COMMUNICATION IN PUBLIC SAFETY NETWORKS

SIENKIEWICZ-MAŁYJUREK Katarzyna

Silesian University of Technology, Faculty of Organization and Management, Gliwice, Poland, EU,
katarzyna.sienkiewicz-malyjurek@polsl.pl

Abstract

Public safety network is a dynamic and flexible configuration of organisations which goal is to ensuring the safety of all entities on a given administrative area. It is characterised by the uniqueness and variability of operations, as well as constant adaptation to the actual conditions and emerging requirements. In this network, the competencies of individual entities are mutually complemented and actions are carried out based on legal, organisational and situational conditions, and also on a daily practice. From this perspective public safety networks are focused on inter-organisational collaboration, with communication processes as their foundation. These processes are realised mostly in the form of consultation and information exchange. But not always they are managed in the way sufficiently fulfilling the needs and expectations of entities being part of the public safety network. Additionally, the literature published in this matter often emphasizes the insufficiency of empiric study in the field of inter-organisational communication. This paper is an attempt to fulfill this research gap and its main goal is to evaluation of frequency and quality of communication in public safety network. The goal was achieved on the base of survey study carried out in 2015 with 480 entities involved in public safety, and direct structured interviews completed in 2016 with 83 public safety experts. The research was conducted as part of a project titled "Coordination, communication and a trust as factors driving effective inter-organisational collaboration in the system of public safety management", financed by the National Science Centre, based on decision no. DEC-2012/07/D/HS4/00537.

Keywords: Communication, public management, public safety, network, complexity

1. INTRODUCTION

The complexity of the conditions of realisation of actions in public management causes that the key significance in this area is that of the network paradigm. It is because this sector's functioning is based on a coordinated activity of the networks of actors. These networks refer both to a structural description and the interactions between engaged, autonomous entities, which are characterised by different values, rules, and strategies of action. The existing interdependency between these entities cause that the achieved results are the outcome of skilful combination of their individual organisational capabilities as well as the capability to interact. As a result of network collaboration it is possible, among others, to increase the efficiency of the flows, transfer knowledge between organisations as well as stimulate inter-organisational learning processes and innovation creation, the result of which is an increase of the effectiveness of joint actions.

In the area of public safety a network approach is of key significance as it results from the complementary competences of each organisation, the level of relationships between them, and the dynamics and variability of situational conditions. Network relations already appear during planning and preparing of actions, however they are visible to the greatest degree in the period of their realisation. These relationships depend, among others, on the level of the existing inter-organisational relations, interdependency, negotiations, and arrangements made throughout the whole period of collaboration. As a consequence, public safety networks are based on inter-organisational communication, which binds the actions undertaken by autonomous entities [1, 2]. The research conducted so far prove, however, that the communication processes are not always conducted in a way, which satisfies the needs and expectations of the entities making up the public safety network. In addition, in the subject literature it is emphasised that empirical research in the scope of the level

of inter-organisational communication in situations of threat is insufficient [3; 4]. This article constitutes an attempt to fill in this research gap and its aim is an assessment of the frequency and level of communication in public safety networks.

2.   METHODOLOGY

Achievement of the assumed aim was made possible by conducting the following research:

- Desk research analysis.
- Questionnaire surveys conducted in the period between April and June 2015 with 480 units that deal with public safety in Poland, including local government units, the police, national fire service, and medical rescue service. Based on them an assessment of the communication frequency in public safety management networks was made.
- Structured direct interviews realised in June 2016 with experts dealing with the problematic aspects of public safety management in Poland, including: representatives of emergency and rescue units (36.1% of the surveyed population), officials dealing with the problematic aspects of safety from a position of local governments (34.9%), and academics (29%). 100 survey questionnaires were carried out, while 83 properly filled out questionnaires were taken into account in the analyses. They enabled to analyse the level of communication in public safety management networks.
- Discussion in a circle of experts, among whom questionnaire surveys were conducted in order to precise the obtained results.

3.   THEORETICAL BACKGROUND

Public safety ranges from social policy, through regional and criminal policy up to crisis management [5; 6]. It refers to protection of human communities in specific social areas against hazards which may have their source in people's behaviours (social hazards), technological development (technical hazards), and natural hazards. Whereas, management in public safety networks includes the decision cycle, which is based on identifying hazards and evaluation of the risk of their occurrence, analysis of the possessed resources and preparing action plans as well as coordination of the flows of these resources according to the arising needs and control and continuous improvement of actions. It is composed of two principal periods: stabilisation and realisation [7]. The stabilisation period includes a cycle of actions undertaken prior to hazard occurrence, including the entirety of organisational endeavours connected with preventing and preparing, undertaken on all levels of state management. In turn the realisation period takes place after the hazard's occurrence and it consists in returning to the state from the stabilisation period as quick as possible as a result of conducting emergency actions and restoring the damage. This process is based on the one part on scrupulous organisation and on the other it is a spontaneous action requiring adaptation to the existing situational conditions since even the best plan does not always fit to the circumstances [8].

The dynamic nature of the actions conducted in public safety networks causes that the communication processes are of key importance and the problems in this area may have grave consequences for the society. It is because communication serves explaining the specifics of events and obtaining information on actions necessary to be undertaken. Its aim is decreasing the uncertainty related to current and future endeavours. Communication in public safety networks means "sending and receiving messages which explain the specific event, identify its probable consequences and outcomes, and provide specific harm-reducing information to affected communities in an honest, candid, prompt, accurate, and complete manner" [9, p. 39]. Useful, up-to-date, and coherent information and compatible technologies are principal in this scope. They enable to build a common operational picture between the organisations, which shapes understanding their institutional surroundings. Transparency and regularity of the communication processes increases the stability of inter-organisational relations, involvement, and trust of each organisation in the realisation of common endeavours and it also fosters building common norms. It also supports the processes of adaptation and inter-

organisational learning. As a consequence, access to proper information increases the effectiveness and efficiency of reaction as well as the coordination of the whole public safety network [10; 11].

Communication processes in public safety run both in a horizontal and vertical system [12; 13]. Vertical communication - consisting in establishing rules, transferring of information about the current operational capabilities or preparation of action reports - is above all of an informational and directive nature. It creates the foundations for conducting of endeavours. Whereas, horizontal communication runs both between each unit of a given organisation and in inter-organisational systems. Its role is adapting the actions of organisations entering into the public safety network to the existing situational conditions. The nature of both vertical and horizontal communication is continuous and they run in the whole public safety management process. Nonetheless, these processes are not free from disruptions, which may significantly impact the effectiveness of the realised actions. Taking this into account, it is necessary to find out what the frequency and level of communication in public safety networks are.

4.   RESULTS AND DISCUSSION

The communication frequency in public safety networks was evaluated based on a questionnaire survey conducted with 480 units, which deal with public safety in Poland. In this survey the repeatability of the processes of consulting and transferring information was taken into account.

The obtained results indicate that the consulting processes in public safety networks are frequent - in the opinion of 22.7% of the surveyed people many times each day and according to 27.6% at least once a day. Consultation is made use of very rarely by 1.3% of the employees of the units included in the survey and 2.7% of the respondents never make use of it. The answers related to the frequency of transferring information in public safety networks are similar, which proves a cohabitation and complementarity of these processes. Almost every third unit transfers information about hazards and actions undertaken at least once per day. In every fifth institution such actions are undertaken once a week on average. These results were illustrated in **Figure 1**.
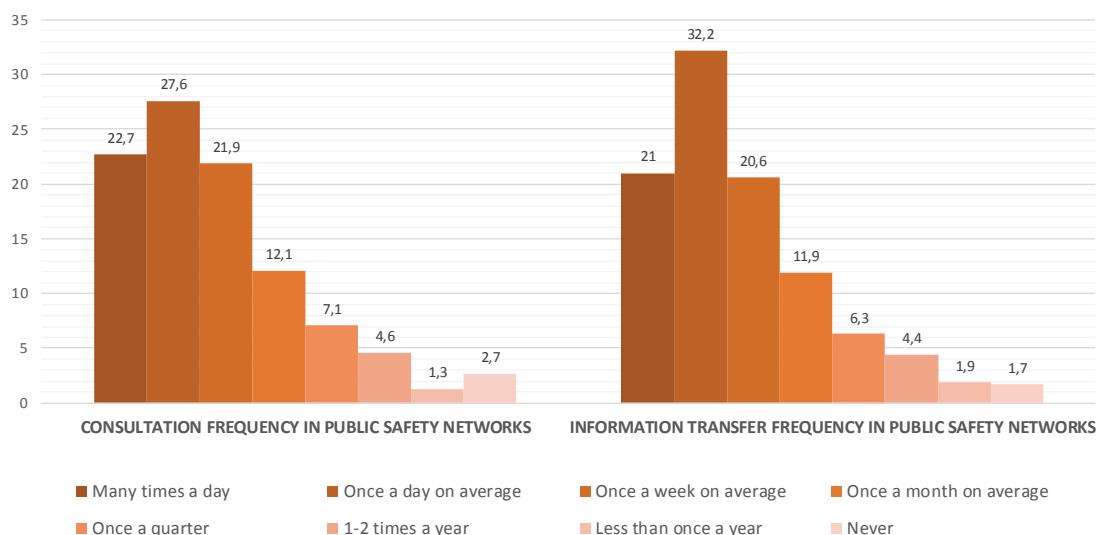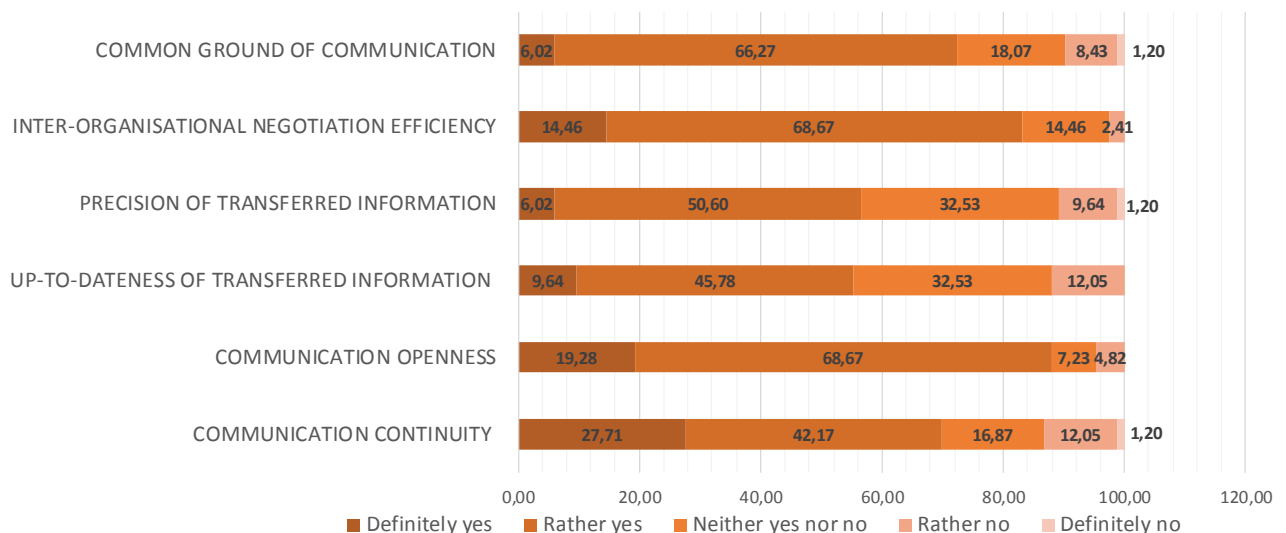

Figure 1 Evaluation of communication frequency in public safety networks [%]

In 3 out of 4 cases transferring of information to other units results from statutory obligations, but also situational conditions (51.5%), good will (18.5%), and other reasons (5.4%), which include: collaboration rules, internal rules, and competence rules. Moreover, the frequency of transferring information is strictly connected with the

type of the surveyed institution (p<0.05 in the chi-squared test). In the police and fire service provincial headquarters the most commonly transferred information concerns hazards and actions undertaken. These processes are the rarest in district and municipal offices - in 6.0% of cases and in provincial chair's offices - in 6.3% of cases.

In turn, the evaluation of the communication level in public safety networks was conducted based on the results of direct interviews with 83 experts who deal with the problematic aspects of public safety management in Poland. The following factors were analysed: common ground of collaboration, efficiency of inter-organisational negotiations, precision and up-to-dateness of transferred information, as well as openness and continuity of the communication processes. The obtained results indicate that the experts highly assess the openness of the communication process (19.28% "definitely yes" and 68.67% "rather yes" answers), and the efficiency of inter-organisational negotiations (83.13% of positive answers), giving negative answers in both cases only at a level of a few percent. The greatest number of negative answers was given in case of communication continuity (13.25%), up-to-dateness of transferred information (12.5%), as well as its precision (10.84%). These results were presented in **Figure 2**.

Figure 2 Evaluation of the communication level in public safety networks [%]

The results obtained from the conducted analyses were next discussed in a circle of experts. As a result, it was established that the processes of communication in public safety networks are at a good level. However, they do not run without disruptions and they require undertaking of appropriate actions to increase their efficiency. It was ascertained that the problematic aspects of communication in the area under study result both from technical and organisational constraints and the ongoing activity of each organisation. Too many communication channels, excess, invalidity, and incompleteness of information belong to the principal problems connected with communication. In addition, incompatibility of the systems used by each service limits the speed of information flow between them and limits the decision making processes and possibilities of conducting common actions. Such problems may act discouragingly on the collaborating organisations and cause that they will limit themselves only to internal communication, which may consequently lead to a decrease of the effectiveness of common endeavours [14; 15]. Taking this into account, a development of IT technologies serving integration of public safety services seems to be the key solution enabling effective management of complex actions in dynamic conditions and management of information and knowledge at an inter-organisational level. This stems out from the need to possess up-to-date and reliable information based on which decisions are made and actions are coordinated. It is because the informational and technological

integration constitutes the basis for openness and transparency of information transferring, which limits potential misunderstandings and additional problems.

5. CONCLUSIONS

Communication is the key to ensure the efficiency of actions in public safety networks. Organisational and situational conditions in these networks cause that possessing proper information in proper time is decisive to the adequacy of the undertaken endeavours to the existing hazard.

The conducted research indicates that although the communication processes in public safety networks in Poland are at a god level, they require undertaking improvement actions. The problems in this scope are mainly a consequence of a communication chaos and a lack of compatibility of each service's systems. These problems may be limited by means of implementing an IT system, which would integrate the technologies used in each organisation and enabling to build a comprehensive picture of the existing situation, ensuring an undisrupted course of inter-organisational communication processes and that would also facilitate decision making and action coordination.

ACKNOWLEDGEMENTS

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