

KEY FACTORS OF INTER-ORGANISATIONAL COLLABORATION IN THE PUBLIC SECTOR AND THEIR STRENGTH

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Abstract

Background. Inter-organisational collaboration is contemporarily the basis for functioning of a public sector organisation. However, it is not a simple process and it does not always help to achieve the assumed goals. Its course is determined by factors related to various aspects of an organisation's activity, among which many have key significance.

Research aims. The main objective of this paper is to identify and rate the key factors contributing to effective inter-organisational collaboration in the public sector.

Methodology. The research is based on desk research methodology and the hermeneutic process within a focus group.

Key findings. As a result of the conducted research we identified the key factors of Inter-organisational collaboration in the public sector. We also evaluated the power of influence and the power of relations of these factors, which enabled ascertaining which of them determine the success of collaboration between organisations.

Keywords: effectiveness of inter-organisational collaboration, valuation of the strength of impacts and relations.

INTRODUCTION

Inter-organisational collaboration appears when two or more organisations come into partner relations in order to achieve the assumed goals. It means “any joint activity by two or more agencies working together that is intended to increase public value by their working together

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rather than separately” (Bardach, 1998, p. 8, quoted in: O’Leary & Vij, 2012, p. 508). It consists in counterbalancing divergent interests and making use of the differences between collaborating organisations in the scope of knowledge, skills and resources in order to develop innovative solutions to complex problems (Hardy, Phillips & Lawrence, 2005).

However, inter-organisational collaboration is not a simple process and the achieved effects may differ significantly from the expected results. This situation may be influenced by limitations resulting from opportunism, asymmetric structure of the correlations between organisations, developed systems of supervision, or centralisation of the coordination and decision making functions, which decreases the flexibility of actions and limits innovativeness (Young & Denize, 2008, p. 47). Therefore, collaborating can be less than advantageous (McGuire, 2006, p. 40). As written by Chris Huxham and Siv Vangen (2005, p. 37) “don’t do it unless you have to!” since effective inter-organisational collaboration is dependent on many factors, which in the subject literature are studied in specific perspectives and contexts. Although all of these factors are important, one may distinguish amongst them those which impact the level of collaboration to a lesser or greater degree. Therefore, the objective of this paper is to identify and rate the key factors contributing to effective inter-organisational collaboration in the public sector.

METHODOLOGY

Our work bases on the analysis of international scientific literature and it covered issues related to inter-organisational collaboration. Publications connected with the general collaboration theory and inter-organisational collaboration in the public sector played a key role in this scope. We focused on foreign literature, indexed in generally acclaimed databases (Web of Science, Scopus) and works in English, in order to obtain a picture of inter-organisational collaboration that would be as objective as possible.

Moreover, based upon the research conducted so far (Kożuch & Sienkiewicz-Małyjurek, 2016a; 2016b), the relations occurring between relational factors of effective inter-organisational collaboration were examined. These analyses were carried out within a hermeneutic process within a focus group of scholars conducted in December

2014, within a four-person group of researchers actively involved into investigating inter-organisational collaboration. Two of them have been involved in research in this domain for over 10 years, and the remaining two – for over 5 years. Discussions within two sessions were held in 2014 on the grounds of practical instances and analyses of typical collaborative situations.

In the existing research we have focused on identifying the key factors, which we have explicated in greater detail for the needs of this work, grouping them appropriately. Furthermore, we focused our analyses on evaluation of the strength of their impacts, and also the strength of identified relations of inter-organisational collaboration in the public sector.

The collection and analysis of empirical data have been achieved on the basis of research carried out under the research project titled “Coordination, communication, and trust as factors driving effective inter-organisational collaboration in the system of public safety management” (DEC-2012/07/D/HS4/00537), financed by the funds of the National Science Centre. Preparing of the publication was financed by the Statutory Research 2013–2016 of the Institute of Public Affairs of the Jagiellonian University in Cracow entitled “Managing Public Sector”.

THEORETICAL BACKGROUND

Basis of inter-organisational collaboration theory

Collaboration is a positive type of interaction related to endeavours of a cooperative nature, which are accompanied by the expectation of mutuality (Kozuch, 2011). In reference to inter-organisational relations it includes those relations which combine each organisation in realisation of common goals. It is characterized by a high level of inter-dependency and it is of a long-term nature. It is defined as “a durable relationship that brings previously separate organisations into a new structure with commitment to a commonly defined mission, structure, or planning effort” (Perrault *et al.*, 2011, p. 283). Depending on the strength of relations, collaboration is stronger than coordination, but before integration (Selden, Sowa & Sandfort, 2006, p. 413; Sandfort & Milward, 2008, p. 154). It is situated within the following range (Skelcher & Sullivan, 2008, p. 757):

- cooperation – shared information and mutual support;
- coordination – common tasks and compatible goals;
- collaboration – integrated strategies and collective purpose;
and
- coadunation – unified structure and combined cultures.

In contrast to cooperation and coordination, collaboration is more dynamic and interdependent in its nature (Gray & Wood, 1991). It is also less unified and integrated than coadunation. Furthermore, collaboration differs from networks representing structures of inter-connected nodes where information and knowledge are transferred (Swan *et al.*, 1999, p. 263; Franco & Duarte, 2012, pp. 56–58; Kallio & Lappalainen, 2015, p. 142). It may be separated into three interrelated dimensions which include (Simatupang & Sridharan, 2004, pp. 22–24):

- sharing information which relates to collecting and distributing current and significant information essential in the process of planning and controlling the course of action;
- synchronising while taking a decision which refers to joint decision-making in the area of operational activities; and
- motivational adjustment which refers to risk, costs, and benefits resulting from actions jointly accomplished.

Among the types of collaboration one can distinguish collaboration between individuals, between a group of workers, inter-organisational, and inter-sectoral. In the case of inter-organisational collaboration, the reference literature analyses these issues in broad terms and from multiple perspectives (Barringer & Harrison, 2000; Verdecho *et al.*, 2012). The investigations revolve around causes and effects behind establishing collaboration between organisations (Cetindamar, Bülent & Basmacı, 2005; van Winkelen, 2010), barriers surfacing in this domain (McGuire & Agranoff, 2011; Caceres & Paparoidamis, 2007), types of inter-organisational relations which occurred (Oertel & Walgenbach, 2012; Henderson & McGloin, 2004), and methods for management of inter-organisational collaboration (Park *et al.*, 2010; Singh, 2011). The main determinants for collaboration contain (Arya & Lin, 2007; Hansen & Nohria, 2004; Hardy, Phillips & Lawrence, 2003; Powell, Koput & Smith-Doerr, 1996; Kożuch & Dobrowolski, 2014):

- the need to raise resources and skills by specific organisations that are not able to produce them alone;
- inevitability for consolidation of resources of collaborating organisations in order to jointly address problems;

- necessity to share knowledge, embrace organisational learning, and create new knowledge;
- utility of the use of experience gathered by other organisations influencing taking better decisions;
- potential for better management of resources, and for savings through the transfer of best practices;
- need to create innovative solutions;
- suitability and purpose for establishment of relationships with other organisations, and thus increasing capacities of individual organisations for collaboration; and
- need to affect other organisations.

The above factors that determine inter-organisational collaboration indicate the necessity to collaborate in order to keep operating, and they emphasise the lack of capacities to operate individually. All the enumerated needs are likely to be satisfied due to inter-organisational collaboration, and their fulfilment increases the performance and effectiveness of operations conducted by specific organisations. These findings have been corroborated by the research carried out in Canada in four health regions on the base of semi-directed interviews conducted with 33 administrators and professionals (D'Amour *et al.*, 2004). Based on that, it was found that the regions with the highest level of inter-organisational collaboration have the most efficient services and display the highest level of responsiveness. Whereas Cynthia Hardy, Nelson Phillips, and Thomas B. Lawrence (2003) based on a study of the collaborative activities of a non-governmental organization (NGO) in Palestine, state that involved and embedded collaborations produce the strategic effects, knowledge creation effects, and influence effects. The research conducted on the basis of a case study from 20 organisations that provide early care and education services in New York and Virginia shows that inter-organisational collaboration has a positive and significant impact on staff compensation, staff turnover, and school readiness (Selden *et al.*, 2006). Meanwhile, the analyses produced by Stephan Vachon and Robert D. Klassen (2008) with regard to inter-organisational, environmental collaboration between supply chain members, point out growth of processes performance and better quality of products. Experiences in the area of effects stemming from inter-organisational collaboration reveal that this collaboration tends to be a cyclical process that encompasses shared standards and relationships beneficial for all parties. Essentially, this evolves into a form of interaction over time.

Factors of effective inter-organisational collaboration

In our analysis we focused on these publications which examined the factors driving the progress of inter-organisational collaboration. The majority of publications analysed take into account, when classifying factors affecting collaboration, the context which embraces all determinants of external environment having influence on the progress of activities performed. Zeno C.S. Leung (2013) ranked among these determinants the following: policy, emergence, and development of social problems and needs. Similar views are subscribed by Mary W. Ales *et al.* (2011) and Paul W. Mattessich *et al.* (2001), who extended this set by adding issues related to history with previous collaborations. Whereas Harshada Patel *et al.* (2012) classified the following to the context of collaboration culture, environment, climate to work, and organisational structure. In other publications, the determinants underlying collaboration mostly refer to: social, cultural, political, and economic factors. Against the backdrop of current determinants, factors of inter-organisational collaboration are largely identified with regard to the collaboration organisation, its structure, included resources, executed processes, inter-organisational relationships, or collaborative governance. Principally, a collaborating organisation pertains to the strategy of joint actions, shared mission, vision, and objectives, as well as organisational philosophy, values, and leadership preferences (Raišienė, 2012; Fedorowicz, Gogan & Williams, 2007). Essentially, it applies to the factors regarding objectives behind collaboration. Meanwhile, the organisation's structure includes the principles and rules as well as setting up task forces. Mary W. Ales *et al.* (2011) argues that this structure should be flexible to changing work requirements. Resources harnessed for collaboration cover sufficient funds, staff, materials, equipment, tools, appropriately skilled personnel, and time, while the executed processes primarily relate to learning, coordination, communication, decision making, and trust building (Patel, Pettitt & Wilson, 2012; Mattessich Murray-Close & Monsey, 2001). A substantial part of factors driving effective inter-organisational collaboration, detailed in the literature, is openly connected with relationships binding specific organisations and their employees. Zeno C.S. Leung (2013) specified them as trust, respect, understanding, effective communication, friendship, and informal connections. Other authors also enumerate interdependence of the particular organisations, time

of collaboration, constraints, iteration, expectations, etc. Similar importance for inter-organisational collaboration is attached to capacities for joint action which, according to Kirk Emerson *et al.* (2011), include: procedural and institutional arrangements, leadership, knowledge, and resources. An equally extensive group of factors deals with characteristics inherent to organisations as well as their employees' personality traits which, among others, include: trust between individuals, respect for the other people involved in the collaboration, and commitment among the collaboration participants (Olson, Balmer & Mejicano, 2011). Whereas, P.W. Mattessich *et al.* (2001) defined the following as the characteristics of the organisation: mutual respect, understanding, trust, an appropriate cross section of members, seeing collaboration as self-interest, and the ability to compromise. Meanwhile, factors of collaborative governance comprise collective knowledge management, error management, communication, inter-organisational trust, learning processes, coordination of inter-organisational task forces, etc. (Patel, Pettitt & Wilson, 2012; Franco, 2011).

The completed analyses probing the factors of effective inter-organisational collaboration imply that they mutually penetrate and complement one another. It was also noticed that emergence and relevance of collaboration factors illustrated in the reference literature depend on the perspective embraced from which collectively executed actions are analysed. For instance, Jane Fedorowicz *et al.* (2007) conducted studies in three areas, namely: external environment, agency context, and collaborative network. Chris Ansell and Alison Gash (2007) analysed collaboration factors with regard to starting conditions, institutional design, facilitating of leadership, and collaborative process. While research made by Mário Franco (2011) encompassed collaboration structure and processes.

Our previous analysis identifies a set of fundamental factors fostering effective inter-organisational collaboration. These factors were structured by collaboration areas, thus forming such a simplified typology: factors of external environments, factors related to organisation characteristics, factors related to people's characteristics, relational factors, and instruments of inter-organisational collaboration (Kožuch & Sienkiewicz-Małyjurek, 2016a). They are presented in Figure 1.

Principally, the reference literature depicts the factors that influence the efficiency of inter-organisational collaboration in a collective manner, without differentiating those with determining or influencing character

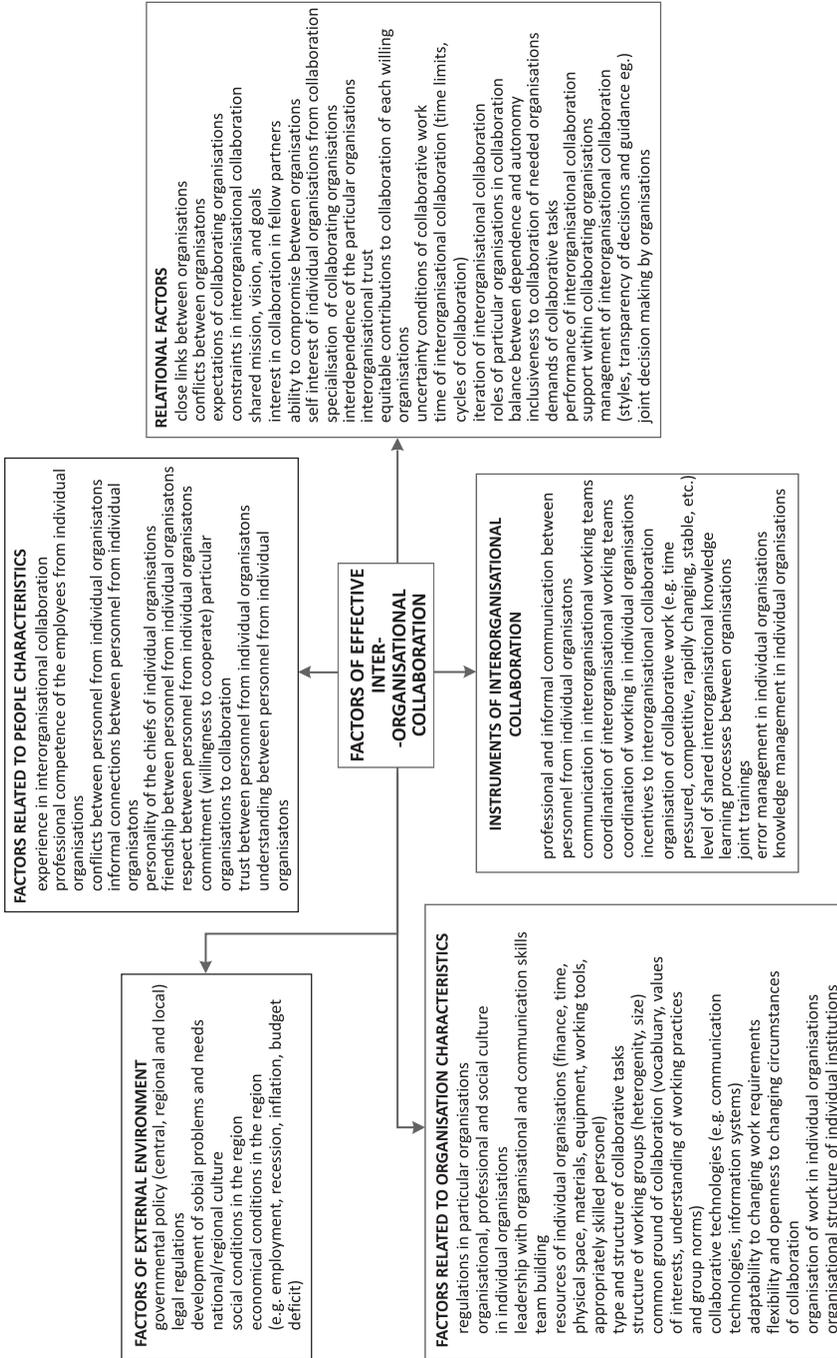


Figure 1. Factors of effective inter-organisational collaboration

Source: elaborated based on B. Kożuch, K. Sienkiewicz-Małyjurek (2016a). Factors of effective inter-organizational collaboration: A framework for public management. *Transylvanian Review of Administrative Sciences*, 12(47), pp. 97–115.

(McQuaid, 2010; Garmann-Johnsen & Eikebrokk, 2014). In some cases it may however be noted that the factors that set up the backdrop for collaboration are distinguished from those that have influence on jointly performed processes. For instance Zeno C.S. Leung (2013) identified contextual factors, goal-related factors, collaborative structures, and interpersonal relationships. The first two groups have a character that determines collaboration, whereas the remaining two affect its progress. By the same token, Patel *et al.* (2012) classified the factors that influence inter-organisational collaboration into seven groups, including two groups that determine that collaboration (collaboration context and collaboration support) and five groups that affect its evolution (collaborative tasks, collaborative interaction processes, teams, individuals, and overarching factors affecting or interacting with other factors). Whilst factors identified by Kirk Emerson *et al.* (2011) were divided into those referring to determinants of inter-organisational collaboration and influencing collaborative dynamics. The determinants include: system context (e.g. resource conditions, legal frameworks, power relations) and drivers (leadership, consequential incentives, interdependence and uncertainty). Whereas factors influencing collaborative dynamics embrace: principled engagement (e.g. discovery, determination), shared motivation (mutual trust and understanding, commitment, etc.) and capacity for joint action (e.g. institutional arrangements, leadership; knowledge). In other publications used in the analyses, the classification into determining and influencing factors has not been indicated.

Furthermore, the impact of particular factors is dependent on the degree of inter-organisational collaboration. In this respect the following may be distinguished: active, developing, and potential collaboration (D'Amour *et al.*, 2008, p. 11). Active collaboration is characterised by stability and sustainability based on common, consensual goals, mutual trust and a sense of interdependence. It is an advanced form of collaboration. Developing collaboration is based on open and accessible negotiations. It is a situation where a consensus has not yet been negotiated. Finally, potential collaboration refers to beginning of common activities. It also includes problematic situations obstructing satisfactory collaboration. Depending on the collaboration level, specific factors gain a different importance, and their impact varies over time.

In this article we study which factors of effective inter-organisational collaboration are the most important. We identify them from among the factors grouped and presented in Figure 1. Our approach includes

most of the elements pointed out by other authors and moreover it enables not only identifying the key factors, but also evaluate them in a more comprehensive way.

RESULTS

Identification of key factors of inter-organisational collaboration in the public sector

In this article we assumed that all of the identified factors have an impact on inter-organisational collaboration, but to various degree. Taking this into account the hermeneutic process within a focus group of scholars was used to evaluate the power of the relations between the identified factors of effective inter-organisational collaboration in the public sector. To this aim, a three rank grade scale was used, namely:

- 1 – weak influence
- 2 – medium influence
- 3 – strong influence

Consequently, key factors, which have the greatest impact on the effectiveness of inter-organisational collaboration, were established. They are presented in Table 1.

Table 1. Key factors of effective inter-organisational collaboration in the public sector

| GROUP | FACTORS |
|---|---|
| Factors related to organisation characteristics | <ul style="list-style-type: none"> regulations in particular organisations structure of collaborative tasks structure of working groups (heterogeneity, size) common ground of collaboration (vocabulary, values of interests, understanding of working practices, and group norms) adaptability to changing work requirements flexibility and openness to changing circumstances of collaboration leadership with organisational and communication skills organisational culture in individual organisations professional culture in individual organisations organisation of work in individual organisations organisational structure of individual institutions resources of individual organisations (finance, time, physical space, materials, equipment, working tools, appropriately skilled personnel) |
| Factors related to people's characteristics | <ul style="list-style-type: none"> experience in inter-organisational collaboration professional competence of the employees from individual organisations commitment (willingness to cooperate) of particular organisations to collaboration |

Table 1. cd.

| GROUP | FACTORS |
|---|--|
| Relational factors | specialisation of collaborating organisations interdependence of the particular organisations close links between organisations time of inter-organisational collaboration (time limits, cycles of collaboration) conflicts between organisations uncertainty conditions of collaborative work expectations of collaborating organisations roles of particular organisations in collaboration demands of collaborative tasks |
| Instruments of inter-organisational collaboration | inter-organisational trust professional communication between personnel from individual organisations communication in inter-organisational working teams coordination of inter-organisational working teams coordination of working in individual organisations |

Source: own study.

As a result of the conducted qualitative analysis it was ascertained that factors related to external environment do not have a key impact on the effectiveness of inter-organisational collaboration. This may result from the fact that they have the same impact on all organisations operating in a given area. Moreover, they are beyond the capabilities of the impact of these organisations, which cannot shape them according to their own preferences, but even the opposite – they must adapt to them.

The key impact on the effectiveness of inter-organisational collaboration is possessed by factors related to organisation characteristics and relational factors. This results from the need to possess by each organisation of specific capabilities for collaboration. This proves the necessity of existence of appropriate conditions inside the organisation, so that they are able to enter into partner relations. The factors related to organisation characteristics include such features that determine openness to contacts with other organisations. Whereas, relational factors enable organisations enter into partner relations and build the rules of collaboration. Nevertheless important are factors related to people's characteristics, such as experience, competence, and commitment since inter-organisational collaboration is both built and represented by contacts between individuals. Whereas, instruments of inter-organisational collaboration, including trust, coordination, and communication constitute the basis for realisation of the collaboration processes.

Evaluation of the power of impact and the power of relations of key factors of inter-organisational collaboration in the public sector

We conducted the evaluation of the key factors of effective inter-organisational collaboration in the public sector taking into account mutual complementing and stimulating of each factor. We analysed the impact of each factor taking into consideration the fact that none of them if treated individually guarantee that collaboration will produce significant effects. However, interaction and the relations taking place between them have a decisive impact on the results of collaboration of the whole public administration. Therefore, the next stage of analyses was evaluating the impact of the key factors on effective inter-organisational collaboration and the interactions between them. We evaluated the power of the impact of each key factor within a group of scholars based on the following grade scale: 0 – lack of impact or minor impact, 1 – strong impact, and 2 – very strong impact. Next, we calculated the arithmetic mean of the obtained grades. However, we decided that although the arithmetic mean is an important criterion, it is not an adequate measure. In our assessments, the number of links of a given factor with the other factors and the number of its very strong impacts are of significant importance. In our evaluation of the power of the impact of each factor we decided to use the said parameters and give them appropriate importance as follows: arithmetic mean – 0.5; number of impacts – 0.2; and number of very strong impacts – 0.3. In this connection our evaluation was based on the following formula:

$$S_{\text{KSFi}} = 0.5 \cdot A_i + 0.2 \cdot I_i + 0.3 \cdot \text{SI}m_i$$

where:

- S_{KSFi} – index of the power of impact of a given factor “i”,
- A_i – arithmetic mean of the evaluation of the impact of a given factor “i” on other factors,
- I_i – number of recorded impacts of a given factor “i” on other factors,
- $\text{SI}m_i$ – number of very strong impacts of a given factor “i” on other factors.

The results obtained from the evaluation of the power of impact of each key factor of inter-organisational collaboration in the public sector are presented in Table 2.

Table 2. Evaluation of the power of impact of the key factors of inter-organisational collaboration in the public sector

| FACTOR | A_i | I_i | SI_{m_i} | S_{KSFi} |
|---|-------|-------|------------|------------|
| specialisation of collaborating organisations | 1.56 | 18 | 10 | 7.38 |
| professional competence of the employees from individual organisations | 1.13 | 23 | 3 | 6.07 |
| regulations in particular organisations | 1.44 | 16 | 7 | 6.02 |
| communication in inter-organisational working teams | 1.62 | 13 | 8 | 5.81 |
| leadership with organisational and communication skills | 1.36 | 14 | 5 | 4.98 |
| demands of collaborative tasks | 1.27 | 15 | 4 | 4.83 |
| organisational culture in individual organisations | 1.11 | 18 | 2 | 4.76 |
| professional culture in individual organisations | 1.19 | 16 | 3 | 4.69 |
| inter-organisational trust | 1.60 | 10 | 6 | 4.60 |
| experience in inter-organisational collaboration | 1.13 | 16 | 2 | 4.36 |
| coordination of inter-organisational working teams | 1.33 | 12 | 4 | 4.27 |
| commitment (willingness to cooperate) of particular organisations to collaboration | 1.36 | 11 | 4 | 4.08 |
| close links between organisations | 1.17 | 12 | 2 | 3.58 |
| coordination of working in individual organisations | 1.30 | 10 | 3 | 3.55 |
| professional communication between personnel from individual organisations | 1.30 | 10 | 3 | 3.55 |
| time of inter-organisational collaboration (time limits, cycles of collaboration) | 1.30 | 10 | 3 | 3.55 |
| uncertainty conditions of collaborative work | 1.33 | 9 | 3 | 3.37 |
| interdependence of the particular organisations | 1.20 | 10 | 2 | 3.20 |
| common ground of collaboration (vocabulary, values of interests, understanding of working practices, and group norms) | 1.09 | 11 | 1 | 3.05 |
| resources of individual organisations (finance, time, physical space, materials, equipment, working tools, appropriately skilled personnel) | 1.29 | 7 | 2 | 2.64 |
| structure of collaborative tasks | 1.13 | 8 | 1 | 2.46 |
| conflicts between organisations | 1.13 | 8 | 1 | 2.46 |
| organisational structure of individual institutions | 1.40 | 5 | 2 | 2.30 |
| organisation of work in individual organisations | 1.50 | 4 | 2 | 2.15 |

Table 2. cd.

| FACTOR | A_i | I_i | SI_{m_i} | S_{KSF_i} |
|---|-------|-------|------------|-------------|
| structure of working groups (heterogeneity, size) | 1.00 | 8 | 0 | 2.10 |
| expectations of collaborating organisations | 1.17 | 6 | 1 | 2.08 |
| roles of particular organisations in collaboration | 1.00 | 5 | 0 | 1.50 |
| adaptability to changing work requirements | 1.50 | 2 | 1 | 1.45 |
| flexibility and openness to changing circumstances of collaboration | 1.50 | 2 | 0 | 1.15 |

Source: own study.

The results of our analyses indicate that the greatest power of impact amongst the key factors of inter-organisational collaboration in the public sector belongs to specialisation of collaborating organisations. It determines the necessity of collaboration and shapes the relations between each organisation. The specialisation of collaborating organisations also determines the roles of the actors in specific conditions. Of equal importance are the professional competence of the employees from individual organisations and the regulations in particular organisations. They emphasise the necessity of existence of appropriate conditions within each organisation, so that they are capable of collaborating with others.

Taking into consideration similar assumptions as in the case of evaluation of the power of impact of each key factor of inter-organisational collaboration, for the evaluation of the power of relations of a given factor with other factors, we used the following formula:

$$R_{KSF_i} = 0.15 \cdot A_i + 0.15 \cdot A_{if} + 0.3 \cdot E_i + 0.4 \cdot SE_i$$

where:

- R_{KSF_i} – index of the power of relations of a given factor “i”,
- A_i – arithmetic mean of the evaluation of the impact of a given factor “i” on other factors,
- A_{if} – arithmetic mean of the evaluation of the impact of other factors on a given factor “i”,
- E_i – number of recorded impacts of a given factor “i” and its being under the impact of other factors,
- SE_i – number of very strong interactions of a given factor “i” with other factors.

The results obtained from the analysis of the power of relations of the key factors of inter-organisational collaboration in public sector are listed in Table 3.

Table 3. Evaluating of the power of relations of the key factors of inter-organisational collaboration in the public sector

| FACTOR | A_i | A_{if} | E_i | SE_i | R_{KSFi} |
|--|-------|----------|-------|--------|------------|
| communication in inter-organisational working teams | 1.62 | 1.20 | 33 | 12 | 15.12 |
| coordination of inter-organisational working teams | 1.33 | 1.32 | 34 | 11 | 15.00 |
| specialisation of collaborating organisations | 1.56 | 2.00 | 21 | 13 | 12.03 |
| time of inter-organisational collaboration (time limits, cycles of collaboration) | 1.30 | 1.29 | 27 | 8 | 11.69 |
| inter-organisational trust | 1.60 | 1.20 | 25 | 9 | 11.52 |
| commitment (willingness to cooperate) of particular organisations to collaboration | 1.36 | 1.36 | 25 | 9 | 11.51 |
| interdependence of the particular organisations | 1.20 | 1.38 | 26 | 8 | 11.39 |
| close links between organisations | 1.17 | 1.25 | 28 | 6 | 11.16 |
| leadership with organisational and communication skills | 1.36 | 1.00 | 27 | 6 | 10.85 |
| flexibility and openness to changing circumstances of collaboration | 1.50 | 1.50 | 20 | 10 | 10.45 |
| professional culture in individual organisations | 1.19 | 1.33 | 25 | 6 | 10.28 |
| professional communication between personnel from individual organisations | 1.30 | 1.21 | 24 | 6 | 9.98 |
| adaptability to changing work requirements | 1.50 | 1.30 | 22 | 7 | 9.82 |
| organisational culture in individual organisations | 1.11 | 1.11 | 27 | 3 | 9.63 |
| conflicts between organisations | 1.13 | 1.46 | 21 | 7 | 9.49 |
| professional competence of the employees from individual organisations | 1.13 | 2.00 | 24 | 4 | 9.27 |
| regulations in particular organisations | 1.44 | 1.00 | 19 | 8 | 9.27 |
| demands of collaborative tasks | 1.27 | 1.14 | 22 | 5 | 8.96 |
| coordination of working in individual organisations | 1.30 | 1.44 | 19 | 7 | 8.91 |
| structure of collaborative tasks | 1.13 | 1.36 | 19 | 5 | 8.07 |
| organisation of work in individual organisations | 1.50 | 1.36 | 15 | 6 | 7.33 |
| common ground of collaboration (vocabulary, values of interests, understanding of working practices and group norms) | 1.09 | 1.25 | 19 | 3 | 7.25 |
| experience in inter-organisational collaboration | 1.13 | 1.50 | 18 | 3 | 6.99 |

Table 3. cd.

| FACTOR | A_i | A_{if} | E_i | SE_i | R_{KSFi} |
|---|-------|----------|-------|--------|------------|
| structure of working groups (heterogeneity. size) | 1.00 | 1.13 | 16 | 1 | 5.52 |
| roles of particular organisations in collaboration | 1.00 | 1.09 | 16 | 1 | 5.51 |
| expectations of collaborating organisations | 1.17 | 1.00 | 14 | 1 | 4.93 |
| uncertainty conditions of collaborative work | 1.33 | 1.00 | 11 | 3 | 4.85 |
| resources of individual organisations (finance, time, physical space, materials, equipment, working tools, appropriately skilled personnel) | 1.29 | 1.00 | 12 | 2 | 4.74 |
| organisational structure of individual institutions | 1.40 | 1.50 | 9 | 4 | 4.74 |

Source: own elaboration.

The results of our research enable ascertaining that communication and coordination of inter-organisational working teams is characterised by the greatest power of relations. These instruments are connected with other factors, with which they are mutually stimulated, to the highest degree. They determine the level of relations in inter-organisational collaboration. Specialisation of collaborating organisations is characterised by connections that are not much weaker. Strong interactions with other factors also join together time of inter-organisational collaboration, inter-organisational trust, commitment of particular organisations to collaboration, interdependence, and close links between organisations. Among other relational factors they are of fundamental importance.

CONCLUSIONS

The reference literature provides numerous publications dedicated to the analysis of collaboration factors. Some of them analyse the impact of factors solely selected for their effectiveness in inter-organisational collaboration, whereas the others seek to identify the largest possible number of factors, affecting collaborative performance due to their appropriate configuration. In essence, this paper focused on the first approach and finding out what factors influence inter-organisational collaboration and their intensity. The studies were conducted to identify and rate the key factors contributing to effective inter-organisational collaboration. We focus on the public sector.

In this article we conducted a literature review related to conditions that determine the level of inter-organisational collaboration. Based upon the research conducted so far, we identified the key factors of this collaboration in the public sector and next we created two indexes for its evaluation, namely: the index of the power of impact and the index of the power of relations of a given factor. Based upon the conducted analyses we ascertained the following:

1. Many factors have an impact on the course of collaboration in the public sector, which may be divided into five groups, namely: factors of external environments, factors related to organisation characteristics, factors related to people's characteristics, relational factors, and instruments of inter-organisational collaboration. Each factor has different power of the impact on the course of collaboration and what is more all of complement each other, increasing or decreasing their impact.
2. The analysis of the impact of the key factors of inter-organisational collaboration in the public sector indicates that key significance in this scope belongs to the distinguishing features of each organisation that make up specialisation of collaborating organisations and professional competence of the employees from individual organisations, namely the sets of specific organisational competencies. This enables counterbalancing the lacks and shortages of other collaborating organisations. Therefore, one may deem the specific capabilities of collaboration between organisations, which determine the capabilities of entering into external partner relations, as the most important factor of the effectiveness of inter-organisational collaboration.
3. Communication and coordination of inter-organisational working teams area characterised by the greatest power of relations. They enable maintaining constant relations and effectively managing the collaboration processes. Strong relational indexes are characteristic of other factors, which enable cultivating relations and building durable connections between organisations. These include the following: specialisation of collaborating organisations, time of inter-organisational collaboration, inter-organisational trust, commitment of particular organisations to collaboration, interdependence, and close links between organisations.

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KLUCZOWE CZYNNIKI WSPÓŁPRACY MIĘDZYORGANIZACYJNEJ W SEKTORZE PUBLICZNYM I ICH SIŁA

Abstrakt

Tło badań. Współpraca międzyorganizacyjna jest współcześnie podstawą funkcjonowania organizacji sektora publicznego. Jednakże nie jest ona łatwym procesem i nie zawsze pomaga osiągnąć założone cele. O jej przebiegu decydują czynniki odnoszące się do różnorodnych aspektów działania organizacji, wśród których wiele ma decydujące znaczenie.

Cel badań. Głównym celem artykułu jest zidentyfikowanie i ocena kluczowych czynników będących źródłem efektywności współpracy międzyorganizacyjnej w sektorze publicznym.

Metodologia. Badania bazują na metodyce desk research, hermeneutycznym procesie opierającym się na grupie fokusowej.

Kluczowe wnioski. W rezultacie przeprowadzonych badań zidentyfikowaliśmy kluczowe czynniki współpracy międzyorganizacyjnej w sektorze publicznym. Oceniliśmy również siłę oddziaływania i siłę relacji tych czynników, co pozwoliło stwierdzić, które z nich decydują o sukcesie we współpracy między organizacjami.

Słowa kluczowe: efektywność współpracy międzyorganizacyjnej, wartość siły wpływu i relacji.