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State Regulation of Digital Technologies for Sustainable Development and Territorial Planning

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ABSTRACT

In the current context, the Eurasian Economic Union (EAEU) faces the challenge of ensuring sustainable development and effective state regulation. One key issue is to foster coordination and cooperation among different regions and EAEU member states in the development of digital technologies. This study aims to propose directions for state regulation of digital technologies and their integration into a comprehensive mechanism for sustainable development and planning, within the concept of smart territories. We introduce the concept of smart territories as an outcome of sustainable development and planning, enabled by the adoption of digital technologies. Based on an expert survey, we identify key parameters for sustainable development and planning in smart territories, including stakeholder interests, modern challenges for territorial communities, and success factors. We conclude that the integration of digital technologies into smart territories can provide new standards for quality of life and economic development, while preserving the natural resources of these territories. Based on a balanced use of resources, our study highlights the need for a comprehensive strategy for the sustainable development of smart territories, addressing economic, social, and environmental issues.

1. INTRODUCTION

As the world becomes more digitalized, regions and countries become increasingly aware of the need to develop and apply digital technologies to achieve sustainable development [1, 2]. Being a regional trading bloc, the Eurasian Economic Union (EAEU) is no exception [3].

One of the main problems faced by the EAEU in the field of digital technologies is the need to ensure the availability of these technologies for all citizens and enterprises in the region [4]. Although some EAEU countries have a high level of digital infrastructure, others have less favorable conditions. This can result in uneven development and even the exclusion of certain regions from digitalization processes [5].

Another problem that needs to be addressed is digital security [6, 7]. Regions and countries should take measures to protect their citizens and businesses from cyber attacks and other threats associated with the use of digital technologies [8]. It is also important to observe the principles of confidentiality and protect personal data [9].

In addition, the EAEU countries should overcome the lack of highly qualified personnel in the field of digital technologies [10, 11]. This can be achieved through the development and implementation of educational programs [12], assistance in professional retraining [13], and the involvement of talented specialists from other regions and countries [14].

Based on the above-mentioned problems, an integral element of this process is the development and implementation of a comprehensive mechanism forming the state policy for the sustainable development of territories, including the use of digital technologies.

The spread of digital technologies that are being introduced into the daily life of countries and regions is an objective process that can occur (and often occurs) without any incentives and regulations [15]. However, the spontaneous introduction of digital infrastructure leads to excessive spending and the loss of potential benefits due to the lack of comprehensive information about opportunities and inconsistencies in the use of such infrastructure [16, 17]. While solving local problems of end users, such digital technologies do not ensure the sustainable development of their territories

[18].

The introduction and state regulation of appropriate institutional instruments that form consistent practices for the use of digital technologies [19] are obligatory stages in the development of digital technologies. At this stage, they are integrated as the basis for the further sustainable development of territories [20].

Thus, this article and its problem statement are relevant since the study analyzes the possibility of sustainable development and territory planning based on the state regulation of digital technologies.

The novelty of this article lies in the description of the concept of smart territories as a methodological mechanism for sustainable development and territory planning. The EAEU practice of managing territories based on the principles of sustainable development shows that it is difficult for local authorities to make informed decisions without appropriate methodological tools.

The article considers the introduction and state regulation of digital technologies as a factor in the integrated mechanism for sustainable development and territory planning within the concept of smart territories.

In this article, we tried to answer the following questions: (1) Is it possible to consolidate the interests of the main stakeholders and what are the current challenges for territorial communities in the sustainable development of smart territories? (2) What are the key success factors in becoming a smart territory?

To answer these questions, the study uses a qualitative approach based on the results of expert surveys and the subsequent ranking of their generalized results.

The conclusions drawn reveal the potential of applying the concept of smart territories as a result of sustainable development and territory planning. These data complement the existing studies on this issue.

This article has the following structure: the next section reviews the literature on the formation and implementation of a comprehensive mechanism for the sustainable development of territories, as well as the concept of smart territories as one of the areas of sustainable development and territory planning. The following section presents and discusses research methods and results. The final section draws theoretical and practical conclusions and reveals study limitations.

2. THEORETICAL FRAMEWORK

2.1 Forming and implementing a comprehensive mechanism for the sustainable development of territories

According to the research results, to form conditions necessary for the sustainable development of territories, first of all, it is necessary to implement the following components:

1) Economic components aimed at the efficient use of all types of resources focused on reducing or eliminating pressure on natural ecosystems [21];

2) Environmental components restore the natural environment to a level that does not harm human health and natural ecosystems, maintain this level, and improve it as much as possible [22];

3) Social components increase the well-being and quality of human life because the person acts as the cause of all changes in society [23].

It is recommended to consider the environmental components of the sustainable development of territories through their impact on the social sphere since environmental problems turn into social problems [24]. In searching for the optimal balance between the economic and social spheres, it is advisable to use the principle that no economic benefits can be considered expedient if the morbidity, disability, and mortality rates of the population increase and its physical and mental health worsens [25].

Scholars believe that the effectiveness of such a complex mechanism as the sustainable development of territories is ensured by legal, organizational [26], financial, economic, innovative [27], social, environmental, and informational [28] areas of development.

A legal mechanism for ensuring the sustainable development of a territory is formed if the necessary legal framework is created that regulates the mutual representation of interests and the delimitation of powers among central administration, local authorities, and local self-government bodies, which would prevent discrimination against citizens in various spheres of public life [29].

The economic and innovative mechanism provides for the use of such a set of measures that would most effectively overcome problems and push the development of territories in the direction of innovation and investment [30], high-tech [31], resource-saving, and environmental-friendly production [32]. A mechanism for regulating the development of innovations should be based on a systemic program approach [33]. This allows one to consider the market requirements, analyze the specifics of the development and functioning of certain territories, ensure the targeted mobilization of available resources, and develop effective measures to regulate and support their innovative development [34].

A problematic component of the innovative potential of a territory is its financial and credit system. It should cover all money sources flowing into the innovation sphere, the mechanism for accumulating cash flows, evaluating the effectiveness of investments in innovation, and monitoring the use of investment resources [35]. It is also necessary to determine the priorities for developing industrial and agricultural complexes as they should become the basis for the development of the territorial economy. Preferences should be given to those operating enterprises that focus on the production of science-intensive and environmental-friendly products and use modern technologies, primarily resource-saving [36]. The economic and innovative mechanism should aim at rational nature management, reducing the burden on the ecosystem and attracting budgetary and extrabudgetary funds for the implementation of state and territorial programs in conformity with sustainable development ideas [37].

The organizational mechanism for the sustainable development of territories should be introduced in such a way that the territorial authorities are interested in the effective operation of all enterprises in the territory, regardless of their form of ownership. The latter have a tangible return on complex development [38].

The organizational support for implementing the strategy includes a new strategic development management system and a target organizational structure, i.e., an inter-departmental body for implementing the strategy designed to consolidate the efforts of various levels of government, the private and the public sectors, as well as control over the implementation of the strategy by the above-mentioned parties [39]. Therefore, the key issue is to combine the centralization and decentralization of state power and ensure the delimitation of

powers between the central administration and local self-government bodies, which is an important condition for the effective implementation of public authority [40]. A vital aspect of the financial mechanism is the improvement of financial and budgetary relations between the center and the territories and the development of criteria and mechanisms for providing state support [41]. Thus, the priority is the formation of financial sources based on public-private partnerships. State financial support for territorial development is regarded as simultaneous financing from the state and local budgets. In this case, the share of local budgets is determined with due regard to the socio-economic development of a particular territory [42].

The social mechanism should create conditions for improving the level and quality of life of the population through the introduction of social standards, forming an optimal social infrastructure, and directing investments in their further development and improvement of services [43]. The indicators of social development are the real level of consumption of social benefits, birth and death rates, physical and spiritual health of the population, and life expectancy [44].

The main functions of this mechanism in the formation of economic growth rates are as follows [45]: improving the quality of solving acute social problems (including issues of the labor market, vertical social mobility of the population, social adaptation of young people, etc.); developing the social services market and knowledge networks, including the diversification and optimization of access to it; increasing the contribution of education and science to the modernization of the economy by creating a system of continuous education, updating the content and optimizing the structure of vocational education, and meeting the economic demand in qualified specialists and workers [46]; conducting applied scientific research on elements and integral territorial systems of innovative management (territorial clusters).

The dominant environmental vector of the sustainable development of territories is to maintain the ecosphere at a level sufficient to meet the needs of humankind. Therefore, the environmental mechanism preserves natural balance [47]. Effective levers of the environmental mechanism include environmental insurance as compensation for the losses caused by the violation of the civil right to a safe environment, life, and health; environmental education; promoting the development and implementation of eco-innovations [48]; improving the investment climate by reducing environmental risks; improving the environmental infrastructure of the manufacturing sector; stimulation of the system of environmental-friendly entrepreneurship; organizing interaction between state structures and environmental research institutions to implement priority environmental and economic projects and initiatives; greening the processes of consumption and provision of services; ecological certification of territories [49].

The role of the information mechanism in ensuring the sustainable development of territories consists in the formation and use of specialized computer programs for the effective internal management of a territory, the further development of information technologies and systems for providing data on various aspects of its functioning, the comprehensive informatization of the population, and the automation of economic management systems. Social monitoring is an important factor in strengthening the information and analytical support for the sustainable development of a territory [50].

2.2 Smart territories as a result of sustainable development and territory planning

One of the manifestations of awareness and understanding of sustainable development and territory planning is the concept of smart territories [51]. The conceptual model of sustainable development of smart territories refers to their inclusive development that meets the needs of the current generation without compromising the future based on the intelligent management of integrated innovative technologies with the active participation of citizens [52].

The concept of smart territories aims at adjusting the ways of planning, financing, developing, and managing territories and settlements, recognizing territorial development as an important factor for achieving sustainable development in general [53].

The analysis of the corresponding scientific literature [54, 55] allows us to single out six main areas in which the components of smart territories are implemented:

1) Mobility of the population (road infrastructure, means of transport);

2) Economy (innovative business models, support for local initiatives, the creative sector, providing citizens with opportunities for personal growth);

3) Environment (the sustainable use of natural resources, efficient consumption of electricity and water, waste management, air quality, and green space);

4) Human potential (special education opportunities, social awareness, possible collaboration);

5) Living conditions (security, health, cultural opportunities, housing, leisure activities, access to general education);

6) Governance (transparency, accessibility of public services, social participation).

A holistic approach is proposed to achieve the sustainability of territorial communities. In the long term, it is considered a special branch of spatial modeling of an integrated system, in which a special role is assigned to integrated territorial planning and the design of networks and information systems to optimize the spatial dimension and achieve positive results [56]. The use of network and information systems in the process of planning and managing smart territories ensures the formation of smart networks based on the interaction of entities that use the flows of energy, materials, services, and financial resources for economic development and achieving a better quality of life.

The studies show that the management of smart networks is ensured in the following areas [57]:

–Sustainable territorial mobility based on the rationalization and efficient logistics of public transport;

–The sustainable development of territorial communities in an environment focused on strengthening the resilience of territorial communities to key risks to their viability;

–The integrated infrastructure and interconnection of infrastructure assets to improve the efficiency and sustainability of smart territories.

The introduction of digital technologies and innovative solutions in digital infrastructures at a new intellectual level unifies the ecosystem of smart territories. All this sets certain requirements for the digital infrastructure that unites heterogeneous flows of goods, services, materials, and energy [58].

The development and implementation of interconnected network and information systems require the implementation of consistent mechanisms for connecting to the intelligent

infrastructure, forming new network connections and adjusting network segmentation based on interoperability and open standards. As a result of such interaction, smart territories combine a common information model and smart networks at a special level (security systems, transport logistics, energy networks, water supply, waste management, and provision of administrative, medical, and educational services) [59]. The algorithms for managing networks and information systems developed on this basis are required for decision-making. The use of big data and their assessment using modern planning tools contribute to better infrastructure modeling and systemic identification of priority areas for the further development of digital networks [60].

The ecosystem integrity typical of smart territories is reflected in their definitions. Under one of these definitions, it is a multi-level territorial system of innovations that combines knowledge-intensive activities, institutions for cooperation in learning and innovation, and a digital environment of communication and interaction to help a certain territory solve its problems [61].

Modern smart territories acquire their specific properties as a result of the transition from cybernetic to synergetic approaches concerning managerial information in territorial administration. The cybernetic approaches widely used in the second half of the 20th century were built over a centralized control system separated from the control object and the linear processes being controlled, which allows their programming [62]. On the contrary, synergy relies on the self-organization and self-management of systems capable of functioning, including in the context of information deficiency. Synergy also suggests management variability due to non-linear processes [63].

The introduction of digital solutions into the system of territorial administration is a trigger. In the process, the positive results that have been acquired by local users become a common good for society [64].

Thus, technological achievements in the field of digital technologies (even with financial resources that allow their full implementation) are necessary but not sufficient conditions for the formation of smart territories [65]. The institutional toolkit is equally important. Based on the available digital capabilities, it can adjust both management practices and the daily behavior of territorial communities by introducing digital technologies. This relates to the strategic objectives of institutional modernization [66]:

–The reorientation of territorial communities to obtain a lasting effect from smart networks instead of focusing on quick non-systemic results from small improvements;

–Strengthening the ability of territorial communities to make decisions that contribute to the integration of smart networks and their impact on the management and organization of a territorial community;

–The introduction of smart networks into the activities of territorial communities (network literacy).

Caused by the spontaneous spread of digital technologies and the growing effectiveness of territorial communities, the diversification of efficient subjects that affect the essential characteristics of society as a social system (solution providers) complicates the structure of network connections among people, processes, data, objects, their interactions, and the formation of new alliances/clusters within the system and its new subsectors [67]. Subsequently, there is a need to introduce new technologies for managing smart territories and new regulations for their functioning.

Many scholars emphasize that the growth of social activity conditions a public demand for institutions of public control and public influence on the spatial and regional strategy of smart territories. The effective functioning of such institutions that ensure the inclusive development of territorial communities, their cohesion and synergy is an important component of their success. Therefore, it is significant to achieve the integrity of the process, when social activism transforms into real opportunities to involve the community in making changes [68]. Proficiency is essential to turn the capacity of territorial communities into a driver rather than an obstacle to development. Thus, one needs to train and inform active members of communities. The involvement of territorial communities in planning the sustainable development of their territories, revealing challenges, identifying areas of change, and proposing possible solutions is regarded as one of the main methodological goals for implementing the concept of smart territories [69].

According to scholars, there is a need for appropriate institutional innovations that regulate the behavior of people and communities, coordinate decisions at various levels and create institutional prerequisites for additional business capitalization [70]. Due to this interaction, a new social capital is formed. If the principles of smart territories are implemented, this leads to a qualitative renewal of the territorial community. As a result, it transforms a socially amorphous group united only by the place of residence into an integral community, whose relations are based on transparency and mutual trust [71].

3. METHODS

3.1 Research approach

According to the above-mentioned approaches to the introduction and state regulation of digital technologies within the concept of smart territories, we selected a qualitative and quantitative approach to research for the study of complex phenomena with due regard to the heterogeneity and uncertainty of the initial information.

To develop an effective integrated mechanism for sustainable development and territory planning based on the introduction and state regulation of digital technologies, a qualitative case study was considered the most appropriate research strategy. As a result, the data obtained are more informative and extensive in comparison with a quantitative study since they provide more details. This facilitates the collection of information and feedback from experts on consolidating the interests of the main stakeholders in the implementation of sustainable development of smart territories; modern challenges for territorial communities, whose solution should be provided by the concept of smart territories; key success factors in the development of a smart territory.

3.2 Empirical context

The EAEU countries are at the beginning of a long journey to implement the foundations of smart territories. This lag is conditioned by the fact that there are few opportunities for territorial communities to influence the significant indicators of their lives. With the increase in financial viability and the expansion of decisions made by local self-government bodies,

the potential interest in tools that optimize the costs of territorial communities and improve the interaction of their members in solving urgent life problems is also growing. Open access to the global market of smart solutions allows communities to implement systems related to the accumulation and processing of data to improve the management of certain areas of their lives, including public transport and traffic management systems, informatization of medical, educational, administrative, and other services, etc.

Following the study objective, we selected scientific sources from the Russian Science Citation Index, Web of Science, and Scopus international databases using such keywords as "state regulation", "digital technologies", "sustainable development", "smart territory", and "territorial development", published no more than 10 years ago.

3.3 Data collection

We collected the data between October 10, 2022 and February 10, 2023 by analyzing the scientific literature on the research problem. Then we selected experts from the Peoples' Friendship University of Russia (RUDN University), Chechen State University, Moscow Aviation Institute, Kaluga State University named after K.E. Tsiolkovsky, and Russian Biotechnological University to conduct a survey via e-mail, process and analyze the survey results.

We sent e-mails to 62 experts from Kazakhstan and Russia and asked them to take part in our survey. The criterion for the expert sampling was the fact they published at least three articles on the research problem in peer-reviewed journals. Fifty-four experts agreed to participate in the survey and were sent e-mails with questions connected with the relevant scientific literature. They were asked to substantiate their answers in a free form. All the survey participants were informed about the survey objective and our intent to publish its results in a generalized form.

After receiving the expert answers, we sent them a second e-mail and proposed to arrange the parameters obtained during the study in increasing order and assign points depending on the level of their significance (interests of stakeholders in the implementation of sustainable development within the concept of smart territories, modern challenges for territorial communities within the concept of smart territories, success factors in the formation of smart territories). After that, the ranking of each parameter was determined, according to the points assigned by the experts.

3.4 Data analysis

For a more objective analysis of the data obtained during the expert survey, we measured the agreement between expert opinions and mathematical processing of the results using the Kendall concordance coefficient (W): $W=12S/n2(m3-m)$, where S is the sum of the squared deviations of the rankings of each territorial indicator from the average value; n is the number of experts; m is the number of estimated territorial indicators.

Further, the information obtained during the expert survey was processed to determine the impacts of the obtained parameters, form the rank of a matrix transformation, and calculate the arithmetic mean of impacts for each parameter. The final values of such impacts determine the significance of a particular parameter from the viewpoint of the experts.

While analyzing the data obtained, we used the triangulation method for ensuring the validity and reliability of the results of an empirical study. We triangulated scholars when several scholars processing information participate in the same project. After that, a discussion was held on each topic, and we compiled reports containing the information agreed upon with all the participants of the survey. The triangulation process improved the reliability of the expert survey data and improved the quality of the information obtained. All the study results were recorded in the research report.

4. RESULTS

Based on the field research (expert survey), we obtained data on the consolidation of the interests of the main stakeholders in the implementation of the sustainable development of smart territories (Table 1).

Based on the results of the expert survey, we revealed modern challenges for territorial communities. Their solutions should be provided by the concept of smart territories (Table 2).

The key success factors in the development of a smart territory determined by experts based on the survey results are presented in Table 3.

Table 1. The consolidation of the interests of the main stakeholders in the implementation of the sustainable development of smart territories

No.	Stakeholders	Their interests	Ranking	Impact
1	Territorial communities that want to ensure a higher quality of life for their members	Sustainable development (as a responsibility to future generations) as the basis of local identity	1	0.32
		Establishing interaction between territorial communities and regions	2	0.23
		More efficient use of limited resources of territorial communities (primarily budgetary resources)	3	0.17
		Effective use of local potential	4	0.12
		Creating conditions for employing the territorial community	5	0.07
		Greater citizen involvement in management	6	0.05
		Strengthening one's ability for effective self-management, including strategizing	7	0.04
2	Local business that seeks to strengthen its competitive advantage	Conditions for more efficient commercial use of available resources	1	0.39
		Forming and developing new markets for goods and services, as well as establishing the corresponding demand within the territorial community	2	0.26
		Increasing the capitalization of business-owned and local resources by improving conditions for their implementation	3	0.21

3	State represented by central and local public authorities	Expanding opportunities to go beyond the territorial community	4	0.14
		Improving the information support of national policies (in particular sectoral ones) due to the spread of digital technologies	1	0.47
		Effective implementation of centralized management impacts (due to unification, increased response speed, ensuring targeted impacts)	2	0.35
		High-quality implementation of the subsidiary foundations due to the transfer of powers to the local level and the freeing of the center from making decisions	3	0.18

Note: compiled based on the expert survey; the concordance coefficient W=0.77 ($p<0.01$), which indicates a strong consistency of expert opinions.

Table 2. Modern challenges for territorial communities within the concept of smart territories

No.	Challenges for territorial communities	Ranking	Impact
1	Need to achieve the sustainability of territorial systems in the context of probable and obvious risks (natural, economic, social, and epidemic (based on the events of 2020))	1	0.35
2	Need to reduce and/or compensate for any kind of inequality	2	0.23
3	Growth in the number of providers of management decisions in various areas (the impact of individual decisions on the system as a whole and the risk of its disorganization)	3	0.18
4	Growing responsibility of society for local solutions	4	0.12
5	Strengthening the ability of society to identify current problems and the network effect of transparency and public access to information (including the risks of information manipulation, inflating local problems, etc.)	5	0.07
6	Strengthening the focus and ability of the territorial community to the management process (activism often exceeds competence)	6	0.05

Note: compiled based on the expert survey; the concordance coefficient W=0.71 ($p<0.01$), which indicates a strong consistency of expert opinions.

Table 3. Success factors in the development of a smart territory

No.	Success factors in the development of a smart territory	Ranking	Impact
1	Deployment of the network communications infrastructure	1	0.33
2	Effective education and training of employees on the use of information technologies	2	0.23
3	Policies and programs to support digital democracy by bridging the digital divide between different groups of society and achieving their digital inclusion	3	0.20
4	Creating an environment conducive to innovation and attracting creative people and businesses	4	0.15
5	Marketing of smart territories as profitable places to live, work and do business, which allows attracting (retaining) employees and investments	5	0.09

Note: compiled based on the expert survey; the concordance coefficient W=0.73 ($p<0.01$), which indicates a strong consistency of expert opinions.

5. DISCUSSION

While introducing digital components, territorial communities have to adjust their communication infrastructure. In the EAEU countries, the use of the Internet, e-commerce, and digital services remains at a relatively low level.

It seems that the EAEU countries are not ready to ensure the best possible ways to implement the concept of smart territories. Academic studies mainly focus on regional issues, while the economics of territorial development, the inclusiveness of territorial communities, local identity, etc. are subject to superficial analysis and are disclosed within the framework of various kinds of analytics. As a result, the recommendations are non-systemic and ineffective, and there is no proper basis for training specialists in organizing the activities of territorial communities by the higher education system.

In our opinion, the lack of effective intersectional connections that ensure the integration of digital elements into the managerial decision-making system is a common drawback of smart territories being formed in the EAEU countries. Positive synergy through intersectoral interaction is crucial when development resources are seriously limited, which is typical of most territorial communities [65]. There is a potentially powerful, albeit not always conscious demand from communities for integral solutions created through the introduction of the concept of smart territories [68]. Therefore, an important task is to form a qualified demand for digital solutions among territorial communities. The policy to implement this concept should be complemented by other policies to improve strategizing at the level of communities and territories and strengthen the institutional capacity of territorial communities based on the effective activities of local self-government bodies, as well as authorized institutions for the development and self-organization of various social groups.

Let us discuss the prospects for creating an institutional framework for the development of smart territories in the EAEU countries.

The importance of implementing the concept of smart territories to ensure proper living standards and improve the economy of territorial communities proven by world practice necessitates a targeted policy to promote their spread in the EAEU countries. Now smart territory is an important factor in strengthening the competitiveness of society fighting for the main resource, i.e., human capital [64].

The formation of modern smart territorial communities should guarantee a consistent evolution from the fragmented use of digital technologies [71] (already widespread in the EAEU countries) to the synergistic interaction of such technologies due to their integration into everyday life and the achievement of a new identity based on the mechanisms of social involvement.

To attain this end, the policy should be implemented in two directions. Firstly, it is used to overcome technological (digital) gaps and introduce digital technical means. Secondly, it aims at implementing institutional changes for the integrated use of

the data obtained and the further social involvement based on this process. Since technological progress is largely influenced by global factors, the task of technological evolution is much easier to achieve. Institutional modernization is a much bigger challenge, but also more important.

Now there is a critical mass of stakeholders interested in capitalizing on the data arrays they possess through their use in management processes. First of all, these are mobile operators, Internet service providers, and logistics integrators. Providers of software solutions and equipment manufacturers should also implement the functions of the territorial community on a digital basis (means of control and accounting, monitoring, small mechanisms, and elements of the communication infrastructure). Their interest in the dissemination of digital technologies is reflected in their active participation in the organization of various public and professional events to promote smart territorial communities, Internet portals, etc. These stakeholders are de facto powerful allies of both the state and territorial communities in the implementation of sustainable development policies based on digital technologies.

Another necessary condition is the expansion of the functions of territorial communities at the sectoral level: education, health, social protection, energy engineering, transport, security, and law enforcement. Together with the introduction of digital tools in the relevant areas, this allows one to reduce the risks of changing sectoral management systems through the introduction of more efficient management technologies and simplify the process of territorial management [66].

The concept of sustainable development should be integrated into strategic documents at the national, sectoral, and regional levels. An integral document that defines the principles of sustainable development of the whole country and territorial communities should be the Strategy for the Development of the Digital Economy and Society. In the field of smart territories, the Strategy should determine regulatory and legal support for the development of digital infrastructure of network systems, the formation of open data arrays that can form the basis of smart networks, and the principles and directions of partnership among the state, business, and territorial communities.

Scientific and educational support is significant for the sustainable development of territorial communities [46]. The state can contribute to the process by focusing on fundamental and applied research, ordering scientific research in relevant areas, implementing curricula, and training specialists with the competencies necessary to ensure the functioning of smart territories.

Strategic approaches to the introduction of smart territories should mitigate the local negative consequences of spatial optimization, i.e., for ousting certain service providers from the market (for example, private small carriers in the case of optimizing the urban public transport system) or for reducing employment through the use of artificial intelligence technologies. This should prevent the resistance of the parties involved to the introduction of smart territories. These might have a fairly high lobbying potential within the territorial communities [72].

The institutional support for the concept of smart territories will require to expand the functions of regional development agencies in relation to information and communication networks, which can become the basis for the subsequent capitalization of data arrays and attract investment in their formation and processing. Local development agencies operating at the level of territorial communities (or their associations) play the role of drivers forming smart territories. The creation of such agencies still needs to be properly regulated by laws and supported by appropriate methodological means. Local development agencies can be institutions ensuring the interaction of municipalities as customers and providers of digital services, as well as overseers of pilot digital projects in territorial communities.

Based on the functioning of regional and local development agencies, there should be a proper positioning of projects for the implementation of smart territories. On the one hand, the incorporation of local projects into the achievement of global goals (environmental protection, macro-regional cooperation, sustainable development) allows attracting funds from national programs for their implementation. On the other hand, it is necessary to transform sustainable development projects into a form attractive for private business: the formulation and justification of commercial projects and the implementation of projects that have a direct economic effect (waste processing, transport services, etc.) and can become the basis for partnerships between business entities and territorial communities.

6. CONCLUSIONS

This article answers the following questions: (1). Is it possible to consolidate the interests of the main stakeholders and what are the current challenges for territorial communities in the sustainable development of smart territories? (2). What are the key success factors in becoming a smart territory?

Previous studies show that the introduction of a comprehensive mechanism for forming and implementing the policy of sustainable development is to ensure the balanced development of all economic spheres of some territory based on the balanced use of resources to solve economic, social, and environmental problems. Particular attention should be paid to studying the role of digital technologies and improving management and the quality of life of the population through their use.

The introduction of digital technologies into the concept of smart territories provides new standards for the quality of life of the population and economic development while preserving the natural reserves of such territories. The study results demonstrate that the management framework for creating smart territories and a suitable environment for achieving sustainable development need improvements. This involves the creation of a comprehensive strategy for sustainable development within the concept of smart territories with a systemic state and territorial approach.

Despite theoretical and practical contributions, this study is partially limited by its expert sampling and does not allow generalizations. Therefore, we are aware of the need for further research on this topic. The general results of several studies, including by countries outside the EAEU, will create a more generalized picture of state regulation of digital technologies and their introduction as a factor in an integrated mechanism for sustainable development and planning of territories.

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