Original article

Specifics of the decision-making process in crises

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INFORMATION

ABSTRACT

The article presents scientific deliberations, including decision making in crises. Apart from the presentation of the decision-making process specificity, the scientific analysis confronts it with the research conducted on the group of 102 people responsible for crisis management at the local government level. The research results indicate a similar approach to the effectiveness and speed of decision-making. In contrast, dualism characterized the issues of information acquisition, flexibility in decision making, management of reserves in the form of forces and means to carry out the respondents' tasks, and the need to inform the population about the possible consequences of a crisis. Despite the specifics of the decision-making process, most respondents (87%) believed that one person should decide but on the grounds of the decision-making process.

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Introduction

The statement that our living conditions at the end of the second decade of the 21ˢᵗ century are very complex is not something revealing. However, this issue needs to be continuously reminded and emphasized that rapid changes in almost all areas of every human being's activity do not leave the perception of security issues unaffected. We observe the outcome of transformations, which impact all spheres of public life and various events. At present, the internationalization scale of many phenomena and dynamic development of forms of life democratization globally is not only a boon, but it is also one of the potential sources of violation of the existing state of affairs whether on a micro or even much broader scale.

The progress of civilization is connected to and depends on the discovery of new laws governing the world. Undoubtedly, civilization is beneficial to us. Thanks to it, humankind has been developing. Civilization brings with it progress but also threats, not always seen on the right scale. That makes modern times differently assessed. In its entirety, it also applies to

security – a timeless and most fundamental value for every human being. Noteworthy, the perception of even similar issues is varied. The perspective of armed conflict and the development of freedoms and rights in many areas of social life and the functioning of institutions significantly influence the level of the phenomena under consideration. However, nowadays, in the era of a specific security threat, individual states and regions face new challenges that cannot be clearly defined. Numerous threats emerge, the effects of which are difficult to imagine. Moreover – and it is justified to emphasize more strongly – the adopted procedures of diagnosing many phenomena and (or) events unfavorable for people, the environment, or infrastructure usually have a relatively short life.

The development of a world with many question marks is the basis for insightful and system-based consideration of many issues. In its entirety, it refers to the growing threat to the safety of individuals and society or the natural environment. In this situation, it is reasonable to diagnose the surrounding reality on a micro and macro scale. Currently, many events that may take place far away from us will more or less affect our safety and adopted solutions.

Nowadays, we are dealing with two extreme positions, based on the old principle that nothing is for free. On the one hand, numerous factors allow functioning as a person, institution and organization, society, and state. These determinants include, among others, the progress of civilization, the development of techniques and technology, international cooperation, international security systems, the subjugation of nature, etc. On the other hand, these unquestionable civilizational achievements "spawn" technologies that are threatening on a massive scale, organized crime, terrorism, wars and armed conflicts, ecological disasters, etc., which can be the source of various conflicts and lead to extraordinary events, not excluding crisis and emergencies. Such events are detrimental to national security, society, property, and the environment and threaten human life and health. That state of affairs makes the average citizen today buried in a vast amount of news reporting about various types of threats every day [See more: 1, p. 9-14; 2, p. 98-115]. He/she interprets them in various ways and sometimes creates a black screenplay of developments for his/her use.

One must be prepared for the possibility of security incidents. Besides, it is one of the primary tasks for public and self-government authorities. The authors of the publication fully identify themselves with this assumption. The article aims to show security issues and "collide" them with the results of the conducted research on evaluating the decision-making process at the time of a crisis, i.e., an event significantly affecting the state of internal security.

The article deals with making decisions in crises. Therefore, the main research problem is to show the difference between making managerial (business) decisions and those in an emergency. It was assumed that it was reasonable to use the general decision-making theory achievements to such events, however, noting the difference in decision-making problems in crises. A diagnostic survey was conducted on 102 people who deal with internal security issues to verify the adopted hypothesis.

Based on the research findings, the article is a condensed set of premises and a "strategic" course of action when making decisions in crisis situations, i.e., dangerous ones, threatening or likely to destroy the state of security at different levels of the administrative division of the country.

The publication does not describe the decision-making process in detail, but only certain elements that significantly affect the effectiveness of the action. There are also no straightforward solutions – answers to how to act in a given situation. Instead, there are several suggestions for action, hoping that a given decision-maker will use the submitted suggestions

creatively in a specific decision-making situation, then it will be possible to put them into practice. The decision-maker will also apply appropriate methods, e.g., aimed at creating (generating) decision variants or assessing them.

1. Security as a timeless and priority value

Current times are not judged in the same way in security terms. The strategic stabilization of the global situation strongly impacts the perception of many phenomena. Nowadays, in the era of a significant increase in international security, new threats appear the effects of which are hardly imaginable. They result from various situations that may occur on a considerable scale in a relatively short time. They may have different nature and scope. The individuals' and communities' attitudes and behaviors will critically influence the scale of possible damage and the range and degree of impact on societies.

Security is an essential category for man; it is also defined as a guarantee of the inviolable survival of a given subject and its free development. A human eager to be active in the natural world wants and has the right to be safe. However, he/she should be aware that he is subject to its laws, which do not guarantee his/her safety. On the contrary, they force actions to provide him/her with the possibility to influence the environment, giving a feeling of undisturbed being, surviving and developing. When treating the need for safety, among other needs (physiological, self-realization, respect, etc.), as a fundamental category, human life requires a person's activity aimed at meeting many needs. Therefore, safety is an indispensable value for a creative life. It is good that allows for the development of the self-fulfillment-oriented activity. In this sense, it is a condition for effective action. It can also be a desired value, which is revealed when a sense of insecurity exists. Achieving stability, certainty, and a guarantee of realization of one's interests helps to identify the understanding of security with the aim of human and social action.

Security is a state that gives a sense of safety and guarantees both its preservation and a chance for improvement. Nowadays, it is a need characterized by a lack of risk of losing something particularly valued by people. However, when considering these issues, one must not forget that most of the threats are identical for most democracies. The tightening of economic ties between states, the growth of multinational corporations, integration, and blurring political boundaries have caused states' problems to cease to be individual and to become shared. Globalization causes the world to appear as a system of connected vessels, evident in the security sphere. Even if the threats are individual or internal, their consequences – as a rule – have an international dimension. That is because "goods, information, people, money [...] cross national borders", and their full control is somewhat limited and requires internationalization [3].

Not only does globalization imply the spread of threats, but it is also the mechanism that causes them. Therefore, the national internal security should be considered primarily in relation to the entire political and social system with the environment that affects it. There is no other way out, if only because there is a whole range of threats that do not respect national borders, such as epidemics or cyber-threats. Globalization encourages, both politically and geographically, the free crossing of borders to such an extent that air, water, food, and the environment are subject to notable pollution [4].

There is one more fact that should be stressed. Nowadays, the scale of potential threats has significantly increased, the inhabitants (society) do not perceive many of them, and it is imperative to react rapidly to emerging threats and/or potential symptoms of their appearance.

All this makes safety matters increasingly complex. One more fact to bear in mind is that the state of security, or the elimination of a threat, cannot be achieved without the knowledge of the scope of tasks and issues in the orbit of interest in the organizational structures of the government and local government. It is necessary to know and improve the mechanisms of action when a crisis – a situation that threatens people's health, life, natural environment, or the broadly understood infrastructure – occurs.

Security in a broad sense is understood as the certainty that a given system is devoid of all possible adverse events and undesirable phenomena, i.e., it performs its functions without any disturbances. It means that the system is in a condition that precludes its damage (e.g., injury, occupational disease, accident, fire, breakdown, etc.) and is free from unwanted events. Such an event is any unexpected change in the state or function of the system, which may result or results in a sudden degradation of the physical, mental, or material integrity – uniformity, inviolability, non-independence – of the system under consideration, and an imbalance in the performance of its established functions.

2. Ubiquitous risk

The opposite of safety is danger understood as a threat to the security system. It is expressed by risk, which the literature defines in different ways. The risk is often identified as the danger of failure, fiasco, loss, or damage and is always linked to a specific event. Risk is a quantitative and qualitative expression of a threat, degree, or level of threat. It is the probability of a negative phenomenon and its consequences. Since no human activity is completely safe, a certain degree of risk, called acceptable risk, is allowed. The inverse of this term is the term residual risk expressed by the fact that even during technical equipment construction, a certain measure of risk cannot be eliminated. That is why, for instance, the risk of fire, injury, accident, etc., is talked about.

A minimum number of phenomena would occur under conditions of certainty in social processes, nature, and technological processes. Most of the processes have the character of uncertain phenomena, which is associated with a specific risk. The source of risk in them might be humans and their activity, technology, technological processes, and nature with its unpredictability. In general, risk can be divided into two base groups [5, p. 43]:

- risk independent of human activity (natural),
- risk resulting from human activities (anthropogenic).

Each risk is related to time and space and has its cause. Some causes of risk are not known to modern science. Besides, risks have different meanings. Risks of minor importance appear relatively often, and their effects are not often significant. Significant or even catastrophic risks are infrequent. Even though the probability of significant risk is negligible, the effects can be enormous. Therefore, they should be considered when implementing activities and projects with even the lowest risk. Lessons should also be drawn from these situations. Crisis management plans can be built on the experience of the tragic events of Hurricane Katarina. The efforts made by civilian and military organizations after Hurricane Katarina were historically unprecedented. However, the documented reports indicate that the response of the services was tragically inadequate [6, p. summary X].

Anthropogenic risks are associated with human activity while creating optimal living conditions for themselves. Humans continuously adapt natural conditions to their needs and ideas to create for themselves optimal environments for living. Nonetheless, human activities often

constitute a direct threat to nature or are associated with many risks that may be a source of danger.

Each risk manifests itself in the violation of the system's safety indicators and causes a corresponding degree of danger. Risk and threat are the categories by which the possible variants of the system security breach are marked. Loss of system equilibrium brings the emergence of crisis phenomena, which as an integral part of all events and processes taking place in society and which are solved by forces and means permanently created for this purpose, are extraordinary events.

3. A crisis

A threat to security arises for various reasons. Quite often, it is the effect of failure to observe basic safety rules; recklessness and disregard for provisions lead to dangerous accidents and disasters, mainly in industrial plants and mines and rail, road, and air transport. Most of them result in large human losses and almost always in environmental degradation. Breakdowns happen in factories, municipal utilities, power equipment and lines, dams, and hydrotechnical equipment. They concern technical equipment and are a consequence of omissions or improper operation, exploitation, and maintenance. Other factors, such as natural wear and tear and hidden defects, may also cause failures. On the other hand, an extraordinary environmental hazard is generally understood as one caused by a violent event, not being a natural disaster, which may trigger significant damage to the environment or its deterioration, posing a widespread danger to people and the environment.

An extraordinary event is a difficult to predict and spatially limited situation, caused by the impact of a natural disaster, technical or technological failure, damage to the functioning, or a human being's deliberate action that has led to a breach of the system stability, or events and activities taking place. It threatens people's life and health, material and cultural goods, and the natural environment. Moreover, it brings with it changes in the quality of elements of the system, and thus relations between them. The system adapts, therefore, to the new conditions inside it and possibly in its environment. These changes are often degrading, so they are undesirable, exceptionally, elements and developmental tendencies may appear. Hence, the extraordinary events are a part of the crisis phenomena [5, p. 52].

The commonly available research results concerning the change in the state of security identify a breakthrough and turn (to good or bad) in the functioning of some object, organization, institution, or authority. To be perceived as a threat, a specific phenomenon must radically alter the functioning of the current security system. A crisis occurring in a specific time and space means the course of phenomena and processes designated or limited in time and space. Consequently, after disturbing the state of social, natural, and technological equilibrium of systems and processes, the may affect human life, environment, economy, spiritual, and material values of a country or region and its inhabitants, and the operation of public administration institutions is endangered. It is a situation the adverse effects and scope of which, by its nature, seriously violates or changes the economic and social functioning of the state, administrative unit, or specific entity. In other words, a crisis should be understood as a situation negatively affecting the security level of people, the property of considerable size, or the environment, causing significant limitations in the operation of competent public administration bodies due to the inadequacy of available forces and resources. Crisis management tools are used to support crisis management [7].

Emergency events are the primary cause of crisis phenomena that are an integral part of all incidents and processes taking place in society, and which can be solved with the help of forces and means permanently created for this purpose. These complicated, unpredictable, and unsafe situations are the sources of crises. The notion of crisis is ambiguous, and if we consider the use of this term in different areas of human activity and at various levels of abstraction, it is also subjective. For a phenomenon to be perceived as a crisis, it must occur suddenly, realistically, be unaccepted by a given entity, and pose a threat to its interests and goals [8, p. 69]. Thus, it is a decisive moment (a period), after which a fundamental change in the subject, system, or process can occur and seriously disrupt their functions and even their existence.

An in-depth analysis of the surrounding reality allows the conclusion that the mentioned circumstances are not favorable to those responsible for security, including internal security. In many cases, the existing methods of action (problem-solving) are not acceptable in modern times and conditions. However, the internationalization of social and economic phenomena and their complexity cannot remain unnoticeable. It is essential to make changes and verify the accepted solutions. To be prepared to respond to unfavorable events for the state, society, or nature (environment), it is necessary to integrate into the surrounding reality and use it to effectively monitor, neutralize, and eliminate the effects of unfavorable events. A considerable responsibility falls on state and local government entities. Government agencies should define the principles of action, motivate taking effective interventions, and encourage to continually search for increasingly effective ways to deal with the crisis situation and mitigate its effects [9, p. 210].

Since the earliest times, a human has been trying to subordinate the natural environment, introducing changes in it to facilitate existence and increase the comfort of life. They try to become independent from the unfriendly action of natural forces. The changes brought by man into the natural space of security are civilization. It is defined by the products targeted at improving the living conditions and controlling nature, i.e., technology, organization of social life, infrastructure, and so forth. Civilization reduces the number and destructive power of natural threats, but at the same time generates new types of dangers called civilization threats. It means that a person lives and will live in an environment of potential security threats, which, activated by unfavorable changes in the natural or civilization space (a specific stimulus), may turn into a specific crisis.

Therefore, a crisis is an event when irregularities (threats) in the functioning security system occur. It is a special kind of decision problem solved by answering the question: How should one proceed to eliminate the difference between the existing and the desired state?

4. Phases of the decision-making process

The issues of decision making are contained in a variety of studies. Their content analysis shows that the decision-making process is not uniformed, especially about its phases or stages. There is also no response to crises or problems related to them. As far as crisis management is concerned, another proposal is suggested for the phases of the decision-making process cycle. For example, in the USA, the National Incident Management System (NIMS) defines a coherent framework for crisis management. The system provides the means to coordinate activities in five main functional areas: command, planning, operations, logistics, and finance/administration [10, p. 7].

On grounds of Polish and European experience, some authors suggest [Cf. 11, p. 118] that these phases should include determining a crisis, planning crisis actions, setting tasks, and

controlling task implementation. By bringing this proposal closer, the authors want to empha-size more strongly the lack of uniformity in the nomenclature regarding the decision-making process, which is always supposed to lead to the decision making and evaluation or control of the contractors' activity effects. In general, it can be concluded that most often, although sometimes under different names, the following phases are listed [12, p. 127]:

– identifying the decision-making problem[1],

– search,

– decision,

– evaluation.

These phases are subject to further consideration and constitute a reference to the deci-sion-making process in a crisis.

Identifying the decision-making problem is a starting point to formulate the task in a general way, establish its basic features, and define the problem after analyzing the existing state. At this stage, the research objective and limitations that may occur during its resolution, the criteria of the assessment and acceptance of solution variants, the decision-maker, the research program, and the time frame of their execution are formulated. Besides, regarding mainly complex and highly complicated projects such as crises, the phase includes the initial data commonly referred to as a general organizational diagnosis. It is supposed to determine the nature, size, and complexity of the problems and, consequently, the scope and nature of changes that should be introduced as the result of the whole research process.

In the crisis management system, the consultative and advisory bodies fulfill an important role in the search phase. They are located on individual administrative levels (commune, po-viat, voivodeship, ministry/central office, government) under the common name the Crisis Management Team.

General diagnosis is usually carried out where each change in one subsystem entails the necessity of making it in other subsystems or the whole system, e.g., the voivodeship crisis management system. It is usually a complicated procedure. Diagnostic studies often initiate further detailed studies in the scope and areas determined by the general diagnosis. The research applies appropriate organizing techniques, always adequately to the situation in question.

When it comes to small organizations or limited scope problems, the so-called abridged di-agnosis covering only some general diagnosis components and selected problem situations can be used. Such solutions dominate at the level of the commune crisis management team.

In the search phase, information is collected, collated, and analyzed, and the diagnostic con-clusions drawn from them constitute the basis for creating variants of the problem-solution concept. The phase is unique as it uses creativity inherent in the human psyche, through the activation of minds through various stimulation techniques of creative thinking. That includes proposals for solutions that enable introducing changes, eliminating existing distortions and irregularities in the system functioning, e.g., internal security, rationalizing the existing state, and programming future strategies to avoid potential irregularities.

It can generally be stated that decision-making areas can be considered in a hierarchical and subjective cross-section [13, p. 117]. In the former, the decision-making level in the

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[1] This stage of the decision-making process is frequently treated as a recognition phase, which boils down to determining the causes of the decision problem, and possibilities and limitations of solving it.

organizational structure is taken into account. As far as the crisis management system is concerned, it is the communal, poviat, voivodeship, departmental, and national level.

In the subjective section, decisions are divided into the organization's operation spheres, and the functional subsystem and activities are distinguished. When these two subsystems intersect, a matrix of mutual relations between them is obtained. The decision areas are created at the intersections of columns and rows and, from the whole set of information, only data necessary to make decisions within a given area are applied on them.

Knowledge of the decision-making areas allows determining the information needs for the work environments or organizational units of the appropriate crisis management system's appropriate element, adequate to the administrative level. The scope of these needs depends on the management level. It is understandable as the decision-making cycle is a specific type and sequence of activities consisting in processing input information into specific output information, i.e., a decision.

The list of information needs can be developed in two variants: by a sender or a recipient. In the first case, the set of information needs is drawn up according to the organizational units or work positions where the information sources are located and from where the necessary information is sent to appropriate addressees. In the second solution, the lists of information needs are prepared for work positions where specific decisions are to be made.

In every situation, the information system, e.g., of the District Crisis Management Team, provides knowledge about its development situation and forecasts. Understandably, the right decision depends on the goals to be achieved and the properties of the possessed information. It means that a well-organized information system should meet certain conditions. First, it must be adapted to the needs and cover all areas of activity of a given consultative and advisory body or crisis management team (center). Moreover, it must ensure comprehensive and up-to-date information and provide information to those who need it in a form suitable for direct use (without processing) and most convenient for making decisions. Last but not least, the information system must allow efficient use of the information through the speed and frequency of its circulation; namely, the information should be up-to-date, complete, and appropriately sorted.

This phase should include the formulation of various options for solving a given decision problem and the definition of criteria through which these options will be evaluated, and each proposal will be assessed. In this phase, there is a preliminary evaluation and selection of the variants of the concepts possible to be implemented, ordering the variants according to the criteria adopted to solve the decision problem and making decisions.

The third phase is the decision phase, which can be successfully described as the selection phase. The two previous phases can be considered as a preparation of the basis for decision making. The very act of decision making consists in choosing one of at least two of the above listed and estimated solution variants and then designing it in detail or translating the idea into the language of practical procedure of design and implementation. It is the choice of such a variant, the realization of which is to lead to achieving the intended goal.

The phase should include formulating different options for solving a given decision problem and defining criteria to assess these options and evaluate each proposal. This phase involves a preliminary evaluation and selection of variants of the conceivable concepts, ordering the variants according to the criteria adopted to solve the decision problem and take a decision.

The transition realization, i.e., implementing the project into practice, also requires a decision accepting it and a decision on implementation. The above means acceptance by a higher

administrative level within the crisis management system, which is understandable in terms of, for example, cooperation or coordination of activities. It is also a requirement resulting from the supervision of the coherence of crisis response procedures.

The evaluation phase closes the procedure by observing the functioning of what has been defined for contractors in the decision, and making corrections if necessary. The evaluation is carried out by establishing elements of directing and coordinating actions, monitoring the crisis, and reducing the discrepancy between planned actions and the actual state.

5. Elements of decision making[2]

As arises from the general theory of decision making, decisions can be planned and unplanned (ad hoc). They can relate to foreseeable issues (problems) and those that appear during the action plan implementation to achieve the organization's goal(s).

Both types of decisions may exist in relation to emergencies, but the statement that decisions may be planned does not sound serious enough. Nevertheless, it can be assumed with a certain degree of probability that a specific security incident may occur, which does not necessarily surprise certain authorities. Reckoning with such an eventuality allows developing a relevant action plan to counteract the adverse events and minimize potential losses.

Striving for solutions affecting the causes, not symptoms, of problems is a component of system thinking. It is one of the premises, which is the basis for stating that not only in crisis situations (non-military extraordinary events) a specific composition (ordered structure) is created in which the following elements can be distinguished:

     – a decision-maker,
     – organizational power,
     – decision-making processes and procedures,
     – information necessary to take a decision.

A decision-maker is a term that characterizes the entity selecting the final variant of a decision. It is a person who, while deciding, has a specific decision problem to solve. The decision-maker must choose one of the alternative action variants. It is a person who can decide and bears responsibility for it.

A decision-maker is a contractual term as it is used when decisions are made individually by one person and when they are made by a team or by one person but after collective problem recognition. Regardless of the circumstances, knowledge, skills, and motivation to make decisions characterize a decision-maker. Concerning the issue under consideration, a decision-maker is holding a specific position depending on the administrative level. At its lowest level, it is the commune head, mayor, or president of the city. When it comes to the poviat, it is the starost and the voivodeship level – the voivode. The departmental level decision is made by the minister who heads the department of government administration, the head of the central body, and the Council of Ministers, the Prime Minister, at the head of the national system.

From a normative point of view, authority boils down to various decision-makers' competence to make decisions and the procedures for making them. M. Zdyb defines managerial competencies [14, p. 78] as the formal and legal authority to shape subordinates' behavior

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[2] It is sometimes referred to as the decision-making system.

and influence things and perform activities essential for achieving the goals of the organization or its parts. It is perceived differently by the *Encyclopedia of Organization and Management*, which defines competencies as the scope of rights, duties, and responsibilities of a manager (employee) assigned to their organizational position. This point of view is briefly characterized below.

Decision-making competencies are well-defined if the compliance condition between the management structure and the decision-making process structure is met. It is based on with the rules:

– who, under what circumstances, and what decision can make?

– who and for what decision is responsible?

– who has information?

– on which information is it based?

Ensuring the compliance of structures is achieved by placing decision-makers within the management structure and assigning duties, powers, responsibility, and sanctions to them, i.e., by developing and adhering to the management statute. Besides, competencies determine the scope of the decision-makers' freedom of action in solving problems and carrying out tasks, which is crucial in crises.

Duties are understood as tasks to be performed by an employee at a specific position. It is a definition of what a person can and should do. It also applies to decision-makers who follow the rules of the decision-making process when making decisions.

Decision-making power is the ability to act in the form of decision making. The source of power is organizational power but its justification can be different, e.g., by choice, designation, etc.

Responsibility is an obligation to fulfill one's duties in the best possible way. It also entails sanctions in the event of failure to meet obligations. It is essential in a crisis situation, especially when health, life or environmental issues play a leading role.

In crises, it is necessary to make decisions (find solutions) under conditions of time and information deficit, often under pressure from people affected by the problem. Those issues have found their reference in the research conducted. They also consider specific issues arising from crisis management, especially regarding a plan developed at each country's administrative division level.

6. A crisis and a decision-making process in the light of the research findings

Each situation, each security threat, is unique, specific, in many cases "adapted" to the specifics of the area, infrastructure, etc. Therefore, it is impossible to present a detailed (precise and simultaneously complete) methodology of making decisions. However, some determinants should be taken into account in the decision-making process in situations that threaten security. These issues were the subject of research carried out on the Lower Silesia Voivodeship territory in the second half of 2019. It covered people who, due to their position or function, were dealing with security, mainly internal security, issues, above all at the poviat level. The research (diagnostic survey) was conducted on more than 100 people, 102 to be precise, familiarized with crisis management issues. The respondents' detailed characteristics, including the workplace in the administrative division of the Republic of Poland, are presented in Table 1.

Table 1. Characteristics of respondents

Administrative division unit			Job seniority in the position (in years)			Education		Sex		Comments
commune	poviat	voivodeship	up to 5	6-10	more than 10	medium	higher	K	M	
56	38	8	18	57	27	28	74	36	66	
102			102			102		102		Total

Source: Own study.

The selection of the research group was not accidental. The respondents were people who professionally dealt with crisis management. In this case, education was not considered. It was assumed that since they were experts and professionally handled security issues, they were competent. The research was preceded by a survey, which allowed verification of some questions.

In emergencies, like in any other incident, the decision-making process begins with identifying a decision problem understood as a set of all factors influencing the decision-maker. As the respondents clearly emphasized, the activity requires time. The research results show this phenomenon on a differentiated scale. The range results mainly from the crisis management level – an administrative division unit. In the case of a commune as the basic and at the same time the lowest unit of administrative division, the respondents (56%) specified the time required to identify the decision-making situation in the range of 10-30 minutes. Such a stance seems to be understandable since, as a rule, the scale of the problem is slightly smaller (limited) in a municipality, and it is possible to assess the situation in a short period. Regarding the poviat, the respondents (76%) emphasized the need for much more time, over one hour. 12% of the respondents were in favor of an even larger time interval – over 2 hours.

The next issue addressed information, the essence of which is to reduce uncertainty (indetermination) in the context of a specific situation (event) that may cause a security risk. The question addressed to the respondents was: From how many sources should the information influencing the decision to be taken come? 19% of them believed one source is enough. Such a position was presented mainly by commune representatives. Another 67% of the respondents were of a different opinion and opted for at least two information sources. 14% were in favor of more than two sources (information channels).

As far as possessing information is concerned, another issue was quite apparent. In general, two positions clashed. One emphasized the desire of representatives of crisis management teams to participate in obtaining information actively. Those indicating such a solution stressed that the information obtained by these people will be reliable and will not contain unnecessary information that does not contribute anything significant to the problem under consideration. The second position was completely different. The opinion was that everyone is supposed to do what his/her function or position obliges him/her to do. In the backstage, those in favor of "rigid" adherence to the assigned duties or tasks said that the desire to obtain information from the representatives of the bodies that manage the action would detract them from realizing the main task. They allowed such a possibility to a small extent concerning the community, but at higher levels of administrative division only in the case of too divergent information or when the problem under consideration is hugely complex.

Considering and including time and information is usually the first step in determining the decision-making problem. Moreover, there was no firm view on this issue either. Again, two positions clashed. 32% of the respondents indicated that a fundamental decision problem, which will be the subject of further decisions, should be generated based on the information available. In contrast, 54% of the respondents believed that if the situation or event threatening health, life, the environment, or infrastructure is very dynamic, enough space should be left to interfere in what was created. The respondents stated that a specific decision problem would often have to be modified or even changed as the situation develops. The remaining respondents (14%) had no opinion about the possible transformation of the problem situation.

When it comes to the above issue related to formulating a decision problem, those presenting divergent positions are partly right. Those who favor not modifying the created situation may identify themselves with Erich Fromm's view in his book *Revolution of Hope. Towards Humanized Technology* [15]. One of the thoughts in this publication is: *a human has a strong need for certainty – he/she wants to believe that the method by which he/she makes decisions is the right one. He/she even prefers to make a "bad" decision and be sure of it rather than a "good" decision and be plagued by doubts about its rightness*. While leaving these psychological considerations aside, it is crucial to emphasize that in the decision-making process aimed at solving, it is indispensable to complete analytical work and create a decision problem. Without it, it will not be possible to take any action to restore safety, as in the case under consideration.

Through that argumentation, one cannot wholly deny those responding parties' position who advocated that the decision-making problem should "live" in the sense of being able to update it. Those people are somewhat right. It is impossible to disagree with specific arguments. A dynamic crisis may evolve in different directions. Crisis response teams should be prepared for such a turn of events. However, such a standpoint may be a premise for the statement that this respondent group covers their back. Regardless of perceiving these issues by this group of respondents (54%), the fact that the formulation of a decision problem is the basis for making a decision was of fundamental significance. A decision is always made about a specific state of affairs. Only then one of the action options can be selected. A separate issue is the viability of the decision, which the respondents referred to in the following questions.

A kind of inconsistency characterized the afore-mentioned issue of considerable flexibility in formulating a decision problem. 54% of the respondents were only halfway in favor of having a reserve – the forces and resources (measures) at their disposal – to respond to what may be a consequence of the crisis development. Nevertheless, one must have arguments to react effectively to what may happen.

Using the potential of forces and resources was addressed by the respondents in a separate question. The majority (95%) of the commune representatives presented the position that the possessed potential should solve a specific decision problem – to implement a specific decision. Such a stance was probably a result of small territorial size and relative ease of diagnosing the situation and predicting its development in the near and long term. The same issue was different in a poviat or a voivodeship. As for these much higher and larger levels of administrative division, the respondents indicated preserving about 1/3 of their potential as a force and means to carry out tasks that may arise during activities aimed at restoring security.

The different positions on the use of the potential were one of the arguments for raising the question of the solution viability. Also, in this case, there were two opposing perceptions.

Most of the respondents (78%) took the view that it is not reasonable to change a decision in the context of a specific situation (incident). The respondents entirely opted for a solution leaving about 1/3 of their potential in reserve.

The next question concerned formulating a decision-making problem but in the context of previously developed documents, which referred to the respondents' experience. It boiled down to assessing to what extent the prepared Crisis Management Plan can be used. In this case, regardless of the level, most respondents (76%) answered that the previously prepared document is a reference point for the situation. The position might have resulted from the conviction that the content of the plan prepared before referred to situations (crisis states) resulting from the action of natural forces, disasters and accidents resulting from human activity, events violating the safety of citizens and public order, the effects of which might threaten the life and health of a significant number of people or the economy, and their liquidation could only be effective in close cooperation between various public administration bodies and specialized services, inspections, institutions, and non-governmental organizations. In this respect, one more fact should be stressed. The skepticism about the possibility of using previously developed plans – and winning the race against time – was much greater among those who have dealt with crisis management issues recently. Those with over 10-year job seniority (interest) were entirely convinced that the Crisis Management Plan in a commune, poviat, or voivodeship could and should be used, taking account of the conditions of the current situation.

A vital question was included in the question: to what extent should reference documents (the letter of the law: Laws, Decrees and Ordinances) and external and internal plans be provided? More than half of the respondents (65%) said that the letter of the law and the documents, including the superior level plans, should be respected. That group of respondents expressed the opinion that events should be considered in a broader context, which implies that not only is the law to be respected, but it also allows skillful incorporation of their decisions into their superiors' or neighbors' actions. The fulfillment of this condition will result in greater effectiveness of actions taken, e.g., in relation to a commune or a poviat.

In light of the above, the remaining respondents' opinions (35%) cannot be negated. Such a large respondent group's position was probably a result of the legitimacy, or maybe even necessity, of being flexible in the accepted decisions. That group was dominated by those who had previously expressed a preference for leaving a certain amount of potential at the disposal of the decision-maker, the public administration body.

The next question was about: who should decide, who should participate in the decision making, and how?

As for decision-making, most respondents (87%) believed that the decision should be made individually but based on a collective (team) diagnosis. Even though the solution slightly lengthens the decision-making time, there is a relatively high probability of its effectiveness. The remaining respondents expressed a different view. The analysis of their previous answers to the questionnaire allowed concluding that they preferred a short time to make decisions and represented the lowest level of public administration. In their view, it would be easy to identify the person responsible for a wrong decision.

The last question concerned whether to inform the population (society) about the potential consequences of the crisis. The respondents' positions were divergent to practically the same extent. Half of them opted for providing information about possible threats, which would prepare people for the events awaiting them. The second half of the respondents expressed

a completely different opinion. They were convinced that this kind of information could cause panic among the population and even cause the rescuers to worry about their loved ones and their property, which could negatively impact their effectiveness.

Conclusions

All the respondents indicated that decisions must be made quickly, and one should strive to make them efficient. There was no unanimity when respondents were supposed to express their opinions about specific time intervals submitted to them.

The research confirmed that the art of making decisions is not easy. Making difficult decisions will undoubtedly be more comfortable when facing such a challenge stops treating a decision as an event and starts to understand it as a decision-making process. Right decisions are almost always the result of an efficient decision-making process when three or more complex conditions and factors are considered.

The research outcomes have shown that a decision-maker can never gather all the information necessary, so decisions are made based on incomplete knowledge, with some risk involved. That, in turn, emphasizes the need (reasonableness) to reduce information to such an extent that it can be controlled and generalized, allowing absorbing uncertainty.

In each case, one should aim at perceiving relations (links) or processes, not things or images (static photography of a given situation). Consequently, one should distinguish between detailed and dynamic complexity when cause and effect are distant in time and space, and when the relations between them are ambiguous.

Making decisions in a crisis, the occurrence of a precedent concerning "normal" conditions of functioning of, e.g., an economic entity, is burdened with numerous circumstances. They are difficult to define unambiguously, if only because each crisis is specific, directly unique. The complexity of the decision-making process and the variety of possible crises make it impossible to present the recommended model of conduct unambiguously. Sometimes, due to the type of problem and the way of performing managerial (command) functions, certain phases of the process may be simplified, while others may be more elaborate.

The conducted research results do not solve the comprehensively undertaken research problem. Due to the variability of conditions and the uniqueness of each crisis, it is reasonable to conduct further work aimed primarily at the possibility of establishing decision support systems and IT support for crisis management teams.

Conflict of interests

All authors declared no conflict of interests.

Author contributions

All authors contributed to the interpretation of results and writing of the paper. All authors read and approved the final manuscript.

Ethical statement

The research complies with all national and international ethical requirements.

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Specyfika procesu decyzyjnego w sytuacjach kryzysowych

STRESZCZENIE   Artykuł prezentuje rozważania naukowe obejmujące dokonywanie rozstrzygnięć decyzyjnych w sytuacjach kryzysowych. Analiza naukowa oprócz przedstawienia specyfiki procesu decyzyjnego, konstatuje go z badaniami przeprowadzonymi na grupie 102 osób odpowiedzialnych za zarządzanie kryzysowe na szczeblu samorządowym. Wyniki badań wskazują na podobne podejście w odniesieniu do efektywności i szybkości podejmowanych decyzji. Natomiast w kwestiach pozyskiwania informacji, elastyczności w podejmowaniu decyzji, tworzenia odwodów w postaci sił i środków do realizacji zadań respondentów oraz potrzebie informowania ludności o możliwych konsekwencjach zaistniałej sytuacji kryzysowej cechował dualizm. Mimo specyfiki procesu decyzyjnego zdecydowana większość respondentów (87%) uważała, że rozstrzygniecie decyzji powinno zapaść jednoosobowo, jednakże na podstawie zespołowego wypracowania decyzji.

SŁOWA KLUCZOWE   proces decyzyjny, informacja, sytuacje kryzysowe