

Drivers behind the Formation of Cross-border Inter-organisational Cooperation Links: the Case of the Tri-border Region between Hungary, Slovakia and Ukraine

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Abstract: The paper focuses on inter-organisational networking in a cross-border cooperation (CBC) setting. A tri-border region at an EU periphery is examined in the inquiry related to the drivers of cross-border network formation. The question is addressed why linkages between certain organisations materialise and what their motivational and enabling context is. Generic network theory serves only as a starting point: the contextual embeddedness of network-actors and the intriguing combinations of their various types and motivations persuaded the authors to adjust and combine existing conceptualisations. Explanations for inter-organisational linkages are put forward as theoretical assertions potentially rooted in social-economic peculiarities of the diverse geographical and cultural settings where CBC networks emerge. The authors wish to provoke further thinking by introducing a new perspective in both border studies and inter-organisational network analysis which could assist with understanding what lies behind existing structures.

Keywords: cross-border cooperation, inter-organisational networks, EU border regions

Introduction

As long ago as the 1950s, the implications and significance of linkages between organisations were being investigated and recognised by American authors (see, e.g., Benson 1975). During the next two decades, their role in advanced, industrial societies came under study. More systematic analysis of inter-organisational networks began a bit later, in the 1970–80s. Generally speaking, the professional literature has mainly focussed on the commercial sector, examining inter-firm connections along the overlaps between management, supervisory bodies and shareholder circles (Borgatti–Foster 2003; Müller–Seitz 2012). Nevertheless,

the study of interorganisational networks also commenced in the scholarship in social movements in the late 1970s (McCarthy–Zald 1977) and, more recently, academic interest in networks of organisations which represent *civil society and the non-profit sector* has increased (Diani–Bison 2004; Diani 2003; Baldassari–Diani 2007; Anheier–Katz 2004; Galaskiewicz et al. 2006; Bielefeld–Galaskiewicz 1998; Müller–Seitz 2012). Additionally, although networks of public organisations have been under-represented in inter-organisational network literature for a long time, there has recently been remarkable growth of scholarship that investigates such linkages in *public administration and health care* (Lecy et al. 2013). It is noteworthy that academic articles with the latter orientation are highly inclined to analyse inter-organisational linkages in terms of whole networks (Provam et. al. 2007), instead of focussing merely on connections between a few hubs (dyads, triads) of organisations: this also indicates that there is a positive and growing tendency to use the instruments and measures of network analysis to their fullest capacity in such investigations.

The network approach has become well-established in research into connections between organisations from all three sectors (public, private and civil). There are, however, some shortcomings in the literature: generic network theories that do not take into consideration sectoral specificities are often employed (Herranz 2008); there is still a lack of research into heterogeneous networks (i.e. those which bind together organisations from different sectors [Müller–Seitz 2012]); and socio-economic (including administrative-legislative, cultural-institutional) and physical geographical contexts and their influences are frequently ignored (Benson 1975).

The presently described study represents an initial effort to at least partly overcome some of these weaknesses and challenges, and to contribute to the development of the multi-disciplinary research field of inter-organisational network analysis. In fact, the task is not so difficult for the reason that the peculiarity of the subject of our research is rooted in the very shortcomings mentioned above. Firstly, we focus on cross-border cooperation (CBC), which provides a rather heterogeneous (multi-sectoral and profile-wise diverse) pool of actors, the collaborative activities of which are strongly influenced (motivated as well as limited) by the existence of national borders. The transnational setting enriches the analysis with additional dimensions such as ethnic relations. Secondly, we deal with a tri-border micro-region that can be delineated based on its geographical features (the physical/cultural/historical unit of ‘Transcarpathia’). Thirdly, and consequently, generic network theory serves as a starting point and not as an off-the-shelf conceptual tool for our analytical venture: the contextual embeddedness of network-actors and the intriguing combinations of various types (and also motivations) of actors persuaded the authors to go beyond, to adjust and combine existing conceptualisations of inter-organisational networks.

The key inquiry in the present study relates to the drivers of network formation and addresses the following question: why do linkages between certain organisations

materialise, and what is their motivational and enabling context? Firstly, five hypothetical explanations for inter-organisational linkages are proposed: these are theoretical assertions that are all potentially rooted in the sectoral and social-economic peculiarities of diverse settings in which heterogeneous, cross-border inter-organisational networks emerge. Then on a more practical level, concrete CBC networks, detected in the Hungarian-Ukrainian-Slovakian border region, are visualised and examined in order to identify situations where these drivers may be at work. Nevertheless, the authors' intention with this study is not to provide a ready and proven typology, but to provoke further thinking along these lines: i.e. to introduce a new perspective or approach in both border studies and inter-organisational network analysis which may assist with understanding what lies behind existing structures.

Drivers (motivational and enabling factors) for inter-organisational CBC

In the following section, five hypothetical explanations for inter-organisational cooperation links are put forward. These are assumptions potentially rooted in the sectoral and social-economic specificities of settings in which heterogeneous, cross-border inter-organisational networks form.

Resource-dependence

According to resource dependence theory (see, e.g., Pfeffer–Salancik 1978; Davis–Cobb 2009), three factors are key to comprehending both the internal and the external actions of organisations: social context, organisations' strategies for pursuing their own interests and relative autonomy, and prevailing power-relations. The formation of inter-organisational linkages is closely related to an organisation's need to adapt to uncertainties in their operational environment, or, in more concrete terms, with an internal lack of resources that would otherwise be required for such adaptation (Guo–Acar 2005). Among such resources are included knowledge, skills, know-how and technology. An organisation that has functional and stable linkages with others benefits from a better flow of information and exchanges which enhance such flows. Besides this advantage, trust established with partners supports the flexible implementation of formal procedures and regulations that protect the interests of all parties, as well as - perhaps - contributing to a reduction in transaction costs. In the light of these observations, one may look at inter-organisational networks (across national borders and also among heterogeneous, public, private and civil actors) as networks of interdependencies (albeit not without potential bias and power-imbalances).

Consequently, the study of the influence of resource dependence on the formation of cross-border cooperation networks brings up the following two questions (and related sub-questions):

- What kind of resource(s) does an organisation need in a given situation, to what extent are those resources internally available, and what proportion of these resources are accessible through other actors?
- Is it worth it for an organisation to accept higher demands (a greater number of tasks, or increased costs) to acquire these resources in order to maintain contacts?

When fitting these ideas into the European CBC context, and seeing the border-location as an exploitable resource in itself, it is reasonable to assume that the various assets (knowledge, financial and human capital and legitimacy) that are needed for successfully procuring funds as well as fruitfully implementing EU CBC projects cannot be owned by individual organisations. Rather, these assets are dispersed across a number of actors which belong to diverse sectors and which are located on different sides of the border, who are encouraged to share and pool these resources through the creation and maintenance of partnerships.

An external obligation to cooperate (a criterion of EU CBC funding)

Since the 1950s, the concept of 'border regions' has been present in the thinking and operations of the European Economic Community and the European Union. More recently, such areas have been dealt with as unique places, having a certain 'geographical specificity' due to their location at/across national borders (GEOSPECS 2012). This locational specificity generates both opportunities and challenges in terms of the development of the regions involved, which may be rooted in or induced by the prevalent function (O'Dowd 2001) of the given border: a barrier, a bridge, a resource, or/and a symbol of authority and identity. Also, the idea of strengthening cross-border regions (i.e. promoting the idea that the territories on both sides of a border are potentially contiguous or united) is of significant importance according to the goal which has been defined of increasing European integration and territorial cohesion, as well as to the EU's Territorial Agenda (e.g. Faludi 2009; Dühr et al. 2010; TA 2020, 2011) that justifies the promotion of CBC in these areas by means of various European Union financial instruments. Practically all EU member states have regions that are eligible to receive such EU funding that is distributed via the regional programmes of the cross-border and macro regional strands ('A' and 'B' respectively) of the Interreg programme operating at internal borders of the EU, or via the EN(P)I (the European Neighbourhood [and Partnership] Instrument) which applies to the external borders: even border regions of neighbourhood countries are able to participate in such funding schemes. Indicative of the significance of the special attention that is paid to regions located at and across borders is the fact that, according to the Association of European Border Regions (AEBR, established in 1971), there are currently approximately 163 working (cross-) border-regional formations (of different spatial scales), from which more than 90 have become members of the AEBR. Taking into consideration only internal borders, over 37% of the EU population currently live in border areas that are eligible for support from

the Interreg A programme (EC Info Regio). The EU budget for supporting border regions has also been increased: Interreg IV A had a budget of EUR 5.6 million for the period 2007-2013, while the budget for Interreg V A (2014-2020) is EU 6.6 million, and the total funding for the ENPI CBC programme (2007-2013) was increased from about EUR 950 million to over 15 billion under ENI (2014-2020) (ENPI 2015).

Stakeholders located in the border regions eligible for EU funding must comply with programme criteria to earn this support, the most essential element of which is the requirement to collaborate with actors on the other side of the border in projects that are described by the general aims or focussed priorities of the calls. Thus, one may presume that the conditional availability of EU funding (as an extra, external resource, and not a resource gained from the partnerships as in 'resource dependence') is also a major driver for the establishment of cross-border relationships.

Legitimacy and prestige

Beyond being more cost effective and facilitating access to resources, inter-organisational connections may also confer a greater degree of legitimacy (Borgatti-Foster 2003). Cooperation with civil organisations may make public and private actors more socially acceptable due to the assumption that such actors are more liable to be transparent, to engage in public dialogue and to be socially responsible. Also, NGOs and non-profit actors which are engaged in activities with public bodies and businesses (for example, by serving as intermediaries or 'checks and balances' - which also has an empowering effect) may be perceived as being more capable and legitimate in terms of fulfilling their specific missions.

As regards cross-border cooperation, there is another 'benefit' for organisations of establishing connections across a border. The prestige of being engaged in international collaborations can positively affect an organisation's profile/image: the fact that one has international partners may indicate openness, progressive-mindedness and access to new ideas and other resources and foreign markets, etc. Organisations may see EU-funded CBC projects as an opportunity to become EU-project 'branded' and to obtain a reputation for being a suitable partner for further cooperative efforts. Earning a better image can increase legitimacy and improve the power positions of organisations, thereby opening up further opportunities.

'Coopetition': cooperative competition

Coopetition, a neologism, "describes an interorganizational relationship that combines "cooperation" and "competition"" (Bouncken et al. 2015: 577). With its origins in game theory, and following occasional uses of the term in different contexts in earlier times, coopetition entered mainstream thinking through both the scientific and the popular literature in the 1980-90s, being most widely used within the field of managerial and business studies. While competition is considered to be a fundamentally important characteristic of the modern market economy,

inter-organizational ties are created through collaboration. However, although competition and cooperation may appear to be mutually exclusive categories, a number of studies have shown that they may together be manifested through a single relationship. When competing for markets and customers, multinational companies which operate in similar fields may “pool their R&D activities ... and get access to external knowledge and resources which they then can apply in their own company ...” (ibid: 589, based on Walley 2007 and Bengtsson–Kock 2000). As a more concrete example one may mention multinational companies operating in the mobile phone industry, which vigorously compete for the same customers, yet still collaborate to undertake research-intensive development in order to share the high costs of such.

To interpret ‘coopetition’ in a cross-border collaborative setting, a regional development perspective can be applied, and the focus should be broadened to include other than private organisations, too. Border areas are often peripheries not only in terms of their geographical location but also as regards their socio-economic development. Even organisations from the same sector, with similar fields of activity, i.e. those that in some way ‘compete’ with each other (not only companies for customers but also universities for students, cultural establishments for audience, towns for tourists or investments, etc.) collaborate also in order to strengthen their own visibility as well as the position of their common ‘cross-border region’ within a wider international context.

Border-crossing threats and opportunities

Finally, there are some specific fields of action which have by nature a cross-border dimension. Some problems, risks and challenges – as well as an increasing number of opportunities – do not ‘recognise’ state borders; or, on the contrary, can emerge right at the border, necessitating simultaneous and coordinated action. These cases are particularly the focus of Interreg B types of projects (CBC framed by macro-regional strategies), but are also commonly found in ‘simpler’, bilateral cross-border situations. Such objective and rather practical reasons for cooperating with others include, for example, environmental and flood-protection investments in catchment areas which cross state borders, the management of nature reserves and related tourism, national parks, cultural heritage paths, etc. which are routed alongside borders, and prevention of illegal immigration and smuggling. For the relevant actors on the two sides of a border, ‘border-blind’ or ‘border-induced’ threats or exploitation can be reduced only through CBC. Cross-border cooperation triggered by these needs and opportunities is, of course, also encouraged by resource-pooling and the prospect of synergies (as described in *Resource-dependence*), as well as by the orientations of funding programmes (*EU CBC funding*), and may even offer some prospect of boosting legitimacy (*Legitimacy and prestige*). Nevertheless, even without these additional drivers, CBC in some cases is an absolute necessity for reaching specific objectives.

The above-described drivers for establishing cross-border linkages between organisations may or may not apply in various particular border settings and periods of time. They are used by the authors as guidance and part of the analytical framework in the following more empirical account of the inter-organisational CBC network in the Hungarian-Ukrainian-Slovakian tri-border area (the Transcarpathian border region). Can some evidence be found of the presence of these motives and their different combinations? What further information is required to confirm the existence of these drivers of cooperation? To the extent the relational and contextual data allow for testing, this paper aims at answering these questions and present findings that could justify the main approach taken to fill some of the gaps in the research field into inter-organisational network analysis.

Inter-organisational CBC in the Hungarian-Ukrainian-Slovakian tri-border area

In this paper we examine cross-border cooperation networks using two databases. Primary empirical data from the international research project 'Euborderregions' (funded under EU FP7, 2011-2015) was utilised; this project was conducted in several EU-external border contexts, including the Hungarian-Ukrainian (-Slovakian) (tri-) border case. This data was collected by the authors using the snowball sampling method, by means of a survey form and personal interviews. The other, complementary information base which was used is a part of HUSKROUA (the acronym is derived from the names of the four participant countries: Hungary, Slovakia, Romania and the Ukraine), a secondary data source which was offered to us for research purposes: this database includes information about grant-winning, EU-supported CBC projects which were implemented, and their consortia. The data were collected between 2009 and 2011. Every organisation that participates in a CBC project consortium can be assumed to be linked to at least one other in a mutual, non-directional way. The final sample includes 486 actors and a total of 682 ties (the data is based on self-reporting); half of these organisations are seated in Hungary, around one-third in the Ukraine and 17 percent in Slovakia; 57 percent of all organisations included in the analysis come from the public sector, 13 percent are private enterprises and 29 percent represent the civil (non-government and non-profit) sector.

One major peculiarity of this tri-border region is the presence of a significant Hungarian minority in both the Ukrainian and the Slovakian parts, which has a substantial influence on cross-border relations. In the whole of Ukraine there are about 150 thousand Hungarians¹ most of whom reside in this border region. It is also important to note that the area under study is also an external border of the European Union, meaning that a visa regime which applies to Ukrainian citizens is in place due

1 According to the census of 2001. (In 2011 there was no census in Ukraine.)

to the Schengen Agreement (a 90-day visa costs around 35 euros)². Another significant trait of the studied area (see *Figure 1*) is that it represents geographical and economic peripheries from the perspective of the three countries, as well as on the European scale. A number of social and economic drawbacks are associated with this situation, including the poor accessibility, unfavourable demographic trends, low levels of education and entrepreneurial activity, etc. of the region, which have a significant influence on cross-border flows and cooperation.

In the following section the focus turns to examining the characteristics and processes that may be related to the five (hypothetical) explanations for the existence of inter-organisational cooperation linkages in the Hungarian-Ukrainian-Slovakian tri-border region.

Figure 1. *The tri-border region of Hungary-Slovakia-Ukraine*



Resource-dependence

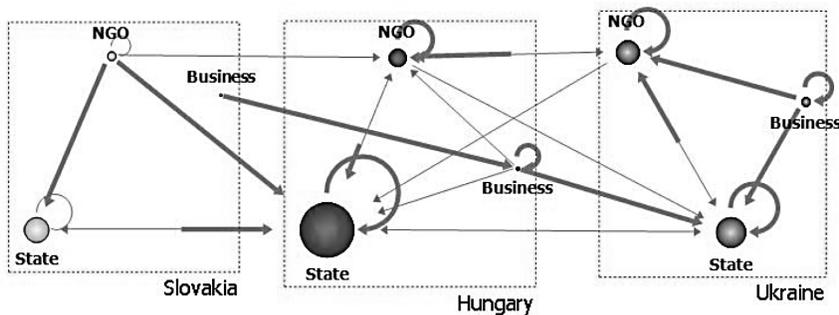
Cross-border collaborative relations may be generated by organisational resource-dependence. Distinguishing actor-organisations by sector – public, private and non-profit / non-government (including religious organisations) – can be informative in this regard. Resource-dependence can be identified mainly with NGOs as their main source of funding is state and public support (and, to a lesser extent, private sponsorship).

2 This border regime is likely to persist and continue to pose some barriers to mobility in the area unless Ukraine enters the EU, the prospects of which are rather uncertain. Since having dual citizenship is not permitted in Ukraine by law (it has been explicitly forbidden since the recent political crisis that was generated by the open territorial conflicts with Russia), the Hungarian State's offer of Hungarian citizenship for Hungarian minorities has not resulted in an increase in the mobility of the Hungarians who live in the Ukraine. Also, although Hungarian Prime Minister Viktor Orbán has suggested to the EU that visa-free entrance could be granted to Ukrainian and Georgian citizens, his proposal – due in part to the recent tensions with the Russian Federation – was strongly rejected at the Eastern Partnership Summit in Riga in May 2015.

Besides this sector-oriented typology, what is actually meant by ‘resource’ should be clarified. One obvious resource is money; however, this is not the only thing that matters: information and network capital are assets that also play an important role in supporting the functioning of organizations. While monetary flows mainly occur inter-sectorally (i.e. from state to NGO), other, non-material resources may also be transmitted through intra-sectoral relations (mostly, but not exclusively, among NGOs).

Figure 2, aggregating individual organisations and their relations on a higher, sectoral level, demonstrates that most of the actors in the case under examination are public stakeholders, while fewer of them come from business (this situation is typical of CBC relations in economic peripheries). Beyond intra-sectoral relations, relations between civil society and public actors also exist; due to the general scarcity of private stakeholders, civil participants may expect to receive external resources only from public organisations. However, it is important to note that this kind of relationship most often satisfies mutual interests: from the perspective of the state, it represents a gain in (political) legitimacy. This factor is particularly relevant to the situation with quasi-diaspora communities because the Hungarian State supports many organisations with a Hungarian background in the Ukraine.

Figure 2. Relations between sectors in the tri-border area



Note: The size of a node (which represents multiple organizations aggregated by sector) is proportionate to its number of relations (i.e. the aggregated number of organisational linkages related to the specific sector). Displayed in the illustration are linkages of individual organizations with stakeholders of a particular sector which represent a *minimum of 10%* of the total number of connections. Line thickness indicates strength of linkage: thinner lines indicate 10-19% of total links, thicker lines more than 20%.

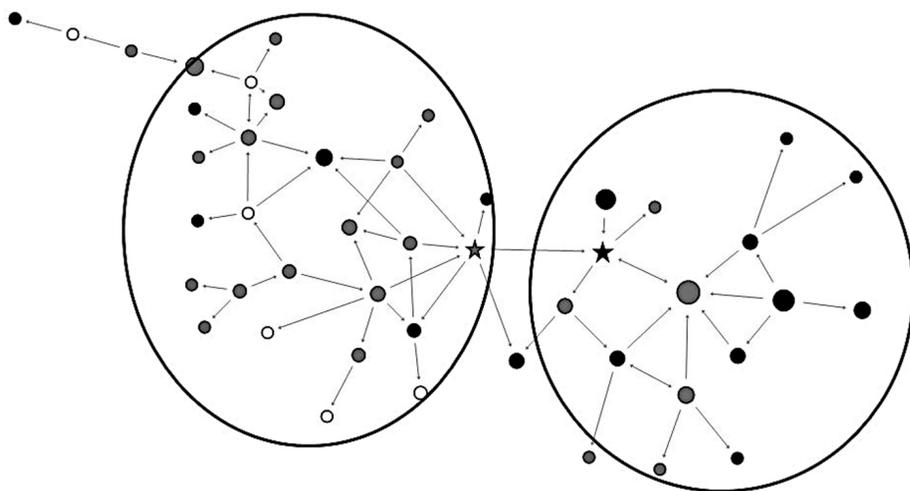
An external obligation to cooperate (a criterion for EU CBC funding)

Defining the extent to which the obligation to cooperate that is imposed by a funding programme motivates the formation of individual connections is difficult based on the level and type of data we have available in this case (namely, basic information on nodes and the fact of their collaborative connections). Nevertheless, the identified network structures hint at specific relations that are formed as a result of external rules. For

instance, organisations that are working in the field of entrepreneurial development (e.g. that support the SMEs in the region) have a central role in the CBC networks of our case study: they are often the main applicants or so-called 'lead partners' in CBC projects. They are known to specialise in distributing public/EU funds to the benefit of the regional private sector and frequently act as regional experts with regard to EU programmes.

In Figure 3 the (partly cross-border) network of business development actors is illustrated. Although many cross-border cooperation connections are identifiable, two more-or-less distinct groups that are dominated by actors from a single country are prominent. One grouping includes a central stakeholder organisation from the Hungarian side which links several Ukraine-based actors based with a few organisations from Hungary. Another bigger, more heterogeneous group of stakeholders also includes Slovakian organisations. The two clusters are connected by only two links, one of which is between the Hungarian and Ukrainian consulates (the only two actors included here whose role is not SME / business development-related, *per se*).

Figure 3. Network of organisations with a business development profile



Note: The two stars indicate consulates; the rest of the nodes are business development agencies or similar organisations. Node colours refer to countries of location: Black: Ukraine; Grey: Hungary; White: Slovakia.

Legitimacy and prestige

Obtaining legitimacy is generally a key issue, especially for civil organizations. In post-socialist countries NGOs were only able to start work after the change of regimes of the early 1990s. In the region under study, NGOs are typically small-sized and weak in resources; they depend mostly on public funds. A smaller or newly established organisation can demonstrate its competence and commitment to a certain topic by linking itself to a stakeholder with more power, resources,

and a good reputation: collaborating with a well-known civil society organisation or developing good relations with influential bodies from the public sector may pave the way for future support, further networking opportunities and successful funding applications. There is at least one example in the region for the fact that the process of legitimation occurs bi-directionally: mutual legitimacy-building occurs between the public and the third sector when, as part of its quasi-diaspora politics, the Hungarian State offers financial support to civil organisations led by representatives of the Hungarian minority in Ukraine and in Slovakia via the Bethlen Gábor Foundation, thus also building legitimacy for its own political goals.

'Coopetition': cooperative competition

Coopetition is obviously more likely to occur among businesses than between NGOs or public stakeholders. However, since the investigated border area represents a dual periphery (both within the respective countries and on the European scale) in terms of its geographical location and economic development, the number of enterprises is low. NGOs in the region are in competitive relation for symbolic capital while they tend to cooperate in order to gain material capital; however, further data collection would be needed in order to pinpoint more concrete 'cross-border coopetition' examples in the studied case.

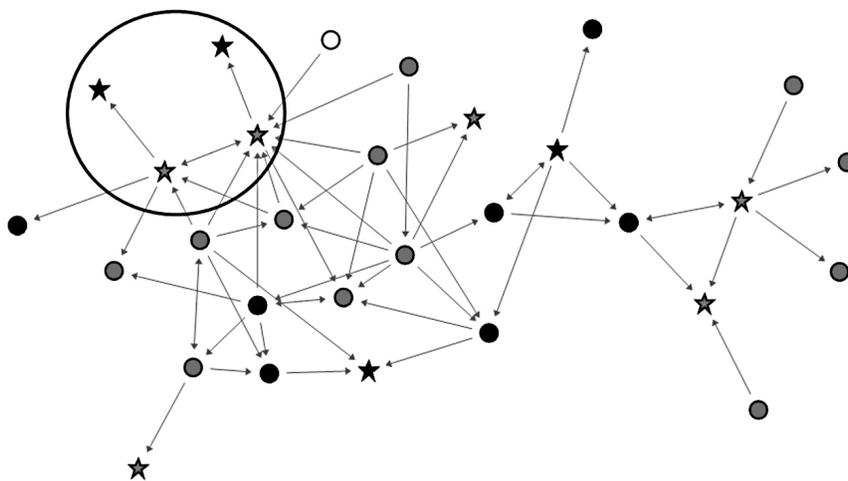
Nevertheless, other instances of 'coopetition' can be detected – however, with a reversed logic. In our studied case of a peripheral CBC area, the prospect of obtaining EU funds is also a source of competition, not only of collaboration. In Figure 3 above – in which the network of business development actors is introduced – two groups can be easily identified: a Hungarian-dominated group, including a few Ukrainian and Slovakian actors, and a group with more Ukrainian organisations cooperating with fewer Hungarian business-development agents. The reason for this constellation is likely to be attributable to the fact that the two groupings (with similar aims and profiles) are competing with each other for EU funding, while on the level of individual organisations, there is natural cooperation in their everyday operations.

Border-crossing threats

As mentioned earlier, there exist undesirable phenomena which do not respect the existence of national borders and some others (e.g. illegal cigarette trafficking) that are generated by the existence of the former. In such cases, actors from neighbouring states are required to cooperate to overcome and prevent the occurrence of negative incidents and processes. These problems, including environmental issues and associated risks or health-related challenges such as epidemics, require a collaborative solution. Combating criminal activities also requires relevant authorities to cooperate. Smuggling (cigarette smuggling is currently the most pressing issue on the Ukrainian-Hungarian border) can only be properly dealt with through the collaborative engagement of actors on both sides of the border. Thus, as cooperation

in such cases is often the only solution, CBC is triggered by practical necessity and is the very reason for the existence of many of the collaborative projects. A CBC network in the field of nature conservation and flood prevention is illustrated as an example in *Figure 4*. One of four organisations concerned with the protection of the Tisza River, an NGO from Hungary, has the highest number of collaborative linkages (10) in the network; and the majority of the organisations connected are located in Hungary. Tisza has gained also a symbolic significance in trans-national environmental risk prevention in Hungary since 2000 when the cyanide spill in Romania (close to the Hungarian border) caused considerable environmental damage along its course in this country. Established collaborative links in the region in this field emerged from the need of a preventive approach.

Figure 4. Cooperation among nature protection organizations as an example of cooperation to combat border-crossing threats



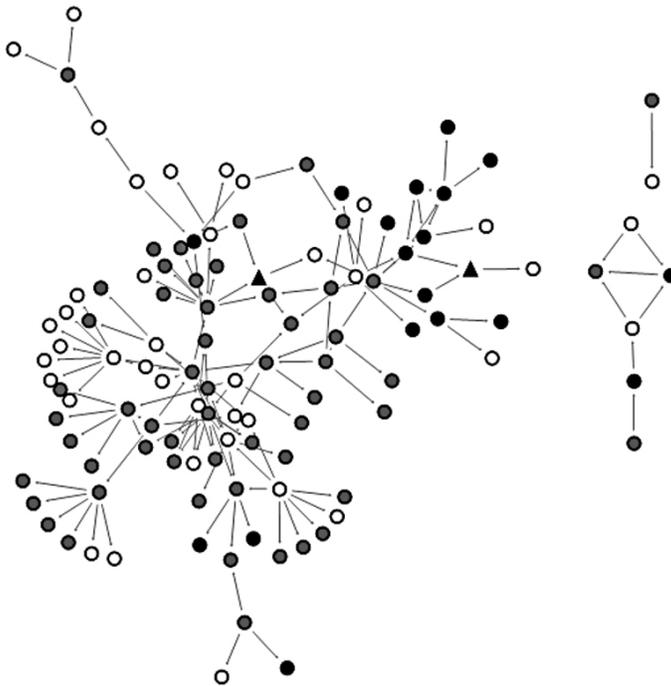
Note: The stars refer to actors working in the area of environmental protection; the circled star-nodes represent civil organisations whose activity is connected to the river Tisza. Nodes marked with circles are other types of organisations. Node colours refer to countries of location: Black: Ukraine; Grey: Hungary; White: Slovakia.

Other conditioning structural factors in cross-border networking: cultural embeddedness, individual overlaps and institutionalized cooperation

In the introduction the importance of the Hungarian minorities in Slovakia and Ukraine was already mentioned. The role of this quasi diaspora is a significant factor in the connectedness of organizations. During the research, representatives of organisations were asked also to supply the names of individuals from other organisations with whom they are in contact. From the names provided, ethnic

connections could be identified at a relatively high level of certainty. In *Figure 5* the ethnic background of the stakeholder organisations engaged in CBC is displayed. In Ukraine, 41.5% of the actors have a Hungarian background. Consequently, a large share of the relationships which exist between organisations based in Hungary and Ukraine can be said to be 'mono-ethnic' (i.e. they link Hungarians with Hungarians).

Figure 5. Ethnic composition of the CBC network

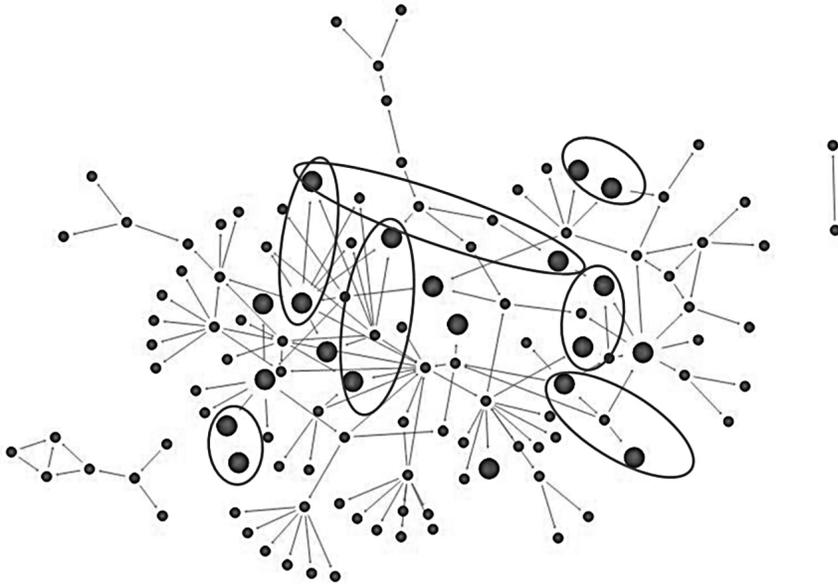


Note: Black circle: Ukrainian; Grey circle: Hungarian; Black triangle: Mixed (Hungarian-Ukrainian); White circle: Unknown.

Through analysing the ethnic background of the actors in greater depth we discovered that there are numerous cases in which the same person represents more than one organization. These people mainly work for civil organizations, but it is also common for individuals to represent a sectoral mix of stakeholders in the region (mostly local authorities and NGOs at the same time). Comparison of the three countries of the tri-border area indicates that overlapping positions most frequently occur in Ukraine (14 percent of the total, with 8 percent in Slovakia and 4 percent on Hungarian territory). The high proportion in Ukraine could be the consequence of the presence of the Hungarian quasi diaspora: many qualified people have migrated away from this region due to its relative poverty and higher levels of corruption, and those who stay may take on multiple functions (this observation

should be confirmed through further research). In *Figure 6*, overlapping relations across the Ukrainian organizations in the network are indicated. These relations do not necessarily indicate direct connections (since actors may be operating in different sectors), but such overlapping positions strengthen the symbolic capital of the actors at both the personal and the organizational level, and may increase the likelihood of cross-border cooperation.

Figure 6. Overlaps among individual organisational representatives in Ukraine



Note: Larger nodes indicate overlapping (individual) actors. Not all the overlapping connections are marked for the sake of legibility.

Finally, Gould and Fernandez (1989) identify five roles based on the network structure of intergroup relations (coordinator, gatekeeper, representative, itinerant, and liaison). Although it is not our purpose here to provide examples of each of these (partly due to the lack of certain types of data), some of these roles may also be identified from our CBC case study. Foreign countries are represented by consulates and the regional delegates of main consulates which have an important role in improving the cultural and economic relations between neighbouring states, and thus are institutionally predestined to be significant actors in CBC networks. In this sense, consuls are representative, using Gould's typology. Hungary delegates a consul to Mukachevo, and Ukraine to Nyíregyháza. It is interesting to observe in *Figure 3* above that the Hungarian consul-delegate occupies a central position in the map of linkages and has many entrepreneurial development-related connections in the network, while this is not the case with their Ukrainian counterpart in Hungary.

In sum, *Table 1* (below) lists the five potential drivers of cooperation and comments on them from two perspectives: the relation between the cooperating actors, and their sectoral affiliation. ‘Relation’ here refers to how the actors are positioned in relation to each other (which may involve, for instance, disparities in economic and/or symbolic forms of capital). However, there are other features which are potentially involved in stakeholder-nodes in a CBC network, such as size and field of activity (e.g. education, health care, social services, research, environmental protection, forestry, border control, etc.) which, through their inclusion in the analysis, allowed further observations to be made regarding the factors which drive cooperation.

Table 1. Mixed forms of cooperation

Nature of cooperation	Type of relation according to position of actor	Type of sectoral relation
<i>Resource-dependence</i>	Unequal actors	Same and different sectors
<i>External obligation to cooperate</i>	Not relevant	Same and different sectors
<i>Legitimacy and prestige</i>	Unequal actors	Same and different sectors
<i>Coopetition</i>	Basic equivalence between actors	Same sector
<i>Border-crossing threats and opportunities</i>	Not relevant	Issue-dependent

Another way to look at the five drivers of CBC networks is by examining ‘equality of relations’. Coopetition is the only driver of cooperation in which actors are basically equivalent in status; in fact, their having equal positions is a precondition of coopetition. In the case of *resource-dependence*, as well as in the case of *legitimacy and prestige*, there is always a dominant and a weaker organisation involved in the relationship. With an *external obligation to cooperate*, as well as *border-crossing threats and opportunities*, the typology is not relevant as the driving factor behind CBC involves a degree of necessity that is imposed by a network-external influence.

Summary and conclusions

In this paper a typology is proposed and tested to aid the investigation into the factors and conditions which may be driving the formation of cross-border cooperation networks. Potential factors that motivate CBC between organisations were identified from pre-existing multidisciplinary studies, as well as from earlier empirical research that was carried out by the authors in various border regions, including the tri-border area that is the focus of the empirical tests described in this paper.

Network visualisation and some basic measures of network analysis were implemented to find situations in the Hungarian-Ukrainian-Slovakian borderland where the hypothetical drivers of CBC could be operating. Although the five potential

drivers of the formation of cross-border cooperation networks were treated in the beginning of this study as more-or-less distinct influences, several examples indicate that more than one of the motivating factors may be in play in any given (cross-border) inter-organisational linkage. Isolating and confirming these different factors in particular cases is difficult and requires greater depths of data not only about the organisation-nodes in the network but also regarding the actual nature of each cooperation links between them.

The few examples presented above confirm that the use of these relatively simple visualisations of the networks of cooperation links between stakeholders in a particular cross-border context not only helps with describing network configurations (densities, clusters, cross-border asymmetries, nodes in special 'brokerage' roles), but may generate insights into processes behind the emergence of the structures. However, additional information (e.g. familiarity with institutional settings, or the cultural and historical contexts of specific border regions) is definitely needed to confirm observations, or in some cases, to come up with anything more than mere speculation. While acknowledging this drawback, the authors of this study still encourage the (critically selective and thoughtful) use and a more sophisticated adaptation of SNA tools in the investigation of CBC networks and further research into the potential driving factors of collaboration in various contexts.

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