THE EXPRESSION OF THE POTENTIAL OF LITHUANIAN MUNICIPALITIES IN THE FIELD OF SMART PUBLIC GOVERNANCE AND SMART SOCIETY

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Annotation

The article analyses the fields of smart public governance and smart community in the Lithuanian municipal system. Based on the authors' works, that investigated the concept of a smart social system and such smart systems as smart public governance and smart community, the appropriate models of these systems were developed for Lithuanian local self-governance. It was found that in the case of municipalities, in the field of smart public governance, strategic dynamism, inter-sectoral cooperation/networking, and empowered citizenship are treated similarly, and the dimension of inter-institutional cooperation is slightly weaker compared to the other mentioned dimensions. In the case of the smart community, digitalisation, knowledge-driven, learning, and sustainability dimensions stand out, while the dimensions of networking, innovation, and agile response are rated slightly lower, while intelligence and social responsibility are rated the lowest of all the dimensions assessed. Such insights have been based on expert interviews.

Key words: smart social system, smart municipality, smart public governance, smart community.

Introduction

The conceptual model of the smart region proposed by Sinkienė and Grumadaitė (2014) distinguishes three areas: public governance, community and economy. The author of this article states that a municipality is a precisely-defined territory that performs the political and administrative functions of the state sub-national government level, therefore the concept of a smart region is considered appropriate to analyse the concept of a smart municipality as a territorial unit. Hereby, the objective of the work is to justify the trajectory of change in the expression of municipal potential in the creation of a smart social system. Therefore, this article focuses on two areas identified in Sinkienė and Grumadaitė's smart region model – smart public governance and smart community (2014) as well as their expression, at the level of municipalities as a smart social system.

To achieve this goal, the author introduces the model of smart public governance, its dimensions and analytical approach at the beginning of the study. Subsequent analysis of the model of smart public governance shows how it can be applied to local self-governance, what quantitative and qualitative characteristics can be used for the analysis of this social system.

In the case of a smart community, the author could not find a suitable model already developed, similar to the one used in the case of smart public governance, so he returned to the characteristics of a smart social system proposed by Jucevičius (2014). Based on the works of Jucevičius and other authors, a system of quantitative and qualitative characteristics of a smart community has been created.

An empirical study was conducted using the quantitative and qualitative characteristics of the systems of smart public governance and smart community. The article presents its results revealing the expression of the dimensions of the mentioned areas at the local level.

Smart public governance in the case of local self-governance

Šiugždinienė, Gaulė and Rauleckas (2019) in their article *In search of smart public governance: the case of Lithuania* state that governments must react proactively to new economic and social challenges and complex public policy problems and seek new solutions to such problems. This type of thinking is described by the authors as smart thinking. In order to understand how to describe smart public governance, the model of a smart public governance system with 4 dimensions and 9 characteristics developed by Stanislovaitienė, Gaule and Šiugždinienė (2017) could be taken into consideration (Fig. 1).

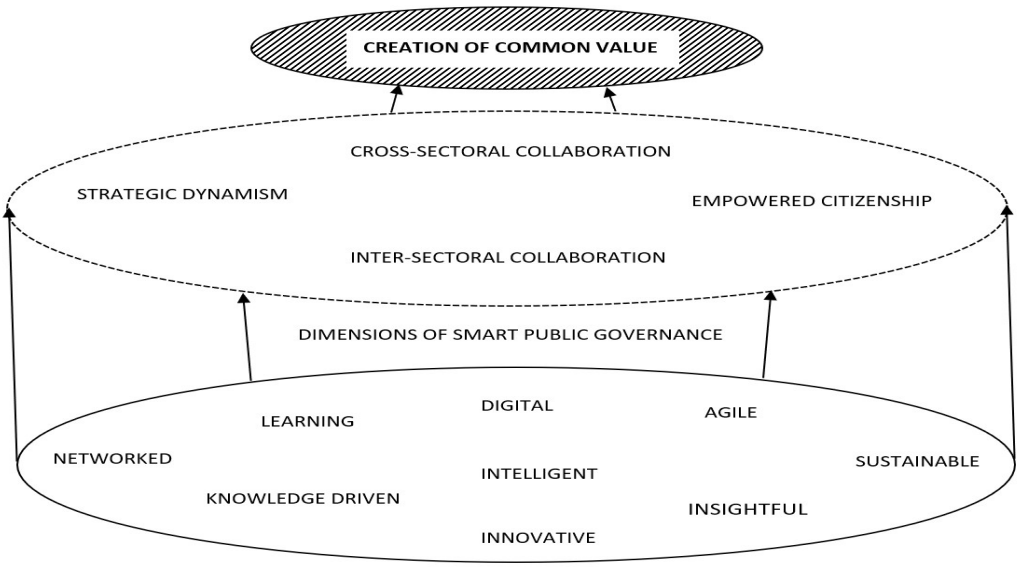

Fig. 1. A model of a smart public governance system with 4 dimensions and 9 characteristics
Source: Stanislovaitienė, J., Gaulė, E., Šiugždinienė, J. (2017)

Šiugždinienė, Gaulė and Rauleckas (2019) presented these dimensions in more detail:

Strategic dynamics is defined as the ability of leaders to see complex policy challenges and to respond proactively and flexibly to emerging crises. It also requires the ability to recognize strategic and structural changes, to respond in a timely and organized manner. In addition to strategic dynamism, two characteristics that define it are distinguished: a) strategic insight, b) sensitivity and flexibility of resources.

The second dimension of smart public governance that has been identified is **cross-sector collaboration**. It is a form of action between different sectors (public, private, NGO) that acts in decision-making in the public sector. It is based on the belief that the sharing of information and resources enables the best possible result to be achieved, which would not be possible for organizations from different sectors acting alone. This dimension has three distinct characteristics: shared leadership, collaborative platform, and shared responsibility.

The networking is third dimension, distinguished by Šiugždinienė, Gaulė and Rauleckas (2019). Cooperation with ministries, their departments, agencies and different levels of government needs to be coordinated in the form of a network. The importance of coordination competencies is highlighted. The success of networking depends very much on the use of network management abilities, skills, integrative working methods. Networking requires strong communication competencies within the civil service. Leaders of society are expected to communicate humanly, impartially, which would replace the established autocratic model of communication. The impact of modern information technologies is important in promoting closer communication, exchange of experience and knowledge between different institutions.

The last dimension of smart public governance emphasized by Šiugždinienė, Gaulė and Rauleckas (2019) is **empowered citizenship**. It is a specific form of communication between the government and citizens in the decision-making process, ensuring the transparency, openness and empowerment of citizens in the general development of public services. In the context of smart public governance, there is a change of direction from the responsibility of the government to inform and consult citizens towards cooperation between the government and citizens, towards empowerment of citizens. For this to be successful, two essential characteristics need to be considered: the opportunity to participate and the feedback.

Considering the presented model of smart public governance and the descriptions of dimensional expression, an attempt can be made to adapt it to the local level (Table1).

Table 1

A system of smart municipal public governance characteristics

Criteria	Qualitative characteristics	Quantitative characteristics
Strategic dynamism		
Strategic insight and sensitivity	External changes in the environment are monitored regularly Risks, challenges and opportunities are assessed in a timely manner	Environmental changes are monitored and regularly systematized, analysed and evaluated There is an institutionalized system for assessing external environmental changes

Criteria	Qualitative characteristics	Quantitative characteristics
	Fact-based and knowledge-based strategic decision making Speed of strategic decision making	Strategic decisions are made according to analytical assessments Different data sources are used, experience based on different sources Strategic decisions are made in a timely manner
Resource flexibility	Flexibility in the redistribution of financial resources Level of autonomy of government organizations The human resource management system guarantees mobility and opportunities to attract external resources	Active prioritization system Resources are reallocated to achieve strategic goals Public authorities can manage human and financial resources independently Public authorities can use internal and external resources to achieve strategic goals An existing staff rotation and mobility program
Cross-sectoral cooperation/networking		
Shared leadership	The principles of shared leadership are revealed in the actions of leaders Leaders encourage collaboration and involve other stakeholders	Leaders act as political entrepreneurs, promote new ideas, innovation, forgive for mistakes Leaders can agree with stakeholders to reach a consensus Leaders encourage and engage stakeholders in building mutual trust
Collaboration platforms	Stakeholders are involved in the process of preparing and making strategic decisions There are different platforms for collaboration Strategic decision-making is based on negotiation and consensus Strategic decision-making is based on quality information	Different interest groups are involved in decision-making There are different platforms for collaboration Representatives of different interest groups are empowered to represent their institutions Strategic decisions are made by consensus Strategic decision-makers share all available information with each other
Shared responsibility	There is mutual trust between the partners in the decision-making process General responsibility for the assumed goal General understanding of the problems	Representatives of different interests are involved in the development of strategic decisions and trust in the process Representatives of different interests share the responsibility for the decisions made Participants in the decision-making process share a similar vision, speak a similar language
Inter-institutional cooperation		
Collaboration platforms	Inter-sectoral inter-institutional cooperation is taking place Flexible, supportive, hybrid structures and teams are developed	There are horizontal integrated inter-institutional programs Public authorities work together to achieve strategic goals, even if this conflicts with the direct interests of their authority Public authorities work closely together to develop cross-sectoral programs Representatives of different authorities successfully share information There are systems in place for accountability for commitments
Collaborative competencies	Shared leadership	Leaders understand the importance and benefits of cooperation There is trust between the representatives of the different institutions Different authorities have the possibility to connect to common information systems
Empowering citizens		
Opportunities for participation	There are appropriate conditions for citizen participation Competencies for active citizen participation are developed	There are communication and citizen participation strategies to help make decisions There are procedures for citizen participation in public governance There are different platforms for citizen participation Different citizens' initiative programs have been set up to encourage citizen participation The government cooperates with different civic communities in decision-making
Feedback	Quality feedback reaches citizens Government is open, accountable and transparent	Government websites are clear, easily accessible, and the information provided is relevant and transparent The government shares all information relevant to citizens Citizens receive appropriate, comprehensible and clear answers to the questions asked

Source: compiled by the author according to Šiugždinienė, J., Gaulė, E., Rauleckas, R. (2019)

Smart community in the case of local government

The third part of the smart region model according to Sinkienė and Grumadaitė (2014) is the *smart community*, which in many smart social systems is treated as a society. However, such a clear definition of the concept of a smart society as in the case of a smart economy or smart public governance has not been found in an analysis of the academic literature. We have to follow the already existing models, in which the dimension of the smart society is at least partially represented.

Analysing the development of smart cities, Borkowska and Osborne (2018) underlined the role of society in the process of smart city development. According to them, the human factor has the potential to drastically improve local development by ensuring that the vision of a smart city would not be separated from citizens and society. The human factor, i.e. society, guarantees that information and communication technologies will make a significant contribution to the common welfare. The above mentioned authors argued that the concept of a smart city in the sense of a relationship goes much further than the relationship between citizens and a service provider. In the case of the smart city concept, society becomes much more active and engaging, for example, by providing feedback in terms of service quality, state of infrastructure or the environment created. It commits to ensure the environmental sustainability and seek a healthy lifestyle, participates in voluntary public services and assists various minorities. It is society that can be the driving force that enables innovation to move from narrow technological progress to tackling urban challenges alongside with sustainability. The public is involved in the planning, implementation and evaluation of various smart city initiatives.

Cortes-Cediel, Cantador and Bolivar (2019), analysing citizen involvement and participation in smart cities in Europe, noted that public involvement in smart city initiatives has been growing significantly across Europe since 2015. This is confirmed by the growing number of studies on this theme under analysis. Public involvement and cooperation lead to increasing participatory democracy in our countries.

However, in the absence of a clearly defined model of smart society, we have to look back at eight dimensions of smartness of the smart social system proposed by Jucevičius (2014) and try to apply them to the case of smart society as a separate smart social system.

Regarding the dimension of digitalisation, Jucevičius, Patašienė and Patašius (2014) emphasized that many social systems can be smart, based on information and communication technologies, but these technologies operate taking into account and adapting to environmental conditions. Digitalisation is highly dependent on the environment.

Jucevičius and Liugailaitė-Radzvickienė (2014) emphasized that smartness in the case of society first manifests itself in the perspective of economic value creation. In this concept of smart society, the authors also took advantage of other characteristics of a smart social system.

Based on the characteristics of a smart social system according to Jucevičius (2017) and Stanislovaitienė (2016), similarly to the case of smart public governance, the author of this article compiled a system of characteristics of a smart community (Table 2):

Table 2

A system of smart community characteristics

Dimensions	Qualitative characteristics	Quantitative characteristics
Intelligent	The community understands the benefits of smart initiatives, is willing to participate in them, is able to scan the environment to achieve its goals. The community has a clear understanding of its strengths, is able to present and use them, has a clear identity of its own. Attitudes of members of society towards digital technologies, their use for their own purposes.	The amount of open data shared by the local community. The number of initiatives of smart social system (city, region, municipality).
Knowledge-driven	How the prestige of higher education is valued in society. The public is willing to use the latest technology. Representatives of the community willingly share and look for examples of good practice; they successfully apply them in their activities.	The part of society with higher education. Involvement of the community, its representatives and members in good practice sharing activities. The part of society that has a personal computer, an internet connection, uses smart technology.
Learning	How active people tend to be in lifelong learning. The community is willing to get involved in pilot project activities.	The number of third age university visitors. The number of pilot initiatives implemented.
Networking	The public clearly supports increasing networking, willing to provide their public data. The community tends to form associated structures.	The number of active communities in the municipality. Amount of open data, their availability. Involvement of the community in the

Dimensions	Qualitative characteristics	Quantitative characteristics
		activities of associated structures.
Innovative	The public is willing to accept digital services, to use them boldly. The community provides feedback to the government on the quality of services received, is willing to accept innovations, and tends to improve them.	The number of people using the e-services. Feedback from people who have used the services.
Digital	The public supports digital government initiatives, willingly providing feedback.	Proportion of households using computers and the Internet.
Sustainable	How well the public understands the decision-making process at the local level. Does the community tend to involve young people in its activities, give them responsibility. Public attitudes towards renewable energy sources. Is the public's attitude towards environmental pollution changing in a positive direction?	Share of sorted waste from total waste stream. The number of members of society using renewable energy sources for energy production. The number of young community members and young leaders.
Agile	Do people tend to sign various petitions, actively collect signatures needed to identify various problems. How willingly and quickly members of the community are able to focus in the face of a threatening situation in the community.	Unemployment rate in the municipality. The number of petitions, complaints, feedback received.
Socially responsible	How willingly people participate in social mutual aid campaigns. Representatives of the public willingly participate in project publicity events. Initiatives to reduce inequality are organized in the community.	The number of non-governmental organizations in the municipality. The number of social business initiatives in the community.

Source: according to Stanislovaitienė, J. (2016)

The evaluation of Lithuanian municipalities in the fields of smart public governance and smart community

In order to find out the expression of the dimensions of smart governance and smart community of local self-governance, expert interviews were conducted, using the developed systems of quantitative and qualitative characteristics. The experts interviews were conducted on the basis of a questionnaire. The questionnaire consisted of indicative questions, which were specified or clarified during the interviews, therefore they were called guidelines. The questionnaire was based on conceptual model of smart region proposed by Grumadaitė and Sinkienė (2014). According to it, the questionnaire was divided into three blocks: smart economy, smart public government and smart community. The questions of smart public governance was based on the work of Stanislauskienė, Gaulė and Šiugždinienė (2017). In order to examine the smart community in the absence of academic access, the author returned to the characteristics of the smart social system proposed by Jucevičius (2014) and, based on the works of Jucevičius (2017) ant other authors, compiled the relevant questions. The clear guidelines of the questionnaire helped to reveal clear and specific views of the experts on the issues of concern. Experts provided answers to open questions using semi-structured interviews as the preferred method of collecting qualitative data, allowing for detailed data based on pre-formulated survey questions.

Experts were selected by method of criterion selection, according to the smart region model (2014) proposed by Sinkienė and Grumadaitė (2014), selecting experts who would represent all 3 dimensions smart public governance and smart community included. It was also sought that the experts in their of activity should be closely related to local government, by participating in municipal policy creation or administration, researching self-government institutions through research or closely cooperating with municipalities in their activities. All experts, despite their high level of employment, agreed in good faith to participate in the study. The list of experts involved in the study is presented in Table 3. The analysis of the data obtained during the research was performed by classification: the identified statements of the experts were divided into areas and dimensions, reflecting the concept of an smart social system. A total of 3 main areas and 24 dimensions have been identified, thus structuring the information provided by the experts. The answers of the experts enabled the author of this study to assess the expression of the potential of municipalities in creating smart social system.

Table 3

List of experts

Expert	Experience in municipal field, by years
The head of the Chamber of Commerce and Industry	23
The director of Business Incubator	21
The mayor of local municipality	13
The head of local communities' action group	10
The academic, doctor	6
The member of Lithuanian parliament member of the Committee on Local government and Municipalities	5
The representative of the Council of Lithuanian Youth Organizations	4
The adviser of the Association of Lithuanian Municipalities	2

Source: compiled by author

Based on the obtained results, dimension expression tables were compiled. Summarizing the obtained data, it can be stated that in the case of smart governance, significant progress has been made in all four dimensions, but still there are slight shortcomings in each dimension. The expression of all dimensions was rated as average. Although inter-institutional cooperation is also rated on average, it appears to be somewhat weaker compared to other dimensions. The table below summarizes the expression of all four dimensions. Strategic dynamism, cross-sectoral cooperation and citizen empowerment are highlighted in yellow, while inter-institutional cooperation is highlighted in orange. In the case of the smart community, the expression of these dimensions at the local self-governance level was evaluated after conducting expert interviews. All nine dimensions were rated as average according to the experts. Digitalisation, knowledge-driven, learning and sustainability were rated as strongly moderate (highlighted in light green), intelligence and social responsibility – as moderately weak (highlighted in orange). The other dimensions – networking, innovation and agile response – are just average (highlighted in yellow). The information of dimension expression for these areas is presented below (Tables 4 and 5):

Table 4

The evaluation of smart public governance in municipalities

Field	Smart public governance	Evaluation of Experts
Smart Public Governance	Strategic dynamism	Average
	Cross-sectoral collaboration	Average
	Inter-sectoral collaboration	Weaker than average
	Empowered citizenship	Average

Source: compiled by author according to the evaluation of experts

Table 5

The evaluation of smart society in municipalities

Field	Dimensions	Evaluation of Experts
Smart Society	Intelligent	Weaker than average
	Digital	Stronger than average
	Knowledge driven	Stronger than average
	Learning	Stronger than average
	Networked	Average
	Innovative	Average
	Sustainable	Stronger than average
	Agile	Average
	Socially responsible	Weaker than average

Source: compiled by author according to the evaluation of experts

Conclusions

Governments must respond to new and emerging public and public policy challenges and seek new and effective ways to address them. In such a situation, a need for smartness arises. Researchers distinguish the areas of smart public governance and smart community when examining the concept of a smart region. However, their most frequently investigated subjects were cities, regions, and states. This article looked at the areas of smart community and smart public governance through the prism of local self-governance. Therefore, on the basis of academics' studies as well as similar concepts, the systems of quantitative and qualitative characteristics of smart community and smart public self-governance at the local level have been substantiated in the present article.

After designing the models of these systems, expert interviews were conducted to assess the current expression of the dimensions. Summarizing the obtained data, it can be stated that in the case of smart governance, significant progress has been made in all four dimensions, but there are still some shortcomings in each dimension. The expression of all dimensions was rated as average. Although inter-institutional cooperation was also rated as average, it appears to be somewhat weaker compared to other dimensions.

In the case of the smart community, all nine dimensions were rated as average according to the experts. Digitalisation, knowledge-driven, learning and sustainability were rated strongly moderately, intelligence and social responsibility as moderately weak. The other dimensions – networking, innovation and agile response – were rated as average.

Such an analysis of the expression of the dimensions of smart public governance and smart community in Lithuanian local self-governance allows to properly evaluate the current situation, envisage areas for improvement and plan actions to increase smartness at the local level, but this is not the subject of this article.

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