



THESIS SUMMARY

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**Settlement Network Value Creation through the Tools of Settlement Diplomacy –
Development and Application of the Settlement Network Value Model in the
Case of the Association of Climate-Friendly Municipalities**

Ph.D. dissertation

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1. Research background and justification of the topic

1.1. Justification of the topic

Over the past two decades, inter-municipal network cooperation has become an indispensable instrument of local development policy. The mutually reinforcing challenges of globalisation, climate change and urbanisation compel local governments to seek development opportunities beyond vertical administrative frameworks, in horizontal, network-based cooperation, while the proliferation of transnational city networks and national thematic associations signals a structural transformation (Acuto & Leffel, 2021). Its theoretical background lies in the literature on multi-level governance (Hooghe & Marks, 2003), paradiplomacy (Tavares, 2016) and city diplomacy (van der Pluijm & Melissen, 2007; Acuto, 2016), according to which settlements are capable of independent, autonomous external action. The literature is, however, also sceptical: critics emphasise the limits of the governance influence of networks, the isolation of good practices and the decisive role of organisational capacity (Curtis, 2014). The question, therefore, is not whether settlements participate in networks, but whether participation actually generates value, and which conditions and settlement diplomacy tools this requires.

This question carries particular weight in the Hungarian context. The Hungarian system of municipal governments is fragmented: more than half of all settlements have fewer than a thousand inhabitants, and these small settlements struggle with a chronic shortage of professional, planning and grant-writing capacity. The degree of fragmentation is not exceptional in regional comparison (Swianiewicz, 2010); the specificity of the Hungarian case is that no intermediate tier compensates for the capacity deficit of small settlements, since the district (*járás*) is a unit of state administration and county governments have operated without institution-maintaining functions since 2012 (Pálné Kovács, 2016). Domestic thematic networks are organised precisely on the promise of filling this capacity gap, provided that they generate genuine added value.

1.2. Scientific background and the research gap

The international literature on city diplomacy has established a solid theoretical framework for interpreting the external action of cities (van der Pluijm & Melissen, 2007; Acuto, 2016; Marchetti, 2021; Karvounis, 2024), but it focuses almost exclusively on large cities, and this is reflected in the available measurement tools: the City Diplomacy Index (CDI) of the Equilibrium Institute (Egyensúly Intézet, 2021) was designed with fifty-eight indicators for application at the level of capital cities, the Anholt–GfK City Brands Index measures external perception, and the Urban Audit collects objective indicators of large cities. None of these can

be applied directly to a village of two thousand inhabitants or to a small village run by a three-person municipal office. In the Hungarian research field the gap is even sharper: the domestic literature treats inter-municipal network cooperation primarily from a legal-administrative, historical or case-study perspective, and according to the review by Brucker and Zsibók (2025), the overwhelming majority of Hungarian studies on municipal diplomacy address bilateral twin-town relations (see also Kézai, 2022), while the question of network participation has received little attention.

The research gap can be captured in three interrelated dimensions. The first is measurement-theoretical: existing instruments depend on settlement size and therefore cannot be applied uniformly across the entire settlement spectrum. The second concerns the object of measurement: the indices capture external perceptions or inputs, while the actually realised, internal value of network membership remains hidden. The third is substantive and theoretical: no systematic exploration has been undertaken of the conditions and mechanisms that distinguish substantive, value-creating participation from formal or symbolic membership. Without a measurable framework, the settlement development effects of network membership (knowledge transfer and advocacy (Kern & Bulkeley, 2009), as well as brand value (Anholt, 2007; Kavaratzis, 2004)) remain invisible to decision-makers.

1.3. Personal research background

The choice of topic took shape at the intersection of three interrelated professional experiences. In my ethnographic research, the formation of local identity came to the fore, in particular, the question of how settlements and communities construct and pass on their self-image tied to place (Kiss, 2015). This approach also shapes the present research, since settlements can be understood as living communities whose external relations (including their network memberships) feed back into their self-understanding and identity. My qualification in public administration management and my earlier work in local government widened this perspective towards institutional functioning and the administrative framework, and turned my attention increasingly to the horizontal forms of cooperation emerging outside the hierarchical state organisation and to the institutionalisation of relations between local governments. My thesis in regional and environmental economics, which examined the role of inter-city cooperation in the urban policy of Budapest, further reinforced the recognition that the theoretical framework of city diplomacy should be extended beyond large cities to the entire settlement spectrum. During the doctoral research, these professional and theoretical antecedents were complemented by practical experience gained as project coordinator at the Association of Climate-Friendly Municipalities. This direct connection to the research field produced a distinctive position, that of researcher and participant at once, which required heightened

methodological reflexivity, transparency of the analytical process and triangulation across several sources and methods. The conceptual antecedents and some partial results of the research are recorded in several earlier publications (Kiss & Porhajas, 2021, 2024; Kiss, 2024).

1.4. Aim, research questions and hypotheses of the study

The three dimensions of the research gap (the lack of a size-independent measurement tool applicable uniformly across the entire settlement spectrum, the unmeasured realised value of network membership, and the unexplored conditions of value creation) together define the task of the dissertation: the development of a theoretical and measurement framework that captures the value of network participation uniformly from villages to large cities, and shows what distinguishes substantive participation from formal membership. The dissertation undertakes this task in two steps, which build on each other yet each constitute a result in their own right. The first is theoretical: the dissertation links the literature on settlement diplomacy, paradiplomacy and city diplomacy with the insights of network theory, game theory and decision theory, as well as of place branding and settlement communication, into a single coherent conceptual and explanatory framework. This synthesis is neither a stocktaking of the literature nor a background chapter preparing the empirical work, but an independent scientific result, since it is the introduction of the concept of settlement diplomacy and the integration of the three theoretical traditions that make the value of network membership an analysable and measurable category at all. The second step is methodological, and it derives directly from the first. In character, therefore, the work is theoretical-methodological: one of its main aims is the construction of the measurement instrument itself, the model and composite index of settlement network value (SNV), which renders the value of network participation measurable by decomposing this framework into six size-independent variables. The empirical study is an experimental application of this model to the members of a Hungarian thematic network, complemented by an exploratory test on a second, territorially based network. The field of the study is an association with a climate protection theme, so climate policy is a recurring sub-theme of the dissertation, but the measurement tool itself can be applied regardless of policy area.

The main research question of the study is: *under what conditions does thematic network membership become a resource that increases the diplomatic capacity and network value of settlements and thereby serves their development?* The question embodies three premises: membership becomes a development resource not automatically but under specific circumstances; a dynamic relationship exists between settlement diplomacy capacity and network value; and the ultimate purpose of value creation is settlement development, not network presence in itself. Two hypotheses are attached to the main question.

H1: *The success of inter-municipal network participation coordinated through the tools of settlement diplomacy is determined not by settlement size but by the combination of structural factors (network position, activity) and dynamic factors (willingness to cooperate, resource allocation, perceived success), the realised value of which is strengthened or weakened, as a multiplier, by broad and conscious communication activity.*

H2: *The value of settlement network engagement can be operationalised with uniform behavioural and structural parameters and determined by means of a valid model, and this relationship is applicable beyond the sample network examined, in the context of other thematic inter-municipal networks, to identify the settlement development added value of network participation.*

The first hypothesis is a composite statement built on three theoretical traditions: its structural component draws on network theory (Granovetter, 1973; Burt, 1992), its dynamic component on the cooperation logic of game theory (Axelrod, 1984) and the models of bounded rationality (Simon, 1957), and its communication aspect on the place branding literature (Anholt, 2007; Kavaratzis, 2004). The second hypothesis is methodological and formulates the more general assumption that the value of network engagement can be modelled at all with a uniform, size-independent set of parameters; its examination therefore rests on the internal validation of the model and on an external application to a second network. Answering the main question is structured by three sub-questions: (SQ1) which theoretical framework is suitable for capturing the value creation inherent in inter-municipal network participation; (SQ2) with which measurable, size-independent parameters can settlement network value be operationalised, and how can a valid and reproducible composite indicator be constructed from them; (SQ3) on the basis of the empirical application, under what conditions does thematic network membership become a resource serving development.

The dissertation interprets the *settlement* as an institutional entity capable of action, in a size-independent manner; the subject of the network and the unit of measurement is the municipal government. The term *settlement network* denotes the formalised, membership-based cooperation of local governments (an association of settlements), as distinguished from the territorial-functional concept of the settlement network used in regional science (Nemes Nagy, 2009), while a *thematic network* is an association organised around a specific policy area, in contrast to territorially based cooperation.

2. Methods applied

2.1. Theoretical framework and research strategy

The theoretical framework of the research rests on three pillars, which capture complementary dimensions of inter-municipal network participation. Network theory (Granovetter, 1973; Burt, 1992; Barabási, 2002) illuminates structure and the opportunities arising from position; game theory (Axelrod, 1984) models the dynamics of interaction and the conditions of cooperative and passive strategies; decision theory (Simon, 1957; Kahneman, 2011) frames the role of resource allocation and perception. As a fourth dimension, the literature on settlement communication and place branding (Kavaratzis, 2004; Anholt, 2007) establishes that the communication of network membership affects the realised value not additively but multiplicatively. These pillars are integrated by the concept of settlement diplomacy (Section 3.1). The epistemological basis of the research is constructivist: network participation is a social construction shaped by the interpretations and motivations of decision-makers, so the study must ensure qualitative depth and quantitative measurability at once. The research is accordingly a mixed-methods case study aiming at analytical rather than statistical generalisation (Yin, 2018); the validity of the empirical base rests on the information power and typological diversity of the sample and on the triangulation of sources.

2.2. Construction of the composite indicator

The index follows the methodological standards of the OECD/JRC (2008) for composite indicators with regard to the theoretical grounding of variable selection, aggregation and normalisation. The theoretical pillars designate six variables: network position (H) and activity (A) are grounded in network theory, willingness to cooperate (E) and the success coefficient (S) in game theory, resource allocation (R) in decision theory, and the marketing multiplier (M) in the place branding literature (Table 1; the variable symbols follow the notation of the dissertation). The aggregation follows a mixed logic: compensability is undesirable within the structural term ($H \times A$) and within the dynamic term ($E \times R \times S$), so their elements enter as products, whereas a compensatory logic applies between the two components, allowing a peripheral settlement to offset its structural disadvantage with a high dynamic value; communication acts as a multiplier on the whole. The model yields two indicators that build on each other: the settlement diplomacy value (SDV) measures the unrealised network performance independent of communication, while the settlement network value (SNV) measures its value realised through communication (Figure 1):

$$SDV = (H \times A) + (E \times R \times S / 5)$$

$$SNV = SDV \times (M / 3)$$

All variables are measured on a 1–5 scale, and the conversion of raw response categories into scores is fixed in an itemised coding table; the success coefficient was normalised by the scale maximum (S/5) and the marketing multiplier by the neutral midpoint (M/3), so that the latter behaves as a unit multiplier at the value of three. SNV values were normalised to a 0–100 scale by the min–max procedure, and four performance categories (beginner, developing, advanced, leading) were distinguished. The interpretation of resource allocation is complemented by the organisational capacity index (OCI), while the willingness–activity gap (GAP), formed as the difference between willingness and activity, makes visible (building on Ajzen's (1991) theory of planned behaviour) the divergence between declared intention and actual action.

Table 1: Variables of the SNV index, their theoretical basis and operationalisation. Source: own compilation (2026)

Variable (theoretical pillar)	Proxy indicators (questionnaire items)	Computation
H – network position (network theory)	number of domestic network memberships; duration of KTSZ membership; regular contact with other member settlements; participation in international cooperation	weighted average, 1–5
A – activity (network theory)	event attendance; initiative (proposals, ideas); participation in joint projects	weighted average, 1–5
E – willingness to cooperate (game theory)	willingness to share experience; general openness; active search for cooperation opportunities; regular consultation with other settlements	average, 1–5
R – resource allocation (decision theory)	dedicated staff member; designated association officer; budget allocation	weighted average, 1–5
S – success coefficient (game theory)	average of five dimensions of membership contribution (knowledge acquisition, networking, fundraising, professional development, settlement image); network influence	average, 1–5 (S/5)
M – marketing multiplier (place branding)	image effect; communication activity; media appearances; strategic integration; target-group coverage (M1–M5)	weighted average, 1–5 (M/3)

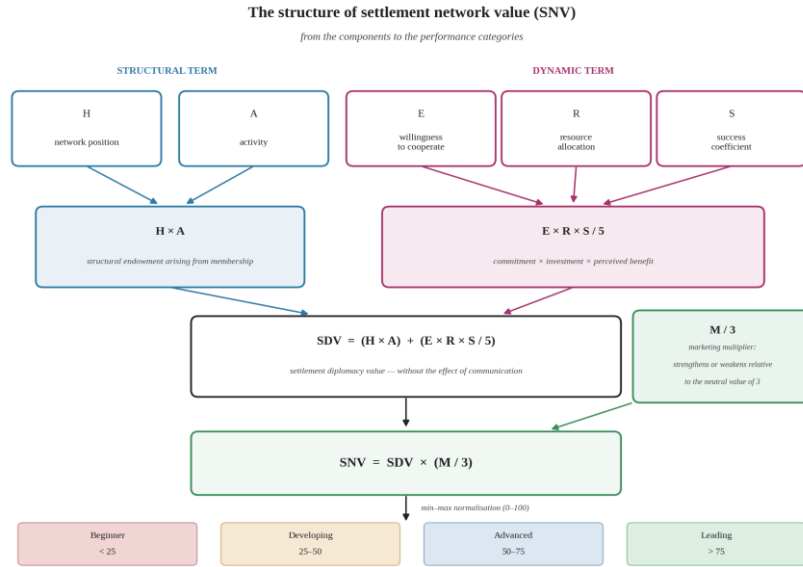


Figure 1: The structure of settlement network value (SNV) from the components to the performance categories.
Source: own compilation (2026)

2.3. The sample networks

The field of the empirical study is the Association of Climate-Friendly Municipalities (Klímbarárat Települések Szövetsége, KTSZ), Hungary's only municipal association organised specifically around a climate protection theme. Founded in 2009 as a bottom-up organisation, the Association had 99 member settlements on 1 January 2026, with a combined population of approximately 2.6 million, covering every level of the settlement hierarchy from a hamlet of 42 inhabitants to the capital city. The choice was justified by the thematic uniqueness of the network, the heterogeneity of its membership (a precondition for testing size-independence), its suitability for longitudinal examination and researcher access; the sample is not statistically representative, but it is typologically representative. For the exploratory test of the external applicability of the model, the Balaton Association (Balatoni Szövetség) was included in the final phase of the research according to the logic of the least similar case: the KTSZ is a thematic, nationwide, young knowledge network, whereas the Balaton Association is a territorially based advocacy organisation built on regional identity, founded in 1904 and re-established in 1989. If the model yields a differentiating index even in a network with such a different organising logic, the claim of modellability is supported considerably more strongly.

2.4. Data collection

Data collection took place between 2021 and 2026 in several waves and rested on three pillars. The first pillar consists of the questionnaire surveys: those of 2021 (N = 17) and 2023 (N = 30) examined the needs of the membership and the services of the Association and provide the context for the longitudinal analysis, while the third round, the backbone of the study (2024–2026, in two waves, N = 31), operationalised all six variables of the model. The latter was

based on a census attempt and reached approximately 31 per cent of the membership; the respondents were mayors, deputy mayors and administrative staff responsible for network work. In the Balaton Association, a mirror version of the KTSZ questionnaire with identical coding rules yielded 11 evaluable responses in 2026, ten of them from settlement leaders, which brought in precisely the leadership perspective whose limited presence had been a methodological limitation of the KTSZ sample. The second pillar is the series of semi-structured interviews: between 2024 and 2026, 30 interviews were conducted, 28 with municipal decision-makers and staff at 22 local governments and two with staff of the KTSZ secretariat, in several waves at four local governments. The interviews covered network position and activity, cooperation dynamics, marketing communication and their interconnections, and were processed through thematic analysis. The third, complementary pillar is a self-developed, browser-based simulation game in which the representatives of 12 settlements indicated their settlement's needs and exportable knowledge among twelve development goals; this decision-based data collection bridges the limitations of declarative responses and enabled a pilot network analysis.

2.5. Analytical procedures, validation and methodological limitations

Owing to the sample size and the ordinal level of measurement, the quantitative data were used descriptively: means, standard deviations and ranges were computed, patterns were explored through group comparisons and the method of extreme groups, and substantive conclusions were drawn through triangulation with the interview data. The validity of the index was examined along four dimensions: content validity on the basis of the co-movement of the components and the final value, construct validity through variance decomposition (R^2), criterion validity through comparison with three external variables (the number of implemented projects, fundraising effectiveness and the degree of residents' pride), and qualitative validity on the basis of the consistency of the interview material of high- and low-scoring settlements. This was complemented by the longitudinal comparison of the three survey waves and by the external application to the second network.

The dissertation treats the limitations of the research transparently. The questionnaire base of 31 elements within a single network rules out inferential statistical tests, the self-reported data collection based on a single respondent per settlement carries a risk of bias, the cross-sectional design limits causal inference, and the absence of a control group does not exclude a selection effect. These risks are mitigated by triangulation, by the introduction of the GAP (which makes the declarative bias itself visible), by the simulation game and by the leadership sample of the Balaton Association, while the reflexivity challenge of the researcher's dual role was counterbalanced by online data collection, the avoidance of leading questions and regular

supervisory consultation. These limitations do not invalidate the results, but they confine their validity to the context of the sample networks.

3. Scientific results of the dissertation

The results of the dissertation are summarised in eight theses: the first two record the theoretical-conceptual and the methodological contribution, the following five the key results of the empirical application, and the last the external and temporal validity of the model; the chapter closes with a summary answer to the main research question and the practical implications.

3.1. The concept of settlement diplomacy and the integrated theoretical framework

T1. Settlement diplomacy, as a scale-independent extension of city diplomacy, is an empirically supported conceptual framework applicable to the entire Hungarian settlement spectrum, which integrates the insights of network theory, game theory and decision theory as well as of settlement communication.

The dissertation defines settlement diplomacy as the conscious, strategic relationship-building and advocacy activity initiated and coordinated by the settlement's local government in the space of inter-municipal cooperation and networks, which extends beyond formal institutional frameworks to informal, project-based and identity-building dimensions, and whose practice rests on the mobilisation of the wider network of settlement actors. The concept is bounded in two directions: it does not extend to general communication and marketing outside the system of network relations, and it is not narrowed to the institution-centred framework of municipal diplomacy. The concept does not replace but integrates the macro-theoretical framework of paradiplomacy, the empirical richness of city diplomacy and the horizontal logic of network governance. The second element of the theoretical contribution is the synthesis that frames the value of network membership not as a structural given but as the outcome of the membership attitude (SQ1). The synthesis is therefore not a precondition of the empirical investigation in the dissertation but its first result: without the conceptual extension and the integration of the three traditions, the value of network membership could neither be described uniformly nor measured in a size-independent manner. The validity of this conceptual choice was confirmed by the empirical results, above all by size-independence (T3). The concept is not a terminological gesture but a theoretical claim supported on the sample examined, and one of particular relevance for the Central and Eastern European research field with its fragmented municipal systems.

3.2. The settlement network value (SNV) index

T2. The settlement network value index validly operationalises the value of network engagement with six size-independent behavioural and structural parameters; the model is reproducible and diagnostic by component, and it complements rather than rivals the existing international indices.

The model described by the formula $SNV = [(H \times A) + (E \times R \times S / 5)] \times (M / 3)$ unites the three theoretical pillars in a single indicator (SQ2). Its validation confirmed its validity in four dimensions. Content validity is demonstrated by the fact that every component moves markedly together with the final value, and none is redundant. Construct validity is supported by the variance decomposition: the settlement diplomacy value (SDV) explains 93 per cent of the variance of the SNV, and the structural and dynamic components contribute to the total value in a complementary rather than overlapping manner. Criterion validity is confirmed by the comparison with external indicators: each of the five settlements with the highest SNV took part in a joint project, while none of the bottom fifth did, and the fundraising rating of the top six settlements (3.83) is more than double that of the bottom six (1.67). In the qualitative validation, the interviews of high- and low-scoring settlements proved consistent with the numerical results; the anomaly of Győr (a low SNV despite a full-time international relations officer and more than twenty media appearances) is not a flaw of the model but a sign that the index detects differing strategic priorities.

The model occupies a distinctive position in the international toolkit. The CDI measures diplomatic performance at the level of capital cities with fifty-eight indicators, the Anholt–GfK index measures external perception, and the Urban Audit collects objective infrastructural data, whereas the SNV measures realised network value from an internal perspective, on the basis of behavioural variables, in a size-independent manner and on an explicit theoretical foundation. An essential difference of principle is that the SNV assigns the measured value not to the settlement as a unit but to a settlement–network relation: a local government has as many network values as the networks it belongs to, so the index is always to be interpreted with reference to a named membership, and it is suitable for comparing settlements only within the same network. On the basis of the validation, hypothesis H2 was confirmed on the sample examined.

3.3. The size-independence of network success

T3. Network success is size-independent: settlement size, legal status and the duration of membership do not determine settlement network value; size shapes not the magnitude of attainable value but the mode and conditions of network work.

The relationship between population and the SNV is negligible: population explains merely 1 per cent of the variance of the SNV. The highest value in the sample was achieved by Püspökszilág, a village of 729 inhabitants (41.57), whereas Győr with 130,000 inhabitants (8.13), Érd with 70,000 and the most populous districts of Budapest fall into the beginner category, and the average SNV of cities with county rights lags behind that of villages and large villages (Table 2). Nor does the duration of membership explain the values: Püspökszilág reached the highest value after only a few years of membership, while several settlements that joined more than a decade ago scored far lower, which contradicts the accumulation logic of network capital and indicates that the index captures intensity-based factors (attitudes, current resource allocation, perceived success and communication practice). The thesis nevertheless requires refinement: dispersion is greatest within the group of villages (both Püspökszilág and Lepsény are villages), because the network value of small and very small villages depends almost entirely on the commitment of the leader and on personal relational work, whereas towns and county seats, with their institutionalised administrations, deliver stable but rarely outstanding performance. Size thus shapes the capacity structure and risk profile of network value creation, but it does not limit the attainable value. The result challenges the implicit assumption of the city diplomacy literature that ties diplomatic capacity to size (Tavares, 2016), and it carries particular practical significance in the fragmented Hungarian municipal system, since networks offer the greatest potential benefit precisely to those with the fewest resources.

*Table 2: SNV profiles of five selected settlements along the components of the model (KTSZ sample, N = 31).
Source: own compilation based on the questionnaire survey (2024–2026)*

Settlement	Type	H	A	E	R	S	M	SDV	SNV	Category (SNV 0–100)
Püspökszilág	village	2.94	3.00	5.00	3.60	5.00	4.65	26.82	41.57	leading (100.0)
Gyenesdiás	large village	4.50	3.00	5.00	2.80	4.50	3.74	26.10	32.54	leading (77.6)
Tatabánya	city with county rights	2.40	3.60	4.50	4.40	4.20	3.32	25.27	27.97	advanced (66.2)
Győr	city with county rights	2.35	1.00	3.75	2.80	3.00	2.82	8.65	8.13	beginner (16.9)
Tés	village	2.00	0.50	3.50	1.00	3.00	1.28	3.10	1.32	beginner (0.0)

3.4. The primacy of activity and the hierarchy of the components

T4. Settlement network value is primarily behavioural rather than structural in origin: of the six variables, activity is the strongest single explanatory factor, the explanatory power of the dynamic component exceeds that of the structural component, and network value derives not from the fact of membership but from the work done with the membership.

The variance decomposition draws a clear hierarchy. The explanatory power of the dynamic term ($E \times R \times S / 5$) is 89 per cent and that of the structural term ($H \times A$) 74 per cent; the dynamic component contributes on average 58 per cent to the SDV and exceeds the structural term in 24 of the 31 settlements. Among the individual variables, activity (A) has an explanatory power of nearly 70 per cent, the success coefficient (S) 62, the marketing multiplier (M) 58, resource allocation (R) 35, willingness to cooperate (E) 34, and network position (H) 31 per cent. The hierarchy is theoretically coherent: network theory emphasises the central role of active, measurable interactions, and the logic of preferential attachment (Barabási, 2002) explains why embeddedness and activity enter a self-reinforcing cycle. The co-movement of the structural and dynamic components indicates a positive feedback loop: position and activity lay the foundation for successful cooperation, and successes in turn strengthen position, so that the transformation of membership into a resource is a self-reinforcing process. On this basis, hypothesis H1 was confirmed on the sample examined, with three refinements: the two groups of components are not of equal weight, the hierarchy of the variables is uneven, and the effect of the marketing multiplier is asymmetric (T7).

3.5. The willingness–activity gap and the typology of network strategies

T5. Declared willingness to cooperate is a necessary but not sufficient condition of network activity: the willingness–activity gap (GAP) is a structural feature of network functioning, which distinguishes three game-theoretical strategy types (cooperative, delayed cooperation and passive) and shows with diagnostic value where and why membership fails to become a resource.

Willingness to cooperate is uniformly high in the sample and therefore differentiates weakly; the real differences are carried by actual action. The average GAP of 2.16 points indicates that in most settlements there is a substantial divergence between declared cooperative intention and action, and the gap is negatively related to success: the average success score of the third with the largest GAP (2.83) falls short of that of the third with the smallest GAP (3.31). The gap points not to insincere willingness but to bounded rationality (Simon, 1957) and the planning fallacy (Kahneman, 2011): decision-makers would cooperate, but they overestimate their future capacities and underestimate the resource requirements of participation. The game-theoretical analysis identified three strategy types. The cooperative strategy (29 per cent of the sample) is the most effective, with the highest aggregate values. Delayed cooperation (48 per cent) characterises nearly half of the sample; here the gap stems from capacity constraints rather than deliberate choice, so this group carries the greatest potential for intervention. The passive strategy (19 per cent) may appear rational in the short term, but in the long run it undermines the functioning of the network (Olson, 1965; Ostrom, 1990). The typology is richer than

Axelrod's (1984) binary division, and the GAP is a new measure of the divide between intention and implementation.

3.6. The moderating role of resource allocation and the key individuals

T6. Resource allocation moderates but does not by itself determine network effectiveness: the targeted, proactive use of capacity matters more than its magnitude, and network value creation is carried by the commitment of key individuals (policy entrepreneurs, champions, boundary spanners), whose effect is moderated by structural capacity constraints.

The presence of dedicated human resources goes together with higher activity, but the capacity shortage affects the overwhelming majority of the membership: 57 per cent of the settlements in the KTSZ sample and 91 per cent in the Balaton Association sample have no dedicated staff member to handle association matters. The relationship between the organisational capacity index and the SNV reveals efficiency clusters: Tatabánya and Szekszárd achieve high values with dedicated resources, Gyenesdiás and Püspökszilág perform outstandingly with limited resources, whereas Győr shows low efficiency despite high organisational capacity. The qualitative analysis consistently showed the decisive role of the decision-maker's vision and commitment; champion theory, the boundary-spanner role and the concept of the policy entrepreneur (Kingdon, 2011; Mintrom & Norman, 2009) all proved relevant, and effective key individuals are embedded both in their own organisation and in the network. Individual agency is, however, a necessary but not sufficient condition: the case of Kóspallag shows that the effect of high commitment is moderated by constraints of human resources, language skills and grant-writing competence, which qualifies the optimism of champion theory. The designation of a responsible person institutionalises individual agency, while a change of key individual endangers the continuity of network commitment.

3.7. The asymmetric multiplier effect of communication

T7. Conscious communication acts as a multiplier on network value, but its effect is asymmetric: the absence of communication erodes realised value to a greater extent than excellent communication increases it, and the multiplier does not primarily reward excellent communication but penalises its absence.

There is a clear positive relationship between communication activity and perceived image effect: settlements that communicate regularly perceive an image effect of 3.84 points on average, those that forgo communication 1.40 points. Three communication strategy types can be distinguished: proactive communicators (five settlements, 16 per cent) achieve the highest network values with an integrated, multi-channel strategy; reactive communicators (nineteen

settlements, 61 per cent) communicate on an ad hoc basis but with considerable development potential; and passive communicators (seven settlements, 23 per cent) enter a negative spiral; the typology parallels the game-theoretical strategies. The multiplier effect can be demonstrated numerically: the marketing multiplier raised the settlement diplomacy base value by 14 per cent on average in twelve settlements and reduced it by 20 per cent on average in seventeen, with extremes of +55 and –58 per cent. The asymmetry (in the opposite direction to that assumed in the hypothesis) can be interpreted through the logic of loss aversion (Kahneman, 2011), and it also has a temporal structure: according to the visibility paradox, the most valuable returns of network work become perceptible with a delay, whereas doubts appear immediately. Communication is therefore not the subsequent presentation of results but a means of bridging this time lag by sustaining local support until results appear; hence communication within the settlement (towards residents, the municipal council and institutions) takes priority over outward communication.

3.8. The external and temporal validity of the model

T8. The SNV model can be run with an unchanged set of parameters on a network whose organising logic differs fundamentally from that of the field in which it was developed; it yields a differentiating and substantively plausible index and identifies the same regularities of functioning; the SNV measures not a permanent attribute of the settlement but a network-specific relational value, whose temporal validity is also supported by the longitudinal analysis.

The index applied to eleven members of the Balaton Association differentiated well, with values ranging from 3.83 to 28.13. The patterns identified in the KTSZ sample appeared in parallel in the second network: declared willingness to cooperate is uniformly high and weakly differentiating in both networks; the willingness–activity gap is a defining feature of functioning in both samples (with averages of 1.94 and 2.16 points respectively); the lack of dedicated capacity affects the overwhelming majority of the membership; and the variance of the index is carried overwhelmingly by activity in both samples (with independent explanatory power of 71 and 69 per cent respectively). The model can thus be run on another network not merely in a technical sense: it confirms that network value is primarily a behavioural variable, the first place of Balatonfüzfő being explained by activity rather than size, and the data of the second network do not support a determining role of size either. The most important theoretical yield of the external application is the case of Balatonberény, a member of both networks: the settlement falls into the beginner category in the KTSZ sample (SNV = 4.90) and into the developing category in the Balaton Association (SNV = 12.56), and the difference is caused by the shift of the network-specific components (activity, the success coefficient and network

position), while settlement-level resource allocation is identical in both measurements. This is among the strongest evidence of construct validity, and it identifies thematic fit (the relationship between the network's theme and the local structure of interests) as an independent condition of network value creation. The longitudinal analysis supports the temporal validity of the model: the three survey waves trace three phases of the network's development (needs assessment in 2021, service differentiation in 2023, holistic self-reflection in 2024–2026), and the paths of the recurring settlements are consistent with their SNV values: Gyenesdiás turned from a passive demander into an active shaper, Tés shows the negative spiral of stagnation, and Tatabánya shows unrealised potential despite its resources. The external application supports the generalisability of H2 at the level of an exploratory test; confirmatory generalisation requires a study with a larger sample and a longitudinal extension.

3.9. Summary answer to the main research question and practical implications

The summary answer of the dissertation to the main research question is that thematic network membership becomes a resource serving development not in itself but when six conditions are met jointly (SQ3): when the settlement (1) consciously builds its network position by participating in several networks and taking on leadership positions; (2) takes part actively in the work of the network through regular participation and initiatives; (3) shows high willingness to cooperate through experience sharing and openness; (4) allocates adequate resources in the form of a dedicated staff member and a budget line; (5) perceives the membership as successful, through the documentation of results and feedback; and (6) communicates the results of network participation consciously, with a multi-channel approach. Owing to the product structure of the model, these conditions follow a multiplicative logic: a low value of any variable reduces the whole value, while high values enter a self-reinforcing cycle. Network membership is therefore not a package from which the settlement benefits automatically upon joining, but a jointly produced resource, access to which is determined by the settlement's own investment, a settlement diplomacy adaptation of Ostrom's (1990) logic of common-pool resources. The sceptical literature rightly points to the limits of networks, but according to the results these limits lie not in the network model but in the quality of participation; in the fragmented Hungarian system, networks play a real but not automatic compensating role.

Settlement diplomacy serves as an umbrella concept for the tools that can be assigned to the development of the individual variables of the SNV, while the SNV, as a pilot diagnostic tool, shows which tool is warranted. For local governments the first step is activity, which demands not resources but a change of outlook; this is followed by the development of internal communication, the designation of a responsible person and a budget line, and the systematic

documentation of results. For network coordinators, direction is set by a differentiated support strategy, by strengthening the “shadow of the future” through visible successes and the rewarding of cooperative behaviour (Axelrod, 1984), by the conscious use of selective incentives (Olson, 1965) and by strengthening fundraising capacity through grant partnerships. The SNV can be developed into a self-assessment, benchmarking and, with the introduction of the time factor, progress-measurement tool.

The model is an open framework whose directions for further development are the extension of the sample and the inclusion of a control group, the complementing of self-reported indicators with objective data, a longitudinal design, international comparison within Central and Eastern Europe, and the portfolio-based aggregation of multiple network memberships. The most important lesson of the research is that the value of network membership is determined not by settlement size but by vision, activity and conscious communication (the consistent use of the tools of settlement diplomacy): by creating the appropriate strategic conditions, any settlement can turn its network membership into a development resource, largely irrespective of its size, location and institutional endowments.

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