimed to explore the perceptions of bachelor's and master's students of public administration about online education. It is concluded that self-actualisation is necessary to unlock higher education students' real potential and creative abilities. The socialising role of university campuses and full-time education on the way to self-realisation is noted. The article by Vilorio-Núñez et al. [33] focuses on analysing the results of the ICT component in comparison with similar regions in terms of economic development. The study identifies key strengths and areas for improvement in ICT adoption. In addition, the document proposes targeted public policy strategies to improve these indicators, thus contributing to economic growth and regional competitiveness. *The authors of this study* also note that using scientific potential, adoption of management experience, and digitalisation skills can positively affect the quality of public administration in communities, and higher education institutions can provide analytical data and forecast social and economic processes.

The study by Terence et al. [34] outlined the use of mobile technologies in administering a higher education institution. The authors propose a model of mobile administration that combines the main elements of mobile technologies, applications or systems, administrative responsibilities of teachers, users of the mobile administration platform, administration theory and micro-administration. As mobile technologies evolve and their use increases, the demand

for and the problem of cloud computing must also be addressed. Cloud computing provides on-demand services such as storage and computing power over the Internet. The study concluded that the administration of higher education institutions should be mixed with mobile micro-administration processes. Service delivery in public services is increasingly attracting attention for innovative solutions, and its application promises excellent potential to improve the level of these services. Building on the current debate on the value of service design for healthcare and public administration, Lu et al. [35] present a systematic review to provide better innovation in public services, especially in the context of identifying human needs and providing solutions to apply technological digital advances in artificial intelligence (AI), big data, and cloud computing. Higher education institutions are a powerful source of development and implementation of modern technologies, and *the authors of the current study* note the importance of applying the principles of digitalisation and public-private partnership. The integration of education, science, society and business is a key factor in the sustainable development of the public administration system of communities.

Conclusion

Modern higher education institutions take an active part in the public administration of communities and significantly impact the development of human capital and the formation of state and public policy. In addition, they serve as expert platforms that provide forecasts, analyses and recommendations for developing communities and local communities. The article analyses the mechanisms and challenges of interaction between higher education institutions and communities. It also outlines the prospects and strategies for interaction between these entities. Based on the criteria and their indicators, the questionnaire collected information to assess the effectiveness of strategies for interaction between higher education institutions and communities.

It is determined that the strategies for improving the quality of management decisions based on the provision of expert advice, application of the principles of digitalisation and public-private partnership, development and formation of clusters and start-up incubators to support businesses and communities, conducting advanced training and courses at higher education institutions and using scientific developments of higher education institutions to solve infrastructure and sustainable development problems are recognised as the most effective. Practical implementation of the strategies identified as the most effective has been developed. The final stage of the study was a statistical assessment of the effectiveness of implementing strategies for interaction between higher education institutions and communities. This assessment showed that implementing the identified strategies is effective and contributes to the development of communities. Higher education institutions can be platforms for interaction between science, education, business and civil society. Higher education institutions form active civil society and train highly qualified personnel for public administration, thus contributing to the development of the economy, society and the state.

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Appendix 1

Survey to determine the effectiveness of interaction between higher education institutions and communities

Assess the effectiveness of the interaction processes between higher education institutions and communities. Each question is scored from 0 to 10 points. Notes: 0 is the lowest score, 10 is the highest score.

Criterion 1. Effectiveness of governance and institutional

Evaluate the level of freedom in decision-making by higher education institutions in the context of community policy integration.

0	1	2	3	4	5	6	7	8	9	10
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Assess the effectiveness of governance structures, control mechanisms and transparency.

0	1	2	3	4	5	6	7	8	9	10
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Criterion 2. Contribution to the social and economic development of communities

Assess the contribution level of higher education institutions to community economic development, entrepreneurial support and training.

0	1	2	3	4	5	6	7	8	9	10
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Assess the level of integration of partnership programmes with communities, businesses and governments.

0	1	2	3	4	5	6	7	8	9	10
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Criterion 3. Assessment of the level of inclusiveness and accessibility of education

Evaluate the improvement of social adaptation and opportunities for different social groups, including socially vulnerable groups.

0	1	2	3	4	5	6	7	8	9	10
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Assess the level of development of digital education and the implementation of professional development programmes.

0	1	2	3	4	5	6	7	8	9	10
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Criterion 4. Innovation and research activities

Evaluate the frequency of participation of representatives of higher education institutions in practice-oriented research and development and research projects.

0	1	2	3	4	5	6	7	8	9	10
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Assess the level of innovation infrastructure of higher education institutions.

0	1	2	3	4	5	6	7	8	9	10
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Criterion 5. Community engagement and social activity

Assess the frequency of educational, social and volunteer initiatives.

0	1	2	3	4	5	6	7	8	9	10
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Assess the level of involvement of higher education students and teachers in community development.

0	1	2	3	4	5	6	7	8	9	10
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