SILESIAN UNIVERSITY OF TECHNOLOGY PUBLISHING HOUSE

SCIENTIFIC PAPERS OF SILESIAN UNIVERSITY OF TECHNOLOGY 2025
ORGANIZATION AND MANAGEMENT SERIES NO. 215

COLLABORATIVE AND INCLUSIVE GOVERNANCE: KEY TO PRIORITIZING SUSTAINABLE AND SMART GROWTH CHALLENGES IN POLISH MUNICIPALITIES

Aldona PODGÓRNIAK-KRZYKACZ[1*], Justyna PRZYWOJSKA[2]

[1] University of Lodz, Faculty of Economics and Sociology, Department of Labour and Social Policy; aldona.podgorniak@uni.lodz.pl, ORCID: 0000-0003-0029-0418
[2] University of Lodz, Faculty of Economics and Sociology, Department of Labour and Social Policy; justyna.przywojska@uni.lodz.pl, ORCID: 0000-0002-1125-2225
* Correspondence author

Purpose: The purpose of the article is to gain deeper insight into the process of transformative governance in Polish municipalities.
Design/methodology/approach: The article presents the results of a survey conducted using an online survey technique in 2018 among mayors from 1236 municipalities in Poland. We employ regression analysis to examine whether the mayors' attitude towards collaboration moderates the relationship between the municipalities' engagement in cooperation and the mayors' prioritization of challenges associated with sustainable and smart growth.
Findings: Based on the results of survey conducted in 1236 municipalities in Poland, we confirmed the existence of a relationship between municipal involvement in cooperation with diverse stakeholders and the prioritization of sustainable, smart growth challenges, as well as between mayor's attitude toward cooperation and the prioritization of sustainable, smart growth challenges. Greater capacity for collaborative governance fosters mayors' more comprehensive perceptions of sustainability challenges. We further demonstrate that attitude toward collaboration moderate the relationship between municipal engagement in collaboration and the prioritization of sustainable, smart growth.
Research limitations/implications: The limitations of the research include not taking into account other factors that may determine local policy priorities, such as the ability to obtain funding for sustainable development and smart community development projects. Second, our research is limited to an analysis of priorities and does not consider completed sustainable and smart community projects.
Practical implications: We recommend expanding municipal cooperation to include partnerships with supra-local expert actors who possess broader resources, skills, knowledge, and visions.
Social implications: The survey results highlight the need to educate residents about the challenges of sustainable and smart development and to influence the topics of debate during the municipal election campaign period.
Originality/value: What is new is the clarification of the importance of the interplay between the individual and organizational aspects of collaborative governance for the priorities of local development declared by mayors.

Keywords: collaborative governance, sustainability transition, municipalities, cooperation of municipalities, sustainable, smart local development.
Category of the paper: Research paper.

1. Introduction

Local governments have become important policy actors for sustainable development and play a key role in initiating and supporting the transition to sustainability. In particular, the significance of cities in this process is emphasized, as they are places where environmental, climate, demographic, and social problems converge, as well as opportunities and resources for accelerating change towards sustainable and smart development (Dawes, 2019; Hölscher, Frantzeskaki, 2021; Wolfram et al., 2016; Wolfram, Frantzeskaki, 2016). Cities can also play an important role in achieving deep greenhouse gas emission reductions and climate-resilient development (IPCC, 2023). The role of local governments (including those operating in smaller towns and villages) in the transition to sustainable development is highlighted by Goal 11 of the 2030 United Nations Sustainable Development Goals (Transforming Our World: The 2030 Agenda for Sustainable Development, 2015), which was directly dedicated to developing Sustainable Cities and Communities. Most of the other goals implicitly address the local level. Achieving at least 105 of the 169 SDG targets requires appropriate engagement and coordination with local and regional governments (OECD, 2020).

Sustainable and smart development of municipalities requires radical transformation of local systems to solve complex, long-term problems (Hölscher, Frantzeskaki, 2021). This transformation involves making fundamental irreversible changes in infrastructure, ecosystems, lifestyles, service delivery systems, urban innovation, institutions and governance (Elmqvist et al., 2019). Sustainability-oriented local leadership has been identified as a facilitator of the transition to sustainability, and as key to the implementation of the Sustainable Development Goals (Krellenberg et al., 2019; Valencia et al., 2019). According to Wittmayer et al. (2016) a clear focus of local authorities on radical change is a prerequisite for managing sustainability in a way that addresses the root causes of local challenges. In addition to prioritizing the goals of sustainable, smart development in local policies, effective transformation requires appropriate governance. Managing the transformation of local systems in line with the Sustainable Development Goals is a major challenge for local authorities (Wolfram et al. 2016), as they need to facilitate alignment, foresight and reflexive learning in order to recognise, anticipate and shape transformation dynamics and leverage points (Hölscher et al., 2019a; Hölscher, Frantzeskaki, 2021).

In practice, sustainability management in local government faces a number of structural, cultural and attitudinal barriers (Raffer et al., 2022). The article addresses the issue of sustainability transition governance at the local level in Poland and attempts to answer the question of whether Polish municipalities are ready for transition governance. On the formal-legal side, the localization of sustainability goals in Poland has been ensured by legal regulations such as, for example, the Act on the Principles of Development Policy (2006), the Environmental Protection Act (2001), the Act on Planning and Spatial Development (2003). They have guaranteed legitimacy and opportunities for the implementation of sustainable development activities and investments in Polish municipalities. Ways to implement SDG goals at the local level have also been identified in national sectoral strategies such as the National Urban Policy 2030, regional strategies and regional sectoral programs, and local development strategies. However, data from the Sustainable Development Report 2022 indicates that the implementation of SDG11 Sustainable Cities and Communities, which assumes making cities and human settlements inclusive, safe, resilient and sustainable, still faces significant challenges in Poland (Sachs et al., 2022). In particular, the air pollution index remains poor in comparison with other European countries, despite the slight improvement recorded. Previous research results also highlight the low involvement of Polish local governments (about 20%) in sustainable development activities and the rather high percentage of local governments still unaware of sustainable development challenges (about 38%) (Boguszewski et al., 2023). They also diagnosed insufficient leadership and low prioritization of current sustainability challenges by Polish mayors (Przywojska et al., 2019).

Accordingly, the purpose of our article is to gain deeper insight into the process of transformative governance in Polish municipalities. We analyze two of its dimensions: the municipality's ability to develop collaborative, inclusive governance and the mayor's local leadership oriented toward sustainable, smart development. We try to get an answer to the following research question: (1) What is the capacity of Polish municipalities to develop collaborative, inclusive governance? (2) How do mayors prioritize the challenges of sustainable, smart development? (3) Does the capacity of Polish municipalities to develop collaborative, inclusive governance affect the mayor's prioritization of sustainable, smart development challenges?

The article contributes to theory on collaborative, inclusive governance and its impact on the priorities assigned by local leaders for interventions toward sustainable smart development. What is new is the clarification of the importance of the interplay between the individual and organizational aspects of collaborative governance for the declared priorities of local development by mayors.

2. Literature review

Transformational governance refers to the management of radical changes in social-environmental systems to achieve a more sustainable state of these systems (Chaffin et al., 2016). It involves defining and mainstreaming sustainability issues and setting a transformation agenda, i.e. introducing a vision of sustainability and possible transformation pathways, followed by implementing innovations and experiments and monitoring the progress of transformation (Rotmans & Loorbach, 2009). Each of these stages of governance requires close collaboration between interdependent actors who work together to make decisions (Chang et al., 2017; Loorbach, 2010). Networked, interactive governance is considered a fundamental characteristic of the transition to sustainability (Chang et al., 2017).

Transformational management is also applied at the regional and local levels. Sustainable local transformation is a process of structural, multi-dimensional and radical change that can effectively guide the development of cities and municipalities towards sustainable development goals (McCormick et al., 2013). According to Westman and Castán Broto (2022) managing the transition to sustainability should be inclusive, collaborative, integrated, experimental and reflective. The sustainable governance approach necessitates that local governments collaborate with a multiplicity of stakeholders in order to achieve harmonisation of priorities, the development of shared visions, experimentation and the combination of disparate ideas and solutions (Hodson et al., 2017). Furthermore, the literature on urban climate change policy, which is regarded as a component of the transition to sustainability, indicates that similar features of transformative climate governance can be observed, including learning, participation, knowledge co-production, long-term thinking, experimentation and flexibility (Hölscher et al., 2019b). Additionally, researchers in the field of smart community development governance propose a governance approach predicated on participation and inclusion. The objective of such governance is to empower local communities in digital development planning and to ensure that all interests, perceptions, expectations and needs are taken into account in the process (Angelidou, 2015; Podgórniak-Krzykacz et al., 2020). Consequently, all three forms of governance (sustainable, climate and smart) are characterized by distributed power (polycentric governance), participation, high levels of information sharing, innovation supported by experimentation and learning in governance networks.

Governance of local transformation requires specific capacities of local actors to mobilize and direct the driving forces and dynamics of transformation (Hölscher et al., 2019a). Researchers agree that actors' capacities to create conditions for cooperation with citizens, public actors, private actors, NGOs and participatory learning, as well as Orchestrating capacity, meaning the ability to coordinate multi-stakeholder governance processes and share knowledge, play an important role (Hölscher et al., 2019a, 2019b). Indeed, at the stage of sustainable development policy formulation and implementation, open discussion,

consideration of the interests of different actors, involvement of different forms of knowledge, and consensus based on common goals and trust are essential (Christie, 2001). For this reason, the ability of local authorities to build flexible institutions, networks and cooperation is seen as playing an important role in effectively managing transitions to sustainable development (Evans et al., 2006; George, 2018; Grin et al., 2010; Loorbach, 2010; Meadowcroft et al., 2005; Wittmayer et al., 2014).

Similar conclusions were reached by Evans et al. (2006). They argue that local government coping with long-term sustainability challenges requires high institutional capacity manifested through strong local leadership with a vision for sustainability and a commitment to collaboration with stakeholders that shapes institutional learning capabilities. Bridging social capital, or the ability to build collaborative ties between organizations and groups in society, is also crucial. Public authorities can help to create and mobilize bridging social capital and increase civil society activity through appropriate policies (such as supporting the voluntary sector, promoting citizen participation, and the ability to listen to and channel citizen demands). In turn, the institutional capacity of local governments to mobilize and lead cooperation and to engage civil society is important for generating local innovation and experimentation. Indeed, niche, innovative solutions play an important role in transforming entrenched, unsustainable systems (McCormick et al., 2013; Raffer et al., 2022). Evans et al. (2006) call for a "dynamic approach" to sustainable development management, based on the high social and institutional capacity of local governments, allowing them to better respond to the need for good governance and reflective management, and to more effectively achieve sustainable development goals.

Cooperation between local governments and local actors as the foundation of local transformation management is based on mutual interactions and enables joint institutional learning. This process involves the integration of local and expert knowledge. Institutional learning is in turn translated into urban practice or policy (MacDonald et al., 2022). Healey (2006) explains this mechanism as follows: the collective learning that occurs during collaborative initiatives feeds mainstream urban governance and ultimately transforms embedded cultural values and formal and informal mechanisms for policing governance. In this context, it is particularly important to include marginalized perspectives so that transformative governance is inclusive and equitable.

3. Methods

3.1. Research assumptions

This section illustrates the data, methods and models used in this study to assess the impact of municipalities' ability to develop collaborative governance on the prioritization of sustainable and smart development challenges. We assume that Polish local governments are moving towards a more sustainable system by collaborating with stakeholders, learning and using the best available information. Chaffin et al. (2016) describe this approach as proactive.

We consider the capacity of local authorities to develop collaborative governance through the prism of two aspects: (1) mayors' attitudes toward collaboration and (2) municipality's involvement in cooperation. We analyze the municipality's orientation toward shaping a more sustainable system through the prism of the mayor's prioritization of the challenges of sustainable, smart growth in municipal governance. In our study, we analyze mayors' attitudes due to their strong position in the municipal power system. According to the classification of political leadership developed by Mouritzen and Svara (2002), in Poland we are dealing with a strong mayor form (Swianiewicz et al., 2018). Previous research has confirmed that strong mayor political leadership determines the dominant role of mayors in integrating current challenges into the local political agenda and the dominant style of municipal governance (Swianiewicz et al., 2018).

The architecture of the methodology is shown in Figure 1. The first step is to assess mayors' attitudes toward collaboration. Secondly, we assess the extent of collaborative networks. Finally, we assess the impact of both factors on the prioritization of sustainable and smart growth challenges. In addition, we assume that the mayor's attitude toward cooperation moderates the relationship between the municipality's involvement in cooperation and the mayor's prioritization of sustainable smart growth challenges.

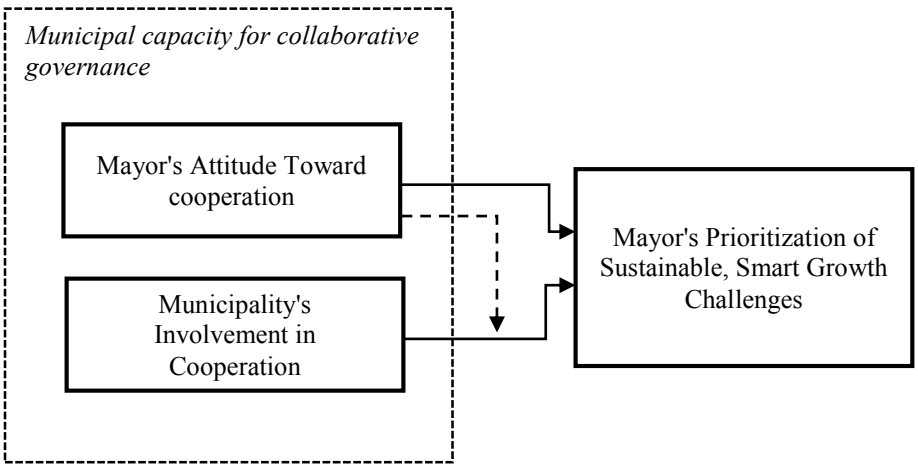

Figure 1. Methodological scheme.

Source: own elaboration.

3.2. Measurement

The measurement of the variables detailed in the study's assumptions is presented in Table 1.

Table 1.
Measurement of variables

Construct	Components	Items	Scale
V1. Mayor's Attitude Toward Cooperation	V1.1 Mayor's attitude to initiating, mobilizing and strengthening local partnerships	V1.1.1 Mayor's perception of the importance of the task of building local partnerships V1.1.2 Mayor's perception of the importance of the task of supporting the development of civil society V1.1.3 Mayor's perception of the importance of the task of developing civil dialogue	scale of 1-5, where: 1 - This is not the job of the president/mayor 2 -Little significance 3- Moderate importance 4 - High importance 5 - great importance
	V1.2 Mayor's attitude toward involving stakeholders in the local development management process	V1.2.1 Mayor's perception of the need to directly involve residents in local decision-making V1.2.2 Mayor's perception of the need to take into account the opinions and needs of excluded residents or those at risk of social exclusion in local decision-making. V1.2.3 Mayor's perception of the need to take into account the opinions and needs of national and ethnic minorities in the municipality in local decision-making V1.2.4 Mayor's perception of the need to take into account the opinions and needs of NGOs in local decision-making V1.2.5 Mayor's perception of the need to take into account the opinions and needs of local entrepreneurs in local decision-making	scale of 1-5, where: 1 - Strongly disagree 2 - I disagree 3 - Neither agree nor disagree 4- I agree 5 - Strongly agree
V2. Municipality's Involvement in Cooperation		V2.1 Groups of residents V2.2 Local action groups V2.3 Universities V2.4 Business environment institutions, e.g. development agencies, technology parks, scientific and research institutions V2.5 Non-governmental organizations in the municipality V2.6 Non-governmental organizations in the province V2.7 National NGOs V2.8 Local entrepreneurs V2.9 Consulting firms, experts V2.10 Economic self-government V2.11 Municipal business groups other than the economic self-government	scale of 1-5, where 1 - no cooperation, 2 poor cooperation 3 - medium cooperation 4 - great cooperation 5 - very high cooperation

Cont. table 1.

V3 Prioritization of Sustainable, Smart Growth Challenges	V3.1 Development of social policies to provide adequate housing, health care, education, culture and take care of the needs of vulnerable groups (the elderly, the young, the unemployed, etc.).	A score of 1 means "low priority", and a score of 5 means "high priority"
	V3.2 Environmental protection and safe, responsible use of natural resources	
	V3.3 Creation of a closed-loop municipal economy (development of a circular economy)	
	V3.4 Stimulation of economic growth and employment, attraction of investors, creation of investment opportunities	
	V3.5 Improvement of local infrastructure, communications and transportation	
	V3.6 Improvement of the integration of minorities, e.g. ethnic, religious or cultural, and emphasize diversity and tolerance in the local community	
	V3.7 Responding to global trends, technological revolution	
	V3.8 Implementation of the smart city concept in the municipality	

Source: own elaboration.

The proposed scales for measuring the Mayor's Attitude Toward Cooperation and the Municipality's Involvement in Cooperation are those of the authors. On the other hand, the measurement scale for Prioritization of Sustainable, Smart Growth Challenges was developed based on a modified scale used by Przywojska et al. (2019).

3.3. Data and data analysis methods

Data for the analyses were obtained from an online survey conducted in 2018. The survey covered mayors from 1236 municipalities in Poland (n = 1236), i.e. half of all municipalities in Poland (N = 2478). The structure of the sample is similar to that of the population from the point of view of the type of municipality - Table 2 (in Poland, 62.8% of municipalities are rural, 24.9% are urban-rural, 9.6% are urban municipalities, 2.7% are cities with county rights, the similarity index of structures is 97%). The sample also reflects well the territorial distribution of municipalities (by province, i.e. NUTS2 without excluding the Warsaw Capital Region).

Table 2.
Characteristics of the local government units in the sample (n = 1236)

Specification		n	%
Type of municipality	City with district rights	42	3.4
	Municipality	114	11.8
	Urban-rural municipality	274	22.5
	Rural municipality	758	62.2
	No answer.	18	1.5

Source: own elaboration.

In the first step of the analysis, we calculated descriptive statistics (mean, median, standard deviation) for 3 variables: attitudes toward collaboration, involvement in cooperation and prioritization. The results are discussed in the subsection Polish municipalities' capacity for collaborative, inclusive governance and mayor's local leadership priorities.

In the second step, we conducted an exploratory factor analysis with Varimax rotation for the variable Mayor's Attitude Toward Cooperation to confirm the validity of the separation of the two subscales and then confirmatory factor analyses for all 3 variables Mayor's Attitude Toward Cooperation, Municipality's Involvement in Cooperation and Prioritization of Sustainable, Smart Growth Challenges. These were aimed at validating the proposed measurement models. Calculated for each construct were GFI, AGFI, CFI, RMSEA, PCLOSE, χ statistics2, df = 19, $p < 0.001$, $\chi 2$ / df and Composite Reliability. The results of these analyses are presented in the subsection Validation of measurement tools.

In the third step of the analyses, we calculated descriptive statistics for the new constructs and correlation coefficients between them. Linear regression models were constructed to test the hypotheses. The results are presented in the subsection Prioritizing the challenges of sustainable, smart development and its determinants.

4. Results

4.1. Polish municipalities' capacity for collaborative, inclusive governance and mayor's local leadership priorities

The distributions of each indicator are presented in Table 3.

Table 3.
Descriptive statistics (n = 1236)

Specification		% of responses						Statistics			
		1	2	3	4	5	TP/ BO	M	Me	SD	S
V1	**Mayor's Attitude Toward Cooperation**										
V1.1	***Mayor's attitude to initiating, mobilizing and strengthening partnerships - The mayor's perception of the importance of the following tasks:***										
V1.1.1	Creating local partnerships	0.2	3.6	27.8	47.5	5.6	15.4	3.65	4.00	0.68	-0.41
V1.1.2	Supporting the development of civil society	0.6	4.3	23.6	50.2	5.7	15.5	3.66	4.00	0.71	-0.77
V1.1.3	Development of civil dialogue	0.5	1.1	12.5	57.2	14.4	14.3	3.98	4.00	0.65	-0.78
V1.2	***Mayor's attitude towards involving stakeholders in local development management process - The mayor's perception of the following needs:***										
V1.2.1	Directly involve residents in local decision-making	0.9	1.4	7.8	56.6	27.5	5.7	4.15	4.00	0.70	-1.12
V1.2.2	Taking into account in decisions the opinions and needs of residents who are excluded or at risk of social exclusion	0.4	1.2	13.4	65.4	13.6	6.0	3.96	4.00	0.61	-0.76

Cont. table 3.

V1.2.3	Taking into account in decision-making process the opinions and needs of national and ethnic minorities in the municipality	2.3	5.5	41.2	39.6	4.9	6.6	3.42	3.00	0.78	-0.55
V1.2.4	Taking into account the opinions and needs of NGOs in decision-making process	0.4	1.6	10.3	67.8	13.9	6.0	3.99	4.00	0.60	-0.93
V1.2.5	Taking into account the opinions and needs of local entrepreneurs in decision-making process	0.4	1.1	8.8	67.9	15.6	6.2	4.04	4.00	0.59	-0.86
V2	**Municipality's Involvement in Cooperation**										
V2.1	Groups of residents	1.4	7.0	25.3	36.1	25.0	5.2	3.80	4.00	0.96	-0.50
V2.2	Local action groups	1.7	2.6	15.9	39.1	35.0	5.7	4.09	4.00	0.90	-1.01
V2.3	Universities	0.1	23.5	28.6	26.1	11.7	6.4	2.40	2.00	1.11	0.42
V2.4	Business environment institutions, such as agencies	21.0	31.0	24.1	12.0	4.6	7.4	2.44	2.00	1.12	0.47
V2.5	NGOs from the municipality	1.9	5.0	15.8	39.6	31.9	5.9	4.01	4.00	0.95	-0.95
V2.6	Non-governmental organizations from the province	12.2	31.3	32.3	14.6	2.8	6.9	2.62	3.00	0.99	0.20
V2.7	National NGOs	26.8	32.8	22.7	8.6	2.3	6.9	2.21	2.00	1.04	0.59
V2.8	Local entrepreneurs	0.6	6.2	24.7	41.4	21.0	6.1	3.81	4.00	0.88	-0.44
V2.9	Consulting firms, experts	12.2	28.5	32.2	18.0	2.7	6.5	2.68	3.00	1.02	0.08
V2.10	Economic self-government	29.0	19.5	23.3	14.0	5.4	8.8	2.42	2.00	1.24	0.38
V2.11	Other than the economic self-government, groups of entrepreneurs in the municipality	35.5	19.3	17.6	7.0	3.2	17.2	2.07	2.00	1.15	0.81
V3	**Prioritization of Sustainable, Smart Growth Challenges**										
V3.1	Development of social policies to provide adequate housing, health care, education, culture and take care of the needs of vulnerable groups (such as the elderly)	0.3	1.1	9.8	32.0	51.5	5.3	4.41	5.00	0.75	-1.19
V3.2	Environmental protection and safe, responsible use of natural resources	0.1	1.3	11.7	39.6	42.5	4.9	4.29	4.00	0.74	-0.78
V3.3	Shaping the circular municipal economy (development of the circular economy)	2.3	5.6	30.8	41.4	13.3	6.6	3.62	4.00	0.89	-0.54
V3.4	Stimulate economic growth and employment, attract investors, create investment opportunities	0.2	2.1	8.7	31.4	52.4	5.2	4.41	5.00	0.76	-1.24
V3.5	Improve local infrastructure, communications and transportation	0.2	0.4	3.7	22.7	67.8	5.3	4.66	5.00	0.59	-1.89
V3.6	Improve the integration of minorities, e.g. ethnic, religious or cultural, and emphasize diversity and tolerance in the local community	14.3	18.4	32.1	21.9	6.8	6.4	2.88	3.00	1.15	-0.08
V3.7	Responding to global trends, technological revolution	8.9	17.7	35.7	26.1	5.8	5.8	3.02	3.00	1.04	-0.22
V3.8	Implementation of the smart city concept in the municipality	12.9	19.2	33.6	22.1	5.6	6.6	2.87	3.00	1.10	-0.10

Note. TP/BO - hard to say/no answer, M - mean, Me - median, SD - standard deviation, S - skewness

Source: own elaboration.

In the case of the mayor's Attitude to Involve Stakeholders in the Local Development Management Process (V2), the averages are close to 4 for all items except "taking into account in decisions the opinions and needs of national and ethnic minorities in the municipality" - M = 3.42 (SD = 0.78, Me = 3). The mayor's attitude to initiating, mobilizing and strengthening partnerships is rated slightly lower (mean of about 3.65, higher is only for "development of civil dialogue" - M = 3.98), although the median reaches 4 for all items (except for the aforementioned V1.2.3). The greatest importance is given to the direct involvement of residents in local decision-making (M = 4.15, SD = 0.70).

The municipality's involvement in cooperation takes place in various fields, yet for only four groups of stakeholders - local action groups, ngo's from the municipality, local entrepreneurs and residents' groups - the average rating is about 4 (the median is also 4). For the rest of the cooperation partners, the average rating does not exceed 3, which means that the cooperation is average or even weak.

For development priorities, the median reaches the maximum value (5) for three issues: V3.1 Developing social policies to ensure adequate housing, health care, education, culture and taking care of the needs of vulnerable groups (e.g., the elderly), V3.4 Stimulating economic growth and employment, attracting investors, creating investment opportunities, and V3.5 Improving local infrastructure, communications and transportation. On the other hand, the lowest (average max 3) rating is given to the importance of such challenges as: improving integration of minorities and emphasizing diversity and tolerance in the local community, implementing the smart city concept in the municipality, and responding to global trends, technological revolution.

4.2. Validation of measurement tools

The reliability of each of the scales analyzed is satisfactory. The value of the coefficient of alpha-Cronbach's coefficient for the scale Prioritization of the Challenges of Sustainable, Smart Growth reaches 0.811, while for the scale Municipality's Involvement in Cooperation: α-C = 0.866. Overall measured (with eight indicators), the reliability of the scale Attitude of the mayor to cooperation is also adequate - α-C = 0.735, with α-C = 0.756 for the subscale Mayor's Attitude to Involve Stakeholders in the Local Development Management Process, and α-C = 0.601 for the short, three-item scale Mayor's Attitude to Initiate, Mobilize and Strengthen Partnerships (and thus exceeds the acceptable threshold of 0.6 for such short scales (Rószkiewicz, 2011)). This confirms that the proposed set of variables fulfills its purpose - it allows for reliable measurement of the three phenomena in question.

At the same time, it should be emphasized that the skewness of the distribution of individual indicators is quite low, in the case of single variables skewness exceeds in absolute value 1, although given the sample size, it allows the use of factor methods. We should add that the sample size is perfect for factor models: n > 1000 (Comrey, Lee, 2013; Tabachnick, Fidell, 2007).

KMO = 0.746 and Bartlett's significant test (Field, 2000) confirm that the adopted set of indicators is appropriate for measuring the Mayor's Attitude Toward Cooperation (Table 4). Exploratory factor analysis, with Varimax rotation (Hair et al., 1998) confirmed the initial assumptions - there are two subscales within the Mayor's Attitude Toward Cooperation scale: F1, explaining 37.3% of the variance in the latent variable, which includes indicators of the mayor's attitude toward involving stakeholders in the local development management process, and F2, explaining 17.6% of this variance, concerning the mayor's attitude toward initiating, mobilizing and strengthening partnerships (Table 4).

Table 4.
Mayor's Attitude Toward Cooperation - exploratory factor analysis results

Items		**F1**	**F2**	**C**
V1.2.4	Taking into account the opinions and needs of NGOs in decisions	**0.846**	0.083	0.723
V1.2.5	Taking into account the opinions and needs of local entrepreneurs in decisions	**0.831**	0.014	0.691
V1.2.2	Taking into account in decisions the opinions and needs of residents who are excluded or at risk of social exclusion	**0.744**	0.101	0.563
V1.2.3	Taking into account in decisions the opinions and needs of national and ethnic minorities in the municipality	**0.592**	0.197	0.389
V1.2.1	Directly involve residents in local decision-making	**0.575**	0.150	0.354
V1.1.2	Supporting the development of civil society	0.174	**0.794**	0.660
V1.1.3	Development of civil dialogue	0.087	**0.790**	0.632
V1.1.1	Creating local partnerships	0.079	**0.609**	0.377
% of total variance explained		37.26	17.59	x

Note. C - communalities. N = 1024. KMO = 0.746, Bartlett's sphericity test: χ^2 (28) = 2081.9, p < 0.001***.

Source: own elaboration.

The results of confirmatory factor analysis (CFA) confirm the assumptions made for the three constructs (Figure 2). Confirmatory factor analysis was conducted using the AMOS program.

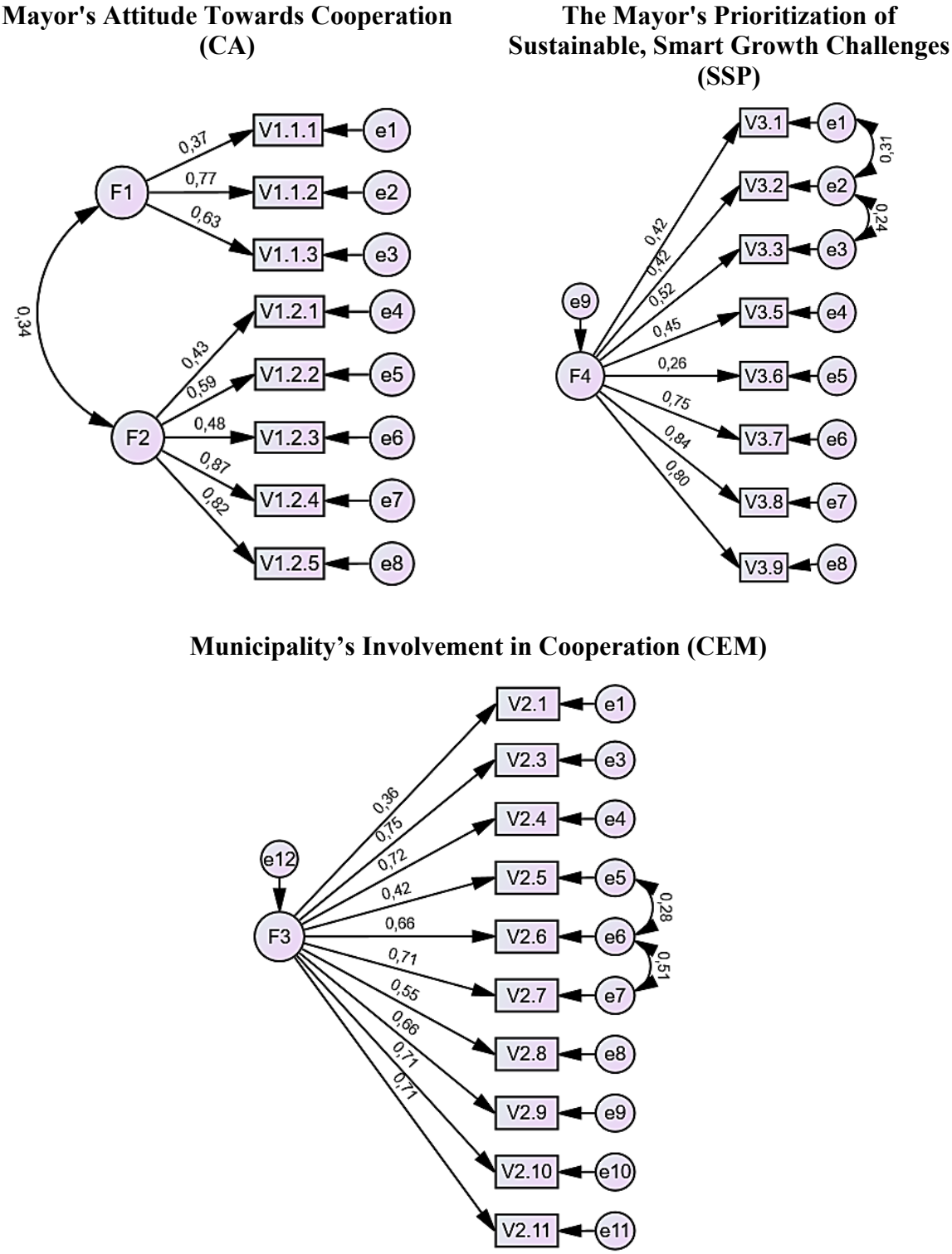

Figure 2. Factor structure of the measurement models of the three constructs: Mayor's Attitude Toward Cooperation (CA), Municipality's Involvement in Cooperation (CEM) and Prioritization of Sustainable Smart Growth Challenges (SSP).

Source: own elaboration.

In the measurement model of municipal involvement in cooperation, a very low loading (only 0.24) was obtained for local action groups (V2.2). It was decided to exclude this variable from the model. Figure 2 shows the CFA results after omitting this variable.

As for CA - Mayor's Attitude Toward Cooperation, the two-factor measurement model was confirmed. All coefficients are statistically significant and have acceptable values above 0.3, although for variables V1.1.1, V1.2.1 they are quite low (below 0.5). The model's fit is satisfactory. GFI = 0.961, AGFI = 0.927, CFI = 0.932, so they are greater than the threshold value of 0.9. Also, the RMSEA is acceptable - it is 0.085, the confidence interval for RMSEA has limits (0.073; 0.097), and PCLOSE < 0.001, so it is lower than 0.05 (which, however, does not disqualify the model). The value of the statistic $\chi2 = 159.16$, df = 19, $p < 0.001$, $\chi2 / df = 8.377$. The proposed model for measuring the Mayor's Attitude Toward Cooperation is, therefore, an appropriate one. Furthermore, it can be observed that the subscales of the CA scale exhibit a moderately strong, statistically significant correlation with one another. (r = 0.34***). Composite Reliability (CR) exceeds the threshold value (0.6 - (Fornell, Larcker, 1981)) - overall for the CA scale: CR = 0.840, for F1: CR = 0.784, and for F2: CR = 0.624. This confirms the internal consistency of these scales.

Assessing the properties of the scale of Municipality's Involvement in Cooperation, the measurement model confirms the relevance of ten indicators ($p < 0.05$), for most variables (except V2.1. resident groups: coefficient 0.36 and V2.4. business environment institutions: coefficient 0.42), loadings are higher than 0.4 as well as than 0.5. Following Hair et al. (1998), as well as Costello and Osborne (2005), each item can be considered at least adequate (factor loadings > 0.3), and for most items factor loadings (over 0.5) are considered practically significant. Similarly, Tabachnick and Fidell (2007), following Comrey and Lee (2013), suggested using more stringent cut-offs going from 0.32 (poor), 0.45 (fair), 0.55 (good), 0.63 (very good) or 0.71 (excellent). In line with these approaches, each proposed variable (item) was included in the analysis in the next steps. The fit of the model is good: GFI = 0.940, AGFI = 0.901, CFI = 0.935, so they are greater than the threshold value of 0.9. Also, the RMSEA is acceptable - it is 0.089, the confidence interval for RMSEA has limits (0.080; 0.099), and PCLOSE < 0.001. The value of the statistic $\chi2 = 286.50$, df = 33, $p < 0.001$, $\chi2 / df = 8.682$. The proposed model for measuring the Mayor's Attitude Toward Cooperation is therefore good. Composite Reliability is high - CR = 0.868, which confirms internal consistency.

As for the SSP scale - Prioritizing the Challenges of Sustainable, Smart Growth, again all indicators are statistically significant ($p < 0.05$). The majority of variables exhibited loading values exceeding 0.4. However, for V3.6, the loading value was relatively low, approaching the cutoff point of 0.3 (0.263). The model demonstrates an adequate fit to the data: GFI = 0.964, AGFI = 0.929, CFI = 0.949, so they are greater than the threshold value of 0.9. Also, the RMSEA is acceptable - it is 0.081, the confidence interval for RMSEA has limits (0.069; 0.0939), and PCLOSE < 0.001. The value of the statistic $\chi2 = 150.19$, df = 18, $p < 0.001$, $\chi2 / df = 8.344$. The proposed model for measuring the Mayor's Attitude Toward Cooperation is therefore good. Composite Reliability is high - CR = 0.792, which confirms internal consistency.

For all constructs, an overall score was determined as the sum of scores obtained on a given scale. In the case of CA, the total score for both subscales (F1 and F2) and the overall score (CA) were determined.

4.3. Prioritization of the challenges of sustainable, smart growth and its determinants

The CA variable can take values between 8 and 40, with a higher value of the variable indicating the Mayor's Attitude Toward Cooperation at a higher level. Most of the results for the surveyed municipalities (97%) range from 24 to 38, and 76% range between 28 and 34. Also, the mean M = 30.76 indicates a high overall level of this attitude, and SD = 3.2 indicates a high homogeneity of results (Table 5). Both the mayor's attitude toward including stakeholders in the local development management process (F1) and the mayor's attitude toward initiating, mobilizing and strengthening partnerships (F2) are high.

Table 5.
Descriptive statistics and correlation coefficients for variables

No	Variable	Range	Descriptive statistics				Pearson's correlation (r)				
			n	M	SD	S	1	2	3	4	5
1	CA	8÷40	1024	30.76	3.20	-0.44	1				
2	F1	3÷15	1025	11.27	1.51	-0.73	0.695***	1			
3	F2	5÷25	1233	19.29	2.51	-0.41	0.892***	0.296***	1		
4	CEM	8÷40	968	27.96	7.11	0.48	0.337***	0.298***	0.263***	1	
5	SSP	10÷50	1115	30.14	4.71	-0.26	0.454***	0.416***	0.328***	0.455***	1

Note. M - mean, SD - standard deviation, S - skewness. *** $p < 0.01$.

Source: own elaboration.

At a relatively high level is the Municipality's Involvement in Cooperation (CEM), with a mean of 27.96 (standard deviation = 7.11) and a possible range from 8 to 40. The majority of the results (96%) fall within the range of 15 to 41, with 60% falling between 22 and 33.

The level of Prioritization of the Challenges of Sustainable, Smart Growth (SSP) is moderately high, with a mean of 30.14 (SD = 4.71) and a possible range of 10 to 50. The majority of respondents (96%) score above 22, with 86% scoring between 24 and 37. No respondents scored higher than 40. All variables exhibit a low degree of skewness in their distribution.

Prioritization of Challenges is significantly positively correlated with Municipality's Involvement in Cooperation (r = 0.455). It is also significantly positively correlated with the Mayor's Attitude Toward Cooperation - measured overall (r = 0.454), as well as the mayor's attitude toward including stakeholders in the local development management process (r = 0.416) and the mayor's attitude toward initiating, mobilizing and strengthening partnerships r = 0.328). Thus, the Mayor's Attitude Toward Cooperation, which, according to the theoretical model, is a moderator of the relationship between Prioritization of Challenges (dependent variable) and the Municipality's Involvement in Cooperation (independent variable), is quite strongly related to the dependent variable, but is also significantly positively and moderately strongly related to the independent variable (r = 0.337). In order to investigate whether the

Mayor's Attitude Toward Cooperation has a moderating effect in the relationship between the Municipality's Involvement in Cooperation and Prioritization of the Challenges of Sustainable, Smart Growth the moderating variable analysis was performed by using the SPSS PROCESS macro (Model 1; 5,000 bootstrap sample) (Hayes, 2022).

According to the results, the Municipality's Involvement in Cooperation has a significant effect on Prioritization of Challenges (B = 0.311, t = 14.885, p < 0.001, 95% CI [0.270, 0.352]) - model 1a. With the addition of Mayor's Attitudes Toward cooperation to the model, CEM effect is still statistically significant and correlation is positive - model 1b (Table 6). Standard Beta coefficients are similar to both independent variables in model 1b (0.345 for CEM and 0.339 for CA). The model with moderator (including variable measuring interaction between CA and CEM) confirms that the relationship between the Municipality's Involvement in Cooperation and Prioritization of Challenges remained significant and even increased (B = 0.620, t = 3.453, p = 0.001, 95% CI [0.267, 0.972]). The degree of explanation for the variation in Prioritization is higher when the moderator is included (R-squared = 0.320).

Table 6.
Model of SSP - regression without and with CA moderation effect (n = 811).

		B	SE	Beta	t	p	LLCI	ULCI	ANOVA	R-sq
Model 1a	Const	21.324	0.605		35.223	<0.001***	20.135	22.512	F(1; 809) = 221.6; p < 0.001***.	0.215
	CEM	0.311	0.021	0.464	14.885	<0.001***	0.270	0.352		
Model 1b	Const	8.313	1.319		6.301	<0.001***	5.723	10.902	F(2; 808) = 186.5; p < 0.001***.	0.316
	CEM	0.231	0.021	0.345	11.113	<0.001***	0.190	0.272		
	CA	0.496	0.045	0.339	10.916	<0.001***	0.407	0.586		
Model 1c	Const	-2.350	5.067		-0.464	0.643	-12.296	7.595 6	F(3; 807) = 126.5; p < 0.001***.	0.320
	CEM	0.620	0.179	0.925	3.453	0.001***	0.267	0.972		
	CA	0.837	0.163	0.572	5.138	<0.001***	0.518	1.157		
	CEM* CA	-0.012	0.006	-0.699	-2.179	0.030**	-0.023	-0.001		

Note. B - regression coefficient, SE - standard error, t - t-statistic, R-sq - R-squared, LLCI/ULCI - lower/upper limit of 95% CI *** p < 0.01.

Source: own elaboration.

Table 7.
Conditional effect of local predictor at values of the moderator

	CA level	Effect	SE	t	p	LLCI	ULCI
Mayor's cooperative attitude							
Low	27.518	0.281	0.031	9.131	<0.001***	0.220	0.341
Medium	30.721	0.241	0.021	11.348	<0.001***	0.199	0.283
High	33.925	0.202	0.025	8.130	<0.001***	0.153	0.250

Source: own elaboration.

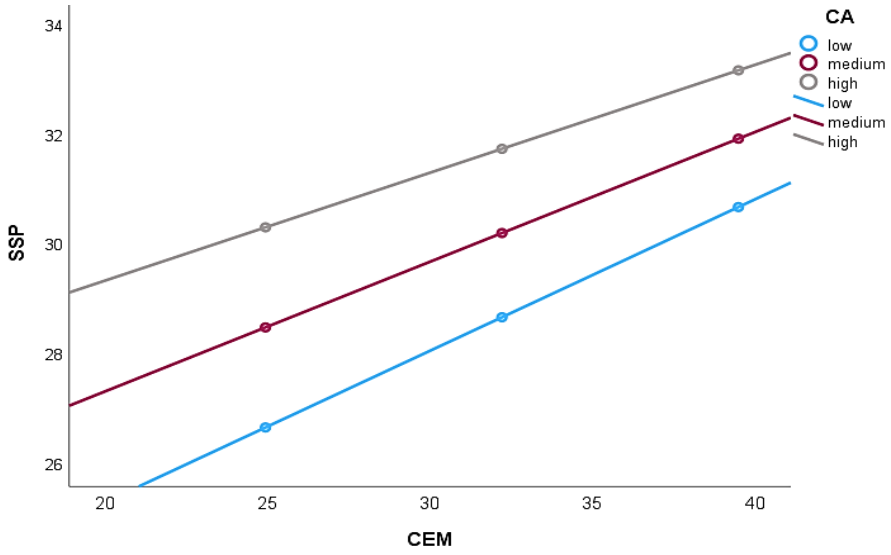

Figure 3. The moderator effect of Mayor's Attitude to Cooperation in the relations between Municipality's Involvement in Cooperation and Prioritization of Smart Sustainable Growth Challenges. Source: own elaboration.

The Mayor's Attitude moderates the relationship between the Municipality's Involvement in Cooperation and Prioritization of Challenges such that the higher the level of the Mayor's Attitude to Cooperation, the smaller the effect of the Municipality's Involvement in Cooperation on Prioritization of Challenges (Table 7). Although regardless of the level of Attitude, the effect of Involvement on Prioritization remains statistically significant ($p < 0.001$), and the analysis conducted using the Johnson-Neyman method did not indicate a threshold value for this relationship, nevertheless, if the mayor is more collaborative, the degree of the municipality's involvement in cooperation with stakeholders is less important. Conversely, if the mayor is less collaborative, the degree of the municipality's involvement in cooperation somehow forces the municipality to set its priorities in such a way that they are more concerned with the challenges of sustainable, smart growth. It is noteworthy that the standardized Beta coefficient for CEM (Beta = 0.925) is high, thereby confirming the importance of the municipality's involvement in cooperation. However, the interaction effect of CEM and CA, which weakens the effect of the municipality's involvement, is also quite strong (Beta = -0.699, model 1c).

If two variables are included in the model, disaggregating the measure of the Mayor's Attitude Toward Cooperation (F1 and F2), both the effect of the mayor's attitude toward involving stakeholders in the local development management process and toward initiating, mobilizing and strengthening partnerships is, ceteris paribus, statistically significant and favorable for the degree of prioritization of the challenges of sustainable, smart municipal development (Table 8). Beta standardized coefficients indicate that the Municipality's Involvement in Cooperation remains the most important (Beta = 0.355, model 2b), and the mayor's attitude toward including stakeholders in the local development management process (F2) is slightly more important (Beta = 0.249) than his attitude toward initiating, mobilizing and strengthening partnerships (F2, Beta = 0.187).

Table 8.
Model of SSP - regression without and with F1 and F2 moderation effect

		B	SE	Beta	t	p	LLCI	ULCI	ANOVA	R-sq
Model 2a	Const	21.324	0.605		35.223	<0.001***	20.135	22.512	F(1; 809) = 221.6; p < 0.001***.	0.215
	CEM	0.311	0.021	0.464	14.885	<0.001***	0.270	0.352		
Model 2b	Const	7.887	1.318		5.983	<0.001***	5.300	10.475	F(3; 807) = 129.3; p < 0.001***.	0.325
	CEM	0.224	0.021	0.355	10.789	<0.001***	0.184	0.265		
	F1	0.777	0.098	0.249	7.932	<0.001***	0.585	0.970		
	F2	0.366	0.061	-0.187	6.046	<0.001***	0.247	0.485		
Model 2c	Const	-0.707	5.138		-0.137	0.891	-10.793	9.380	F(5; 805) = 78.3; p < 0.001***.	0.327
	CEM	0.540	0.184	0.807	2.934	0.003**	0.179	0.902		
	F1	1.084	0.359	0.348	3.022	0.003**	0.380	1.788		
	F2	0.622	0.225	0.319	2.768	0.006**	0.181	1.063		
	CEM* F1	-0.012	0.013	-0.258	-0.931	0.352	-0.037	0.013		
	CEM* F2	-0.009	0.008	-0.328	-1.185	0.236	-0.024	0.006		

Note. B - regression coefficient, SE - standard error, t - t-statistic, R-sq - R-squared, LLCI/ULCI - lower/upper limit of 95% CI *** p < 0.01.

Source: own elaboration.

Consequently, the interaction effect (model 2c) is not statistically significant for either CEM*F1 (p = 0.352) or CEM*F2 (p = 0.236). This is also confirmed by Figure 4. With higher municipality's involvement in cooperation, there is greater importance attached to the challenges of sustainable, smart development in the municipality, and the nature of this relationship is the same with different combinations with the level of the mayor's attitude to cooperation at both levels analyzed (F1 and F2). So, also in this view, the mayor's attitude moderates the relationship between the municipality's involvement in cooperation and the municipality's priorities related to the challenges of sustainable, smart development, with both low, average and high mayor's attitude to involving stakeholders in the local development management process, moderating effect of the mayor's attitude toward initiating, mobilizing and strengthening partnerships is of the same nature (and conversely, with both low, average and high mayor's attitude toward initiating, mobilizing and strengthening partnerships, the moderating effect of the mayor's attitude toward involving stakeholders in the local development management process is of the same nature).

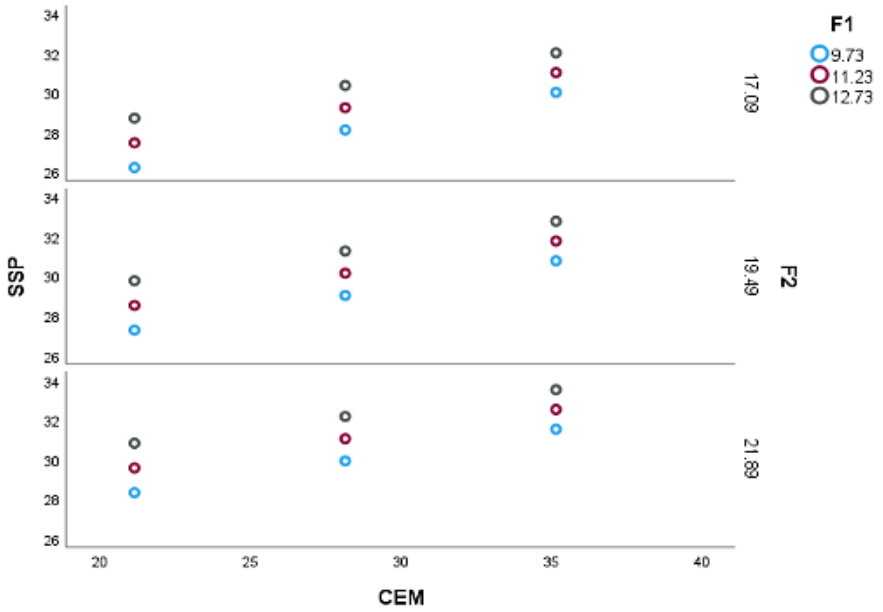

Figure 4. The moderator effect of Mayor's Attitude Toward Cooperation (F1 & F2) in the relations between the Municipality's Involvement in Cooperation (CEM) and Prioritization of Sustainable Smart Growth Challenges (SSP).

Source: own elaboration.

5. Discussion

The findings of our research have led to several significant preliminary conclusions. First, the capacity of Polish local authorities to develop collaborative, inclusive governance is considerable, which should facilitate the creation of more equitable and inclusive municipalities. According to Hambleton (2015) cities that implement policies that are conducive to the environment and also beneficial to residents, while embracing diversity, are able to guarantee equity, inclusiveness, and sustainability. A local leader in such a city should serve as a facilitator, orchestrating the efforts of numerous local actors to construct a just city and collaborating with stakeholders. The high capacity for collaborative, inclusive governance in the surveyed sample of municipalities is determined by the attitudes of mayors toward cooperation. The mayors in this sample are generally open and ready to include various stakeholder groups in local policy-making. They also recognize the need to build and strengthen local partnerships, although this recognition is somewhat less pronounced. The lowest percentage of mayors indicated that they perceived the need to include ethnic and minority groups in decision-making on municipal issues. This is likely due to the low participation or absence of such groups in the populations of the surveyed municipalities at the time of the survey. It is important to note that this situation underwent a significant transformation following the outbreak of the war in Ukraine.

The ability of local authorities to develop collaborative, inclusive governance also stems from municipalities' involvement in cooperation with various stakeholders. Other researchers have indicated that collaborative ventures confirm the municipality's ability to seek external partners (Tuurnas et al., 2019), the ability to establish and manage relationships with partners (Blomqvist, Levy, 2006), as well as learning from shared experiences and transferring that knowledge to subsequent collaborative ventures (Ulbrich et al., 2009). The findings of our research demonstrate that Polish municipalities engage in substantial collaboration with external stakeholders, particularly with local non-governmental organizations (NGOs), local action groups, residents' groups, and local entrepreneurs. It is noteworthy that the majority of the municipalities' cooperation is with local stakeholders, rather than with entities of a supra-local nature or inter-organizational networks. These include, for example, universities, experts, national NGOs, business networking institutions, and business environment institutions. To some extent, this is determined by laws that require municipalities to cooperate with local actors, e.g. in the formula of consultation with residents and with NGOs. Additionally, regulations exist that encourage Polish municipalities to foster collaborative relationships with residents, groups of residents, and NGOs by granting municipalities the right to adopt a civic budget or village funds (rural municipalities). Cooperation with expert entities and inter-organizational networks is not explicitly supported by local government law. The diverse nature of cooperation among Polish municipalities can also be linked to organizational culture. The organizational culture in Polish local government is dominated by clan and hierarchical characteristics, and only marginally manifests adhocracy characteristics (Podgorniak-Krzykacz, 2021). This configuration indicates that conditions are favorable for initiating and conducting cooperative ventures with local stakeholders. However, conditions are unfavorable for experimentation and generating innovations, which require cooperation with support networks and expert organizations. In contrast, research (Springer et al., 2020) conducted in rural municipalities of the Wielkopolska region indicates the dominance among leaders of transactional leadership, which, according to the authors, is associated with the use of only basic forms of participation of residents in local governance, resulting from legislation.

In our analysis, the independent variable we looked for as a determinant was mayors' prioritization of the challenges of sustainable, smart growth. The literature indicates that the transition to sustainable development requires local leaders who are aware of contemporary challenges, which is the starting point for implementing sustainable development policies and initiatives (Alshumrani et al., 2018; Boguszewski et al., 2023; Przywojska et al., 2019; Wittmayer et al., 2016; Wolfram et al., 2016). Also, the motivation of local actors and their goal orientation matters for the results of digital projects (Akterujjaman et al., 2022). In the sample analyzed, prioritization of sustainable smart growth is at a moderately high level. Higher priority was assigned by mayors to economic and social challenges than to environmental challenges. The lowest priority was given to the challenges of digitization and developing smart cities, as well as improving the integration of minorities and emphasizing

diversity and tolerance in the local community. In a recent survey on this topic conducted by Boguszewski et al. (2023), similar results were obtained among local governments of different types (provinces, counties, municipalities) (local governments attach the most significant importance to the socio-economic aspects, environmental issues, but to a small extent to low-emission transport or green building and equality aspects). Thus, the configuration of local development priorities in Polish municipalities still indicates a preference for traditional, established paths of sustainable transformation over more progressive ones and mayors' understanding of sustainable development is not always comprehensive and all-encompassing.

The correlation and regression analyses conducted in this article confirm the impact of municipalities' capacity for collaborative, inclusive governance (both municipal attitudes toward cooperation and its two components, as well as municipality's involvement in cooperation) on mayors' prioritization of sustainable, smart growth challenges. Consequently, it can be concluded that the attitudes of mayors who are open to cooperation, as well as the municipality's involvement in cooperation itself, allow mayors to perceive diverse perspectives and to learn from partners, which in turn directs local policies towards sustainable, smart growth. These findings support the conclusions of other researchers about the importance of municipality's involvement in cooperation for implementing sustainable development practices (Swann, 2017), the role of municipalities' collaboration with residents and local support networks for improving sustainability initiatives (Hawkins, Wang, 2012), the importance of a mayor's conciliatory leadership style for policy agendas that promote an inclusive and equitable city (Umberto et al., 2016), as well as the design and implementation of smart cities and villages (Broccardo et al., 2019).

Our analysis further showed that Mayors' Attitude Toward Cooperation moderates the relationship between Municipality's Involvement in Cooperation and Mayors' Prioritization of Sustainable, Smart Growth Challenges. Considering both components of the Mayor's Attitude Toward Cooperation (F1 - the mayor's attitude toward including stakeholders in the local development management process, F2 - the mayor's attitude toward initiating, mobilizing and strengthening partnerships), we confirmed a stronger moderating effect for the mayor's attitude toward including stakeholders in the local development management process. Identifying an increase in the degree of explanation of the variability of the prioritization of sustainable, smart development challenges as a result of the inclusion of the moderator helped clarify the interplay of the individual and organizational dimensions of collaborative, inclusive governance on mayors' prioritization of sustainable, smart development challenges.

The moderating effect identified is surprising. The higher the mayor's cooperative attitude is, the lower the effect of the municipality's involvement in cooperation on the prioritization of sustainable, smart development challenges, and conversely, when the mayor's cooperative attitude decreases, the prioritization of sustainable development challenges is accompanied by a higher level of cooperation between the municipality and stakeholders. Thus, on this basis, it can be concluded that the importance of cooperation projects (organizational experiences) for

the mayor's adopted development priorities decreases as the mayor's willingness to cooperate (personal beliefs of the leader) increases. The importance of organizational experiences of cooperation for the prioritization of sustainable growth challenges increases as the mayor's attitude towards cooperation (the leader's personal beliefs) decreases.

Thus, our research shows that past cooperative ventures enable municipalities to learn and influence the determination of preferred transit paths to sustainable development, at the same time, the role of past experiences for learning is less than the attitudes and beliefs of the leader, when these are largely oriented towards cooperation. This result can be explained by the predominance of cooperation of the surveyed municipalities with local actors (residents, entrepreneurs, NGOs) over cooperation with organizations with a broader scope and more expert nature of activity (experts, universities, business environment institutions, economic self-government, NGOs with national scope of activity). Although the latter are not a homogeneous category, they share some characteristics. They certainly integrate knowledge, have broader visions of transformation and experience in building partnerships, which may translate into a greater importance of working with them for learning communities and the development of sustainable, smart transit paths. In particular, the support of such actors is essential to integrate and mediate between different local policy interrelations or to define and design the digital and green development (ecosystems, biodiversity) of municipalities (Ferraris et al., 2018; Jayasena et al., 2019; Ugolini et al., 2018). A study conducted by Soberón et al. (2023) on the support of the municipality of Madrid in the operationalization of transition initiatives by the Center for Innovation and Technology for Development of the Technical University of Madrid (itdUPM), confirms the important role of this type of specialized organization in supporting municipalities in developing the capacity to collaborate and manage a sustainable transition On the other hand, an explanation for these correlations can be found on the side of mayors' attitudes towards cooperation, and in particular the somewhat lower declared support of mayors for the involvement of ethnic and minority groups and socially excluded groups in the creation of local policies or in the building of local partnerships. This may suggest that the smaller and less inclusive (and therefore including fewer perspectives) the mayor's attitude towards cooperation, the less important it is for the mayor to adopt sustainable inclusive development priorities.

6. Conclusions

The results of the survey presented in this article provide a deeper insight into the relationship between collaborative, inclusive governance, as manifested in the degree of municipal involvement in stakeholder cooperation and local leaders' attitudes toward cooperation, and the mayor's prioritization of sustainable, smart growth challenges. Based on

the results of surveys conducted in 1,236 municipalities in Poland, we confirmed the existence of a relationship between municipal involvement in collaboration and the prioritization of sustainable, smart growth challenges, as well as between municipal attitudes toward cooperation and the prioritization of sustainable, smart growth challenges. Greater capacity for collaborative, inclusive governance fosters mayors' more comprehensive perceptions of sustainability challenges. We further demonstrate that attitudes toward collaboration moderate the relationship between municipal engagement in collaboration and the prioritization of sustainable, smart growth. Our survey results shed new light on this relationship. They captured that the importance of personal factors, mayors' attitudes, and their willingness to cooperate for adopted local policy priorities is particularly high under conditions of low municipal involvement in cooperation networks. Thus, we confirm the significant impact of the local leader's beliefs on the municipality's entry into the path of transition to sustainable, smart development. When the mayor's collaborative mindset is low, the role of the municipality's engagement with stakeholders, and thus the role of the mayor's administrative background experience in prioritizing sustainable development challenges, increases. The importance of institutional factors in determining the preferred path of the municipality's transformation thus increases The predominance of personal over organizational factors in the mayor's determination of development priorities in a situation of high declarative openness to cooperation is explained by the nature of past cooperation. We found a significantly larger scale of cooperation between municipalities and local actors than with supra-local and expert actors. In addition, the smaller the scale of cooperation, the more it is limited to traditional local actors (residents, NGOs), which may have an impact on its lower importance for prioritizing sustainable smart growth than in the case of expanding cooperation with expert partners.

Based on these results, a recommendation can be made to expand municipal cooperation into partnerships with supra-local expert actors with broader resources, skills, knowledge, and visions, in order to improve the effectiveness of municipal collaborative learning and to transfer this experience to cooperation with traditional actors (e.g. residents), and consequently to adopt sustainable and smart transformation pathways. Collaborative ventures with such actors can be educational, training, experimental, and address transformations towards sustainability.

The results presented also highlight the importance of the mayoral candidate selection process in local elections and the role of residents who are aware of current local challenges. Through the electoral process, residents appoint their representative to the position of mayor, and the selection of a candidate with a consensual attitude, open to dialogue and cooperation, according to our survey results, should contribute to the formulation of local policies with a greater focus on sustainable and smart development. These survey results point to the need to educate residents about the challenges of sustainable and smart development and to influence the topics of debate during the municipal election campaign period.

Our analysis has several limitations. First, we do not take into account other factors that may determine local policy priorities, such as the ability to obtain funding for sustainable development and smart community development projects. Future analyses should therefore also consider the importance of financial factors in the priorities adopted by mayors. Second, our research is limited to an analysis of priorities and does not take into account completed sustainable smart community projects. This approach does not allow us to draw conclusions about the importance of mayors' attitudes towards and involvement in cooperation for real progress in the transition to sustainable smart development.

References

1. Akterujjaman, S.M., Mulder, R., Kievit, H. (2022). The influence of strategic orientation on co-creation in smart city projects: enjoy the benefits of collaboration. *International Journal of Construction Management*, *22*(9), 1597-1605. https://doi.org/10.1080/15623599.2020.1736834
2. Alshumrani, S., Munir, R., Baird, K. (2018). Organisational culture and strategic change in Australian local governments. *Local Government Studies*, *44*(5), 601-623. https://doi.org/10.1080/03003930.2018.1481398
3. Angelidou, M. (2015). Smart cities: A conjuncture of four forces. *Cities*, *47*, 95-106. https://doi.org/10.1016/j.cities.2015.05.004
4. Blomqvist, K., Levy, J. (2006). Collaboration capability a focal concept in knowledge creation and collaborative innovation in networks. *International Journal of Management Concepts and Philosophy*, *2*(1), 31. https://doi.org/10.1504/IJMCP.2006.009645
5. Boguszewski, R., Piłat, A., Węgrzyn, P. (2023). Global lessons from local actions: A typology of polish local government approaches to sustainable development. *Sustainable Development*. https://doi.org/10.1002/sd.2698
6. Broccardo, L., Culasso, F., Mauro, S.G. (2019). Smart city governance: exploring the institutional work of multiple actors towards collaboration. *International Journal of Public Sector Management*, *32*(4), 367-387. https://doi.org/10.1108/IJPSM-05-2018-0126
7. Chaffin, B.C., Garmestani, A.S., Gunderson, L.H., Benson, M.H., Angeler, D.G., Tony, C.A., Cosens, B., Craig, R.K., Ruhl, J.B., Allen, C.R. (2016). Transformative Environmental Governance. *Annual Review of Environment and Resources*, *41*, 399-423. https://doi.org/10.1146/annurev-environ-110615-085817
8. Chang, R., Zuo, J., Zhao, Z., Soebarto, V., Zillante, G., Gan, X. (2017). Approaches for Transitions Towards Sustainable Development: Status Quo and Challenges. *Sustainable Development*, *25*(5), 359-371. https://doi.org/10.1002/sd.1661

9. Christie, I. (2001). From Here to Sustainability: Politics in the Real World. *Environmental Management and Health*, *12*(4), 444-445. https://doi.org/10.1108/emh.2001.12.4.444.3
10. Comrey, A.L., Lee, H.B. (2013). *A First Course in Factor Analysis*. Psychology Press. https://doi.org/10.4324/9781315827506
11. Costello, A.B., Osborne, J. (2005). Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation*, *10*(7), 1-9. https://doi.org/10.7275/jyj1-4868
12. Dawes, J.H.P. (2019). Are the Sustainable Development Goals self-consistent and mutually achievable? *Sustainable Development*, *28*(1), 101-117. https://doi.org/10.1002/SD.1975
13. Elmqvist, T., Andersson, E., Frantzeskaki, N., McPhearson, T., Olsson, P., Gaffney, O., Takeuchi, K., Folke, C. (2019). Sustainability and resilience for transformation in the urban century. *Nature Sustainability*, *2*(4), 267-273. https://doi.org/10.1038/s41893-019-0250-1
14. Evans, B., Joas, M., Sundback, S., Theobald, K. (2006). Governing local sustainability. *Journal of Environmental Planning and Management*, *49*(6), 849-867. https://doi.org/10.1080/09640560600946875
15. Ferraris, A., Belyaeva, Z., Bresciani, S. (2018). *The role of universities in the Smart City innovation: Multistakeholder integration and engagement perspectives*. https://doi.org/10.1016/j.jbusres.2018.12.010
16. Field, A.P. (2000). *Discovering Statistics Using SPSS for Windows: Advanced techniques for beginners*. SAGE Publications, Inc.
17. Fornell, C., Larcker, D.F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39. https://doi.org/10.2307/3151312
18. George, J. (2018). *The contribution of community governance towards the sustainable planning and management of urban and regional green infrastructure*.
19. Grin, J., Rotmans, J., Schot, J. (2010). *Transitions to Sustainable Development: New Directions in the Study of Long Term Transformative Change*. Routledge.
20. Hair, J., Anerson, R., Tatham, R., Black, W. (1998). *Multivariate Data Analysis*. Prentice Hall.
21. Hambleton, R. (2015). *Leading the Inclusive City: Place-Based Innovation for a Bounded Planet.* Policy Press.
22. Hawkins, C.V., Wang, X.H. (2012). Sustainable Development Governance: Citizen Participation and Support Networks in Local Sustainability Initiatives. *Public Works Management and Policy*, *17*(1), 7-29. https://doi.org/10.1177/1087724X11429045
23. Hayes, A.F. (2022). *Introduction to Mediation, Moderation, and Conditional Process Analysis. A Regression-Based Approach*. Guilford Press.
24. Healey, P. (2006). Transforming governance: Challenges of institutional adaptation and a new politics of space. *European Planning Studies*, *14*(3), 299-320. https://doi.org/10.1080/09654310500420792

25. Hodson, M., Geels, F., McMeekin, A. (2017). Reconfiguring Urban Sustainability Transitions, Analysing Multiplicity. *Sustainability*, *9*(2), 299. https://doi.org/10.3390/su9020299
26. Hölscher, K., Frantzeskaki, N. (2021). Perspectives on urban transformation research: transformations in, of, and by cities. *Urban Transformations*, *3*(1), 2. https://doi.org/10.1186/s42854-021-00019-z
27. Hölscher, K., Frantzeskaki, N., McPhearson, T., Loorbach, D. (2019a). Capacities for urban transformations governance and the case of New York City. *Cities*, *94*, 186-199. https://doi.org/10.1016/j.cities.2019.05.037
28. Hölscher, K., Frantzeskaki, N., McPhearson, T., Loorbach, D. (2019b). Tales of transforming cities: Transformative climate governance capacities in New York City, U.S. and Rotterdam, Netherlands. *Journal of Environmental Management*, *231*, 843-857. https://doi.org/10.1016/j.jenvman.2018.10.043
29. IPCC (2023). *AR6 Synthesis Report: Climate Change 2023*. https://www.ipcc.ch/report/sixth-assessment-report-cycle/
30. Jayasena, N.S., Mallawaarachchi, H., Waidyasekara, K.G.A.S. (2019). Stakeholder Analysis For Smart City Development Project: An Extensive Literature Review. *MATEC Web of Conferences. EDCPSciences*, *266*. https://doi.org/10.1051/matecconf/2019
31. Krellenberg, K., Bergsträßer, H., Bykova, D., Kress, N., Tyndall, K. (2019). Urban Sustainability Strategies Guided by the SDGs —A Tale of Four Cities. *Sustainability*, *11*(4), 1116. https://doi.org/10.3390/su11041116
32. Loorbach, D. (2010). Transition Management for Sustainable Development: A Prescriptive, Complexity-Based Governance Framework. *Governance*, *23*(1), 161-183. https://doi.org/10.1111/j.1468-0491.2009.01471.x
33. MacDonald, A., Clarke, A., Huang, L. (2022). Multi-stakeholder partnerships for sustainability: Designing decision-making processes for partnership capacity. In: *Business and the Ethical Implications of Technology* (pp. 103-120). Springer. https://doi.org/10.1007/s10551-018-3885-3
34. McCormick, K., Anderberg, S., Coenen, L., Neij, L. (2013). Advancing sustainable urban transformation. *Journal of Cleaner Production*, *50*, 1-11. https://doi.org/10.1016/j.jclepro.2013.01.003
35. Meadowcroft, J., Farrell, K.N., Spangenberg, J. (2005). Developing a framework for sustainability governance in the European Union. *International Journal of Sustainable Development*, *8*(1-2), 3-11. https://doi.org/10.1504/ijsd.2005.007371
36. Mouritzen, P.E., Svara, J. (2002). *Leadership At The Apex: Politicians and Administrators in Western Local Governments.* University of Pittsburgh Pre.
37. OECD (2020). *A Territorial Approach to the Sustainable Development Goals* (OECD Urban Policy Reviews). OECD. https://doi.org/10.1787/e86fa715-en

38. Podgorniak-Krzykacz, A. (2021). The relationship between the professional, social, and political experience and leadership style of mayors and organisational culture in local government. Empirical evidence from Poland. *PLOS ONE*, *16*(12), e0260647. https://doi.org/10.1371/JOURNAL.PONE.0260647
39. Podgórniak-Krzykacz, A., Przywojska, J., Wiktorowicz, J. (2020). Smart and Age-Friendly Communities in Poland. An Analysis of Institutional and Individual Conditions for a New Concept of Smart Development of Ageing Communities. *Energies*, *13*(9), 2268. https://doi.org/10.3390/en13092268
40. Przywojska, J., Podgórniak-Krzykacz, A., Wiktorowicz, J. (2019). Perceptions of priority policy areas and interventions for urban sustainability in Polish municipalities: Can Polish cities become smart, inclusive and green? *Sustainability (Switzerland)*, *11*(14). https://doi.org/10.3390/su11143962
41. Raffer, C., Scheller, H., Peters, O. (2022). The UN Sustainable Development Goals as innovation drivers for local sustainability governance? Examples from Germany. *Public Sector Economics*, *46*(4), 459-487. https://doi.org/10.3326/pse.46.4.2
42. Rószkiewicz, M. (2011). *Analiza klienta*. SPSS Polska.
43. Rotmans, J., Loorbach, D. (2009). Complexity and transition management. *Journal of Industrial Ecology*, *13*(2), 184-196. https://doi.org/10.1111/j.1530-9290.2009.00116.x
44. Sachs, J.D., Kroll, C., Lafortune, G., Fuller, G., Woelm, F. (2022). Sustainable Development Report 2022. *Sustainable Development Report 2022*. https://doi.org/10.1017/9781009210058
45. Soberón, M., Ezquerra-Lázaro, I., Sánchez-Chaparro, T., Moreno-Serna, J., Dóci, G., Kordas, O. (2023). Supporting municipalities to develop collaboration capability to facilitate urban transitions and sustainability: Role of transition intermediaries in Madrid. *Journal of Cleaner Production*, *426*, 138964. https://doi.org/10.1016/J.JCLEPRO.2023.138964
46. Springer, A., Walkowiak, K., Bernaciak, A. (2020). Leadership Styles of Rural Leaders in the Context of Sustainable Development Requirements: A Case Study of Commune Mayors in the Greater Poland Province, Poland. *Sustainability, Vol. 12(7),* 2676. https://doi.org/10.3390/SU12072676
47. Swann, W.L. (2017). Examining the Impact of Local Collaborative Tools on Urban Sustainability Efforts: Does the Managerial Environment Matter? *The American Review of Public Administration*, *47*(4), 455-468. https://doi.org/10.1177/0275074015598576
48. Swianiewicz, P., Lackowska, M., Hanssen, G. S. (2018). Local leadership in climate change policies. *Transylvanian Review of Administrative Sciences*, *14*(53), 67-83. https://doi.org/10.24193/tras.53E.5
49. Tabachnick, B.G., Fidell, L.S. (2007). *Experimental Designs Using ANOVA*. Thomson/Brooks/Cole.
50. Transforming Our World: The 2030 Agenda for Sustainable Development (2015).

51. Tuurnas, S., Stenvall, J., Virtanen, P.J., Pekkola, E., Kurkela, K. (2019). Towards collaborative development culture in local government organisations. *International Journal of Public Sector Management*, *32*(6), 582-599. https://doi.org/10.1108/IJPSM-05-2018-0119
52. Ugolini, F., Sanesi, G., Steidle, A., Pearlmutter, D. (2018). Speaking "Green": A Worldwide Survey on Collaboration among Stakeholders in Urban Park Design and Management. *Forests, Vol. 9(8),* 458. https://doi.org/10.3390/F9080458
53. Ulbrich, S., Troitzsch, H., van den Anker, F., Plüss, A., Huber, C. (2009). Collaborative capability of teams in network organizations. *IFIP Advances in Information and Communication Technology*, *307*, 149-156. https://doi.org/10.1007/978-3-642-04568-4_16
54. Umberto, L., Dlabac, O., Gisiger, J. (2016). Leading the inclusive city in Switzerland: cooperation, strategy, or both? *Annual Congress by the Swiss Political Science Association*. https://doi.org/10.5167/uzh-130352
55. Valencia, S.C., Simon, D., Croese, S., Nordqvist, J., Oloko, M., Sharma, T., Taylor Buck, N., Versace, I. (2019). Adapting the Sustainable Development Goals and the New Urban Agenda to the city level: Initial reflections from a comparative research project. *International Journal of Urban Sustainable Development*, *11*(1), 4-23. https://doi.org/10.1080/19463138.2019.1573172
56. Westman, L., Castán Broto, V. (2022). Urban Transformations to Keep All the Same: The Power of Ivy Discourses. *Antipode*, *54*(4), 1320-1343. https://doi.org/10.1111/anti.12820
57. Wittmayer, J.M., Schäpke, N., van Steenbergen, F., Omann, I. (2014). Making sense of sustainability transitions locally: how action research contributes to addressing societal challenges. *Critical Policy Studies*, *8*(4), 465-485. https://doi.org/10.1080/19460171.2014.957336
58. Wittmayer, J.M., van Steenbergen, F., Rok, A., Roorda, C. (2016). Governing sustainability: a dialogue between Local Agenda 21 and transition management. *Local Environment*, *21*(8), 939-955. https://doi.org/10.1080/13549839.2015.1050658
59. Wolfram, M., Frantzeskaki, N. (2016). Cities and Systemic Change for Sustainability: Prevailing Epistemologies and an Emerging Research Agenda. *Sustainability*, *8*(2), 144. https://doi.org/10.3390/su8020144
60. Wolfram, M., Frantzeskaki, N., Maschmeyer, S. (2016). Cities, systems and sustainability: status and perspectives of research on urban transformations. In: *Current Opinion in Environmental Sustainability, Vol. 22* (pp. 18-25). Elsevier B.V. https://doi.org/10.1016/j.cosust.2017.01.014