

FACTORS OF EFFECTIVE INTER-ORGANIZATIONAL COLLABORATION: A FRAMEWORK FOR PUBLIC MANAGEMENT*

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Abstract

The purpose of the paper is to identify factors driving effective inter-organizational collaboration, investigate the impact of these factors on efforts launched in public management and systematize them. To accomplish the aim of the paper, a systematic literature review and a hermeneutic process based on a focus group with scholars were used. The studies conducted enabled recognition of key publications analyzing drivers behind effective inter-organizational collaboration, to formulate the typology of these drivers as well as to divide them into those with strong, medium or weak influence on collaborative public management. It was stated that all drivers identified affect the effectiveness of inter-organizational collaboration in the public sector, though by varying degrees. These factors are mutually complementary, and thus bolstering or mitigating their effects on effective collaboration. They jointly determine the effectiveness of inter-organizational collaboration in public management.

Keywords: public management, inter-organizational collaboration, collaboration factors, collaborative effectiveness.

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1. Introduction

Inter-organizational collaboration is defined as ‘any joint activity by two or more agencies working together that is intended to increase public value by their working together rather than separately’ (Bardach *apud* O’Leary and Vij, 2012, p. 508). It constitutes benefits for all parties and well-defined relationships between two or more organizations aiming to attain common goals by these organizations (Mattessich *et al.*, 2001; Payan, 2007; Phillips *et al.*, 2000). In essence, it is open-ended in its character, results from evolution of inter-organizational relations, and becomes widely applicable in the private, public as well as non-governmental sectors. Growing significance of inter-organizational collaboration in operations of enterprises and institutions mostly results from uncertainty of the environment, quest for competitive or cooperative advantage, and from the fact that today they are unlikely to act on their own.

In the public sector inter-organizational collaboration has received unfaltering interest for two decades, resulting from the growing complexity of social problems (Marlin *et al.*, 2009). Intensified studies carried out in this field suggest that it enables meeting social needs in an easier and more effective manner than through individual actions (Leung, 2013). However, though the practice of collaboration between organizations is widely applied, the rationale behind its implementation is commonly obvious, and it is not a new phenomenon, it is extremely difficult (Kaiser, 2011; Fedorowicz *et al.*, 2007). Legal requirements or collaboration agreements fail to constitute sufficient conditions to ensure effective inter-organizational collaboration. After all, its process is governed by numerous factors having attributes concerned with both internal as well as external determinants which encompass characteristics of collaborating organizations. Nonetheless, there is little systematic evidence to document the conditions of effective inter-organizational collaboration (Daley, 2009, p. 477). Therefore, the objective of this paper is to identify factors contributing to effective inter-organizational collaboration, to examine the impact of these factors on actions undertaken in public management and to systematize them. The studies were completed as part of the research project entitled ‘Coordination, communication and trust as a factors driving effective inter-organizational collaboration in the system of public safety management’, financed by the funds of the National Science Centre allocated on the basis on the decision no. DEC-2012/07/D/HS4/00537.

2. Theoretical background

Collaboration is defined as ‘a durable relationship that brings previously separate organizations into a new structure with commitment to a commonly defined mission, structure, or planning effort’ (Perrault *et al.*, 2011, p. 283). Through collaboration organizations can deliver services in a more effective way (Leung, 2013). However ‘collaborative advantage will be achieved when something unusually creative is produced’ (Huxham *apud* O’Leary and Vij, 2012, p. 510).

The analysis of collaboration as a management tool (Vangen and Huxham, 2010, pp. 181-182) shows that it yields benefits irrespective of its scope, forms and intensity, and whether it is relevant to informal relations among organizations or tightly-knit correlations within a partnership collaboration, though these determinants do affect the character and scale of the benefits and their importance in meeting goals of collaborating organizations (Kozuch and Dobrowolski, 2014, p. 89).

For some researchers, inter-organizational collaboration is solely a predilection of being a good partner, and for others a kind of invisible product of collaboration such as results from sharing knowledge and mutual understanding (Huxham, 1996, pp. 15-16; Lank, 2006, pp. 7-9; Huxham and Hibbert, 2008). Others view collaborative advantage as a complex category, agreeing with its fundamental concept which includes benefits produced by collaboration, without which were unlikely to be achieved. However, building collaborative advantage is an element of modern management in the sphere of widely understood public services. The successful collaboration can be recognized from five perspectives (Vangen and Huxham, 2010):

1. substantive outcomes: better use of public funds, improvements in public service provision, raised citizen awareness;
2. highly productive processes of collaboration as measure of organizational success;
3. emergent milestones: starting to take account of each other's interests, holding of jointly organized events; achieving major final targets;
4. collaboration recognition: by those not involved and valued in its own right; and
5. personal and organizational pride: signifying collaborative success through personal fulfilment and specific content of the organizational culture.

All these five perspectives convey that managing collaborations is a complex endeavor structured around themes like common aims, working processes, organizational communication, accountability and organizational trust. The reference literature points out that shortages or deficiencies in these respects may be seen as the determinants for collaboration (Arya and Lin, 2007; Hansen and Nohria, 2004; Hardy *et al.*, 2003; Powell *et al.*, 1996).

Distinctions between management in the public sector and the private sector have profound implications for shaping inter-organizational collaboration. Compared to the private sector, public organizations management are marked by: higher authoritarianism, lesser autonomy of operations and decision-making, larger openness to impacts from the environment, enhanced formalization of functioning, broader array of tasks, and reduced or no pressure from competitors (Kearney *et al.*, 2009; Jamali, 2004; Boyne, 2002). For enterprises, competitiveness is a primary mechanism guiding their operations and collaboration is embraced when it complements and even boosts competitiveness of business organizations, which is the prerequisite to sustain them on the market and generate gains. Whereas for relationships of entities in the public and non-governmental sectors it is typical to collaborate to bolster opportunities

for providing public services (McGuire, 2006; Sienkiewicz-Małyjurek, 2012). Furthermore, organizational and legal requirements oblige public organizations to collaborate both within the sector and beyond it.

Inter-organizational collaboration is diversified in its scope, structure, form and targets to be pursued. In each case, it is different, it proceeds distinctly and specifically for each situation depending on current internal and external determinants. Moreover, the understanding and the practical application of principles guiding inter-organizational collaboration hinge on their interpretation, and thus they may considerably differ among organizations. Basically, it may be illustrated by the differences in the use of collaboration principles by local government units and military, where distinctions may arise from diverse responsibilities, legacy, authority structure, organizational frameworks and autonomy among the components (Kaiser, 2011, p. 5). In addition, the identification of conditions for inter-organizational collaboration itself poses a challenge, because in each case unique considerations and elements are required (Perrault *et al.*, 2011, p. 283). Even well-formulated collaboration principles may not bring anticipated outcomes (Sienkiewicz-Małyjurek, 2014). Possibilities and effects of collaboration may be constrained by, for instance, opportunism resulting from asymmetrical structure of dependencies among organizations, supervision systems diminishing capabilities for effective management of interpersonal relationships or by increased centralized coordination shrinking flexibility of relationships and their innovativeness (Young and Denize, 2008, p. 47). Therefore, collaboration can be less than advantageous (McGuire, 2006, p. 40).

Forging appropriate relations within inter-organizational collaboration is a challenging process which requires continuous supervision and cultivation. This process is modelled by numerous elements and determinants, both at the phase when joint actions are orchestrated as well as when they are executed. Therefore, it is important to recognize the factors at the heart of efficiency of inter-organizational collaboration and to systemize them, as well as to analyze their implications for ventures jointly performed.

3. Methodology

Our main research objective was to identify what factors influence inter-organizational collaboration and then analyze the intensity of this influence.

The research presented in this paper drew on the following research methods: systematic literature review (SLR) and hermeneutic process based on a focus group with scholars. SLR was carried out in November 2014 based in the PRISMA Group methodology (Moher *et al.*, 2009). The reasons behind the choice of the method was that it allows for eliminating deficiencies of traditional narrative literature reviews which lack scientific rigor and include bias (Tranfield *et al.*, 2003; Nightingale, 2009; Webster and Watson, 2002). The research used databases Scopus and Web of Science. Search covered all possible configurations among combinations of word selecting on

the base of inter-organizational collaboration properties, provided in the first column and those in the second column in Table 1. A symbol '**' was used at the end of keywords in order to extend the range and quantity of publications identified. The search was limited to English-language papers in scientific magazines and conference publications. Additionally, the research has embraced management, social and administration sciences.

Table 1: Combinations of words and terms used in research

Combinations of words	Terms
'interorganisationalcollaborat**'	Factor
'inter-organisationalcollaborat**'	Component
'interagency collaborat**'	Determinant
'inter-agency collaborat**'	Indicator
'multi-organisationalcollaborat**'	Perform*
'multiagency collaborat**'	Success
'multi-agency collaborat**'	Effectiveness
'cross-organisationalcollaborat**'	Efficiency
'cross-agency collaborat**'	Efficacy
'cross-boundary collaborat**'	
'collaborat* governance'	
'collaborat* management'	
'collaborat* public management'	

Source: own study

The process of regular literature review covered four primary phases, i.e. identification, screening, eligibility and inclusion (Figure 1).

Having identified the factors contributing to effective inter-organizational collaboration, their analysis was carried out using the hermeneutic process based on a focus group with scholars. Research was conducted in December 2014 within a group of four scholars actively investigating the issues of inter-organizational collaboration. Discussions within brainstorming sessions were held on the grounds of practical instances and analyses of typical collaborative situations. On the whole, as a result a typology of factors furthering effective inter-organizational collaboration was designed and the strength of their impact on activities undertaken in public management was defined.

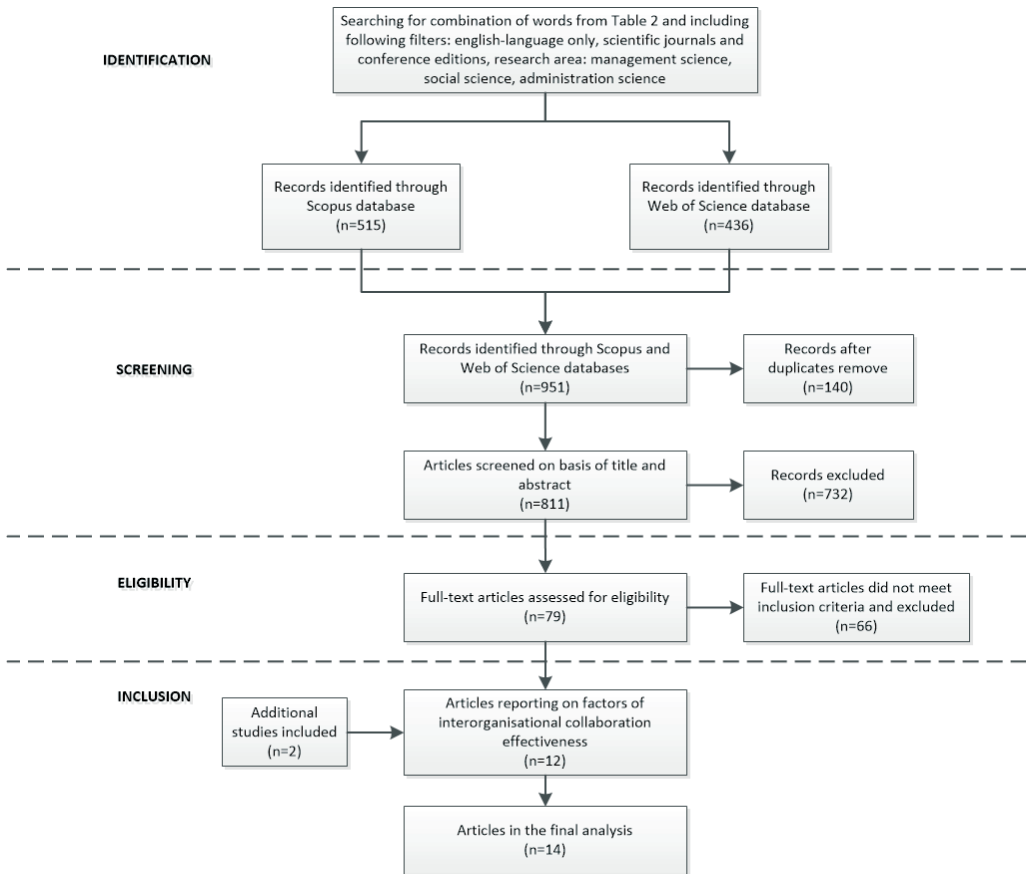


Figure 1: Applied methodology of regular literature review

Source: own study based on Moher *et al.*, 2009

4. Results

4.1. Systematic literature review (SLR)

The research carried out with the use of SLR focused on those publications which examined the factors driving the progress of inter-organizational collaboration. Overall, based on the analysis of their texts, only the papers directly addressing the issues concerned were selected for further studies (Table 2).

The studies involved an in-depth analysis of factors affecting collaboration illustrated in the publications identified. The analyses integrated the research context as well as the purpose and methodology applied. These elements were taken into consideration while designing a typology of factors contributing to effective inter-organizational collaboration.

Following the analysis of key texts, the collection of factors affecting the progress of inter-organizational collaboration was identified. They included the factors which create the need to jointly execute the actions as well as determine the progress and

Table 2: Characteristics of key publications identified through SLR

Author	Title	Source/No.	Year	Purpose	Methodology
Leung, Z.C.S.	Boundary spanning in inter-organizational collaboration	Administration in Social Work / 37	2013	Discussion on boundary-spanning process of managing complex and delicate inter-personal and organizational relationships	Semi-structured interviews, field notes
Patel, H., Pettitt, M., Wilson, J.R.	Factors of collaborative working: A framework for a collaboration model	Applied Ergonomics / 43(1)	2012	Review of collaboration in the form of a framework of factors and sub-factors of collaboration as a basis for the CoSpaces Collaborative Working Model	Literature review, in-depth interviews
Raisienė, A.G.	Sustainable development of inter-organizational relationships and social innovations	Journal of Security and Sustainability Issues 2(1)	2012	Discussion on the key factors that contribute to the successful 'nurturing' of inter-organizational relationships and evolving partnership activities in a pursuance of social innovations	In-depth interview, case study, participant observation and personal reflection, analysis of documentary materials
Ales, M.W., Rodrigues, S.B., Snyder, R., Conklin, M.	Developing and implementing an effective framework for collaboration: The experience of the CS2day collaborative	Journal of Continuing Education in the Health Professions / 31(S1)	2011	Understanding the factors that influence successful collaboration	CS2day case study
Emerson, K., Nabatchi, T., Balogh, S.	An integrative framework for collaborative governance	Journal of Public Administration Research and Theory / 22(1)	2012	Synthesis and extension a suite of conceptual frameworks, research findings, and practice-based knowledge into an integrative framework for collaborative governance	Literature review
Franco, M.	Determining factors in the success of strategic alliances: an empirical study performed in Portuguese firms	European Journal of International Management / 5(6)	2011	Identification the determining factors of success in strategic alliances	Survey
Olson, C.A., Balmer, J.T., Mejjcano, G.C.	Factors contributing to successful inter-organizational collaboration: The case of CS2day	Journal of Continuing Education in the Health Professions / 31(S1)	2011	Describing a successful inter-organizational collaboration and summarizing what was learned from the experience, exploring and illustrating points of connection between our experience and the existing literature on successful inter-organizational collaboration	Literature review, CS2day case study
Chen, B.	Antecedents or processes? Determinants of perceived effectiveness of inter-organizational collaborations for public service delivery	International Public Management Journal / 13(4)	2010	Explanation the role of antecedents and processes in producing well-functioning inter-organizational collaborations for social service delivery	Survey
Daley, D.M.	Interdisciplinary problems and agency boundaries: Exploring effective cross-agency collaboration	Journal of Public Administration Research and Theory / 19(3)	2009	Examination factors promoting or inhibiting effective working relationships between environmental agencies and state and local public health departments in Wisconsin on a range of environmental and public health policy problems	Internet survey

Author	Title	Source/No.	Year	Purpose	Methodology
Ansell, C., Gash, A.	Collaborative governance in theory and practice	Journal of Public Administration Research and Theory / 18(4)	2008	Develop a contingency approach to collaboration that can highlight conditions under which collaborative governance will be more or less effective as an approach to policy making and public management	Meta-analytical literature study
Fedorowicz, J., Gogan, J.L., Williams, C.B.	A collaborative network for first responders: Lessons from the CapWIN case	Government Information Quarterly / 24(4)	2007	Examination how aspects of the external environment and the agency context impeded or facilitated the collaborative network and the inter-organizational system that supports it	Eleven semi-structured face-to-face interviews
Ranade, W., Hudson, B.	Conceptual issues in inter-agency collaboration	Local Government Studies / 29(3)	2003	Explanation some of the conceptual issues underpinning inter-agency collaboration which help to clarify the context within which the new partnership rhetoric is embedded, and the implications of this for collaboration in practice	Literature review
Mattessich, P.W., Murray-Close, M., Monsey, B.R. (additional publication)	Collaboration: What makes it work	Amherst H. Wilder Foundation	2001	To review and summarize the existing research literature on factors that influence the success of collaboration To report the results of the research literature review (...) To make available practical tools that bridge the gap between research and practice	Literature review and interviews with experts
Borden, L.M., Perkins, D.F. (additional publication)	Assessing your collaboration: A self-evaluation tool	Journal of Extension / 37(2)	1999	Development of a self-evaluation tool to assist existing and forming groups	Literature review

Source: own study (2014)

outcomes of this collaboration. Basically, they constitute a set of fundamental factors fostering effective inter-organizational collaboration which is representative in management sciences. Due to employment of the hermeneutic process based on a focus group with scholars, these factors were structured by collaboration areas, thus forming such a typology: factors of external environments, factors related to organization characteristics, factors related to people characteristics, relational factors and instruments of inter-organizational collaboration. The typology of factors designed is illustrated in Table 3.

It is very important to distinguish factors that determine inter-organizational collaboration from factors influencing this collaboration. In the first case these factors are associated with requirements that generate the necessity to establish collaboration. Whereas factors that influence inter-organizational collaboration refer to such requirements that affect the efficiency of the collaboration performed. This paper principally brings focus into other types of impacts, though the factors displayed in Table 3 may both determine as well as influence inter-organizational collaboration.

As revealed in Table 3, factors of external environment and related to people characteristics both determine as well as influence effective inter-organizational collaboration. Moreover, some factors related to organizational characteristics and relational factors have an influence on the establishment as well as the expansion of collaboration. However, in these groups the factors mostly impact the progress of joint ventures. For example, the type and structure of collaborative tasks, collaborative technologies, and demands of collaborative tasks or performance of inter-organizational collaboration shape these collaborations and affect its level. Nevertheless, such factors as regulations and resources in particular organizations, close links, conflicts or expectations of collaborating organizations, both determine collaboration as well as influence its form. Whereas all instruments of inter-organizational collaboration refer to its progress, and they do not determine its occurrence.

The discussions conducted show that phenomenon of collaboration between organizations rests on determinants of inter-organizational collaboration, and principally results from the realization of the necessity for collaboration, good will, involvement and trust between organizations, and appropriate and continual modelling of relationships within this collaboration. Collaboration determinants themselves are not sufficient, if this collaboration is not nurtured and expanded where the key role is played by forces that influence inter-organizational collaboration.

Table 3: Typology of factors of effective inter-organizational collaboration

Type	Factor	Character	
		determining	influencing
Factors of external environments	governmental policy (central, regional and local)	X	X
	legal regulations	X	X
	development of social problems and needs	X	X
	national/regional culture	X	X
	social conditions in the region	X	X
	economic conditions in the region		
	(e.g. employment, recession, inflation, budget deficit)	X	X
Factors related to organization characteristics	regulations in particular organizations	X	X
	organizational, professional and social culture in individual organizations	X	X
	leadership with organizational and communication skills	X	X
	team building	X	X
	resources of individual organizations (finance, time, physical space, materials, equipment, working tools, appropriately skilled personnel)	X	X
	type and structure of collaborative tasks		X
	structure of working groups (heterogeneity, size)		X
	common ground of collaboration (vocabulary, values of interests, understanding of working practices and group norms)		X
	collaborative technologies (e.g. communication technologies, information systems)		X
	adaptability to changing work requirements		X
	flexibility and openness to changing circumstances of collaboration		X
Factors related to people characteristics	organization of work in individual organizations		X
	organizational structure of individual institutions		X
	experience in inter-organizational collaboration	X	X
	professional competence of the employees from individual organizations	X	X
	conflicts between personnel from individual organizations	X	X
	informal connections between personnel from individual organizations	X	X
	personality of the chiefs of individual organizations	X	X
	friendship between personnel from individual organizations	X	X
	respect between personnel from individual organizations	X	X
commitment (willingness to cooperate) of particular organizations to collaboration	X	X	
Instruments of inter-organizational collaboration	trust between personnel from individual organizations	X	X
	understanding between personnel from individual organizations	X	X
	professional and informal communication between personnel from individual organizations – I		X
	communication in inter-organizational working teams – I		X
	coordination of inter-organizational working teams – I		X
	coordination of working in individual organizations – I		X
	incentives to inter-organizational collaboration – I		X
	organization of collaborative work (e.g. time pressured, competitive, rapidly changing, stable etc.) – I		X
	level of shared inter-organizational knowledge – I		X
	learning processes between organizations – I		X
	joint trainings – I		X
error management in individual organizations – I		X	
knowledge management in individual organizations – I		X	

Relational factors	close links between organizations	X	X
	conflicts between organizations	X	X
	expectations of collaborating organizations	X	X
	constraints in inter-organizational collaboration	X	X
	shared mission, vision and goals	X	X
	interest in collaboration in fellow partners	X	X
	ability to compromise between organizations	X	X
	self-interest of individual organizations from collaboration	X	X
	specialization of collaborating organizations	X	X
	interdependence of the particular organizations	X	X
	inter-organizational trust	X	X
	equitable contributions to collaboration of each willing organizations		X
	uncertainty conditions of collaborative work		X
	time of inter-organizational collaboration (time limits, cycles of collaboration)		X
	iteration of inter-organizational collaboration		X
	roles of particular organizations in collaboration		X
	balance between dependence and autonomy		X
	inclusiveness to collaboration of needed organizations		X
	demands of collaborative tasks		X
	performance of inter-organizational collaboration		X
support within collaborating organizations		X	
management of inter-organizational collaboration (styles, transparency of decisions and guidance e.g.)		X	
joint decision making by organizations		X	

Source: own study based on research 2014

4.2. Focus group

The hermeneutic process based on a focus group with scholars was also exploited for assessing the impact of factors identified on efficacy of inter-organizational collaboration in public management. To this aim, a three rank grade scale was used, namely:

1. weak influence;
2. medium influence; and
3. strong influence.

On the whole, it was ascertained that all identified factors have an influence on efficacy of collaboration across organizations in the public sector, though to a varying degree. The priority was given to those factors which have undisputed and direct effects in typical situations. Whereas weak factors were considered as those which may indirectly or to a minimal degree affect the processes carried out as part of inter-organizational collaboration.

The influence of all factors concerned with the external environment on effective inter-organizational collaboration in public management was ranked as medium. Regarding factors related to organization characteristics it was recognized that most of them exert a strong influence. The factors in this area that have medium implications for efficacy of collaboration involved: social culture in individual organizations, team building and type of collaborative tasks. It was stated that these factors appeared to

be an important element in collaboration, yet they fail to be decisive for its effectiveness. Whilst collaborative technologies, although they are critical for performing communication processes they fail to directly and considerably affect the effectiveness of collaboration, and they only serve as a means for its accomplishment. Therefore, it was rated as a factor with weak influence.

Likewise, among remaining factors, prominence was given to those which have direct and robust significance for the effectiveness of inter-organizational collaboration in public management. Detailed outcomes of the assessment made are provided in Table 4.

Table 4: Outcomes for assessment of effective inter-organizational collaboration in the public sector

INFLUENCE	FACTORS
Strong	<p><u>Factors related to organization characteristics:</u></p> <ul style="list-style-type: none"> - regulations in particular organizations - 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 organizational and communication skills - organizational culture (in individual organizations) - professional culture in individual organizations - organization of work in individual organizations - organizational structure of individual institutions - resources of individual organizations (finance, time, physical space, materials, equipment, working tools, appropriately skilled personnel) <p><u>Factors related to people characteristics:</u></p> <ul style="list-style-type: none"> - experience in inter-organizational collaboration - professional competence of the employees from individual organizations - commitment (willingness to cooperate) of particular organizations to collaboration <p><u>Relational factors:</u></p> <ul style="list-style-type: none"> - specialization of collaborating organizations - interdependence of the particular organizations - close links between organizations - time of inter-organizational collaboration (time limits, cycles of collaboration) - conflicts between organizations - uncertainty conditions of collaborative work - expectations of collaborating organizations - roles of particular organizations in collaboration - demands of collaborative tasks <p><u>Instruments of inter-organizational collaboration:</u></p> <ul style="list-style-type: none"> - inter-organizational trust - professional communication between personnel from individual organizations - communication in inter-organizational working teams - coordination of inter-organizational working teams - coordination of working in individual organizations

INFLUENCE	FACTORS
Medium	<p><u>Factors of external environment:</u></p> <ul style="list-style-type: none"> - governmental policy (central, regional and local) - legal regulations - development of social problems and needs - national/regional culture - social conditions in the region - economic conditions in the region (e.g. employment, recession, inflation, budget deficit) <p><u>Factors related to organization characteristics:</u></p> <ul style="list-style-type: none"> - social culture in individual organizations - team building - type of collaborative tasks <p><u>Factor related to people characteristics:</u></p> <ul style="list-style-type: none"> - trust between personnel from individual organizations <p><u>Relational factors:</u></p> <ul style="list-style-type: none"> - joint decision making by organizations - constraints in inter-organizational collaboration - iteration of inter-organizational collaboration - ability to compromise between organizations <p><u>Instruments of inter-organizational collaboration:</u></p> <ul style="list-style-type: none"> - informal communication between personnel from individual organizations - incentives to inter-organizational collaboration - organization of collaborative work (e.g. time pressure, competitive, rapidly changing, stable etc.) - learning processes between organizations - joint training
Weak	<p><u>Factor related to organization characteristics:</u></p> <ul style="list-style-type: none"> - collaborative technologies (e.g. communication technologies, information systems) <p><u>Factors related to people characteristics:</u></p> <ul style="list-style-type: none"> - conflicts between personnel from individual organizations - informal connections between personnel from individual organizations - personality of the chiefs of individual organizations - friendship between personnel from individual organizations - respect between personnel from individual organizations - understanding between personnel from individual organizations <p><u>Relational factors:</u></p> <ul style="list-style-type: none"> - shared mission, vision and goals - equitable contributions to collaboration of each willing organizations - balance between dependence and autonomy - performance of inter-organizational collaboration - support within collaborating organizations - interest in collaboration in fellow partners - management of inter-organizational collaboration (styles, transparency of decisions and guidance) - self-interest of individual organizations from collaboration - inclusiveness to collaboration of needed organizations <p><u>Instruments of inter-organizational collaboration:</u></p> <ul style="list-style-type: none"> - level of shared inter-organizational knowledge - error management in individual organizations - knowledge management in individual organizations

Source: own study

Summing up the hermeneutic process based on a focus group with scholars, it was found that all identified factors have an effect on public management. In some cases it was difficult to assess the strength of their impact. Principally, it resulted from the fact that these factors mutually complement and implicate. None of them taken in-

dividually guarantees that collaboration will produce significant effects. In the same way, none of them have sufficient power to entirely destroy projects executed within inter-organizational collaboration by their absence. However, the interplay of diverse factors and relationships occurring among them are pivotal for delivering outcomes for inter-organizational collaboration across public management.

The foregoing determinants contributed to additional assessment of the impact exerted by particular factor groups on efficiency of international collaboration. Following the assessment it was found that a stronger influence is exerted by relational factors and factors related to organizational characteristics. The remaining groups were rated as those having a weaker influence on collaboration. This is consistent with previous agreements whereby determinants facilitating the necessity of collaboration with other organizations (e.g. legal obligations, raising new resources, uncertainty, and interdependence) are not sufficient factors to ensure effectiveness of collaboration.

When problems occur in relationships between specific organizations or their employees, objectives behind collaboration and additional resultant benefits will not be accomplished to a satisfying degree. Additionally, ongoing collaboration level has also received significance.

In the case of potential collaboration, fundamental importance is attached to factors determining collaboration that is all factors of external environment and partially factors related to people and organization characteristics and relational factors. While active collaboration primarily relies on instruments of inter-organizational collaboration as well as people and organization characteristics and relational factors. Having in mind the foregoing, it was found that factors fostering effective inter-organizational collaboration mostly depend on the character underlying given collaboration between organizations and on the way how they mutually complement and implicate. This provided rationale for developing a interrelationship diagram for specific groups of factors which was illustrated in Figure 2. The direction of impact was marked by spearheads on arrows, whereas the strength of their relations by using various hatching and thickness.

The interrelationship diagram compiled shows that factors of external environment affect only other factors. The remaining connects relations with varying intensity resulting from the character of the specific group of factors. The stronger impacts were noted for relational factors, whereas weaker impacts for factors related to people characteristics. Given that factors related to organization characteristics and relational factors are linked to the highest extent to other groups of factors, it may be stated that they were adequately rated as those having stronger influence on efficiency of inter-organizational collaboration.

The developed typology of factors may be used for diagnosing organizations capacities for joint actions with regard to specific groups of factors driving effective inter-organizational collaboration, and not only for characterizing general capacities of the given organization in this respect. Furthermore, it provides opportunities for

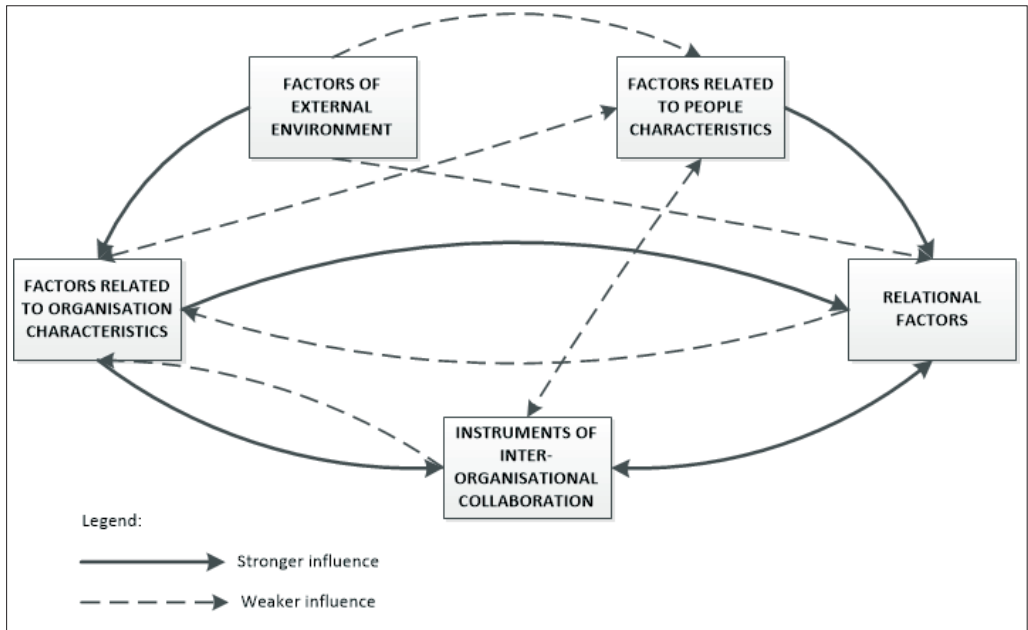


Figure 2: Interrelationship diagram of group of effective inter-organizational collaboration

Source: own study based on research 2014

selecting methods and techniques in the effort to enhance capacities for joint actions, including organizational learning.

5. Conclusions

This paper focused on finding out what factors influence inter-organizational collaboration and their intensity. Even though the research concept was properly developed and the factors of effective inter-organizational collaboration were analyzed in public management, there are several limitations. First, the nature of this investigation was exploratory, because the findings obtained were not yet practically verified. Further research regarding the impact of individual factors of effective inter-organizational collaboration on the outcomes for operations in public management as exemplified case studies is recommended. Second, in view of changes in the level and potency of relationships occurring in the process of inter-organizational collaboration, there is the need to examine the influence of identified factors on the specific phases of the process. Third, in an attempt to specifically characterize the implications of the factors on effectiveness of inter-organizational collaboration it appears beneficial to explore relationships occurring among these factors. This need stems from the fact that each factor outlined affects collaboration to a certain extent and none individually determines its ineffectiveness. By and large, these factors affect one another, thereby mutually bolstering or mitigating their impact on the level of inter-organizational collaboration.

Despite these limitations, the factors contributing to the quality of inter-organizational collaboration were identified. Their analysis enabled to recognize the collection of primary elements of collaboration, and then, following their in-depth interpretation, the typology classifying factors of effective inter-organizational collaboration was created. The typology designed has allowed for understanding principal determinants modelling inter-organizational collaboration in the area of management sciences, and as a consequence, the potency of the impact of specific factors on outcomes for collaboration in public management. Future, planned research will involve analysis of influence exerted by factors fostering effective inter-organizational collaboration on particular phases of the collaborative process, examination of interactions emerging among them and practical verification of these factors in the area of public management.

Based on analysis conducted heretofore, it could be claimed that:

1. Factors of effective inter-organizational collaboration constitute an unlimited set of elements having influence, to a varying degree, on the progress of processes executed within this collaboration. The significance of these factors hinges on the research area and the perspective embraced from which actions collectively performed are analyzed.
2. Factors of effective inter-organization collaboration may be divided into five groups, namely: factors of external environments, factors related to organization characteristics, factors related to people characteristics, relational factors and instruments of inter-organizational collaboration. This typology results from potential areas on which these factors have an impact and their mutual implications.
3. All identified factors affect the effectiveness of inter-organizational collaboration in the public sector, though to a varying degree. Taken together, the analysis accomplished reveal that factors related to organization characteristics and relational factors have the strongest effects, though all identified factors mutually complement, thus boosting or diminishing their influence on effectiveness of collaboration. All in all, they collectively determine collaborative performance.
4. The analysis conducted allowed for the statement that strong influence on efficacy of inter-organizational collaboration is wielded by relational factors and factors related to organizational characteristics. Whilst remaining groups were rated as those having weak influence on collaboration.
5. The results obtained from the research conducted may be useful for practitioners involved in public management through: channeling managers' attention to the areas where functioning may be improved by establishing and maintaining collaboration; use of factors identified as benchmarks for assessing own capacities for bolstering collaboration; and use of these factors in processes aimed at improving personnel with regard to honing collaboration skills.

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