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## **From the Editorial Committee**

We are giving you the next 26th (3/2019) issue of the Quarterly of the Faculty of Management of the Rzeszow University of Technology entitled “Modern Management Review”.

The primary objective of the Quarterly is to promote publishing of the results of scientific research within economic and social issues in economics, law, finance, management, marketing, logistics, as well as politics, corporate history and social sciences.

Our aim is also to raise the merits and the international position of the Quarterly published by our Faculty. That is why we provided foreign Scientific Council, as well as an international team of Reviewers to increase the value of the scientific publications.

The works placed in this issue include many assumptions and decisions, theoretical solutions as well as research results, analyses, comparisons and reflections of the Authors.

We would like to thank all those who contributed to the issue of the Quarterly and we hope that you will enjoy reading this issue.

With compliments  
*Editorial Committee*



Klaudia JUSZCZUK<sup>1</sup>  
Wioleta KUFLEWSKA<sup>2</sup>

## SATISFYING CULTURAL NEEDS IN LUBELSKIE VOIVODESHIP

This article refers to the issue related to cultural needs and their indulging. Cultural services are an increasingly intensifying service sector. Acquisition and consumption of services is one of the areas of consumer needs. Satisfying cultural needs is associated with spending free time in a significant way. Knowledge and awareness of culture raise the social position in the long term, so in this sense culture also has an economic overtone, because it affects the quality of life also in the material dimension. The main objective of the work as well as the research being carried out is to determine the level of meeting the cultural needs of the surveyed respondents, as well as the forms of cultural services they use.

**Keyword:** cultural services, cultural needs, acquisition, consumption.

### 1. INTRODUCTION

In a sense, culture is a scheme that imposes a kind of behaviour for a given community. It is closely related to the sphere of consumption, as it is a kind of determinant in the purchasing behaviour of buyers. The key factor when it comes to buying decisions is culture, which has a huge impact on how a product or service is perceived by a modern consumer. In a way, culture is simply an imposed pattern of community behaviour. It is a source of social development, and without it there is no way to speak about structures forming communities and nations. This is because the sense of the world of values or, more broadly, the achievements of people legitimise social structures. As it has been noticed, it causes acceptance of formal and legal norms by changing their institutional letter into emotional ones. It is also necessary to emphasize that culture also acts on the individual and if in the case of society it has functions that legitimise structures and norms, then for the individual the culture has a socialising character. It is often said that children are often brought up, but in essence this means imposing certain norms and behaviour patterns that the community accepts.

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## 2. VARIETY OF CULTURE UNDERSTANDING

Among many human activities in the broadly understood social life, culture is what in fact significantly differentiates our species from the animal world. The key feature of intelligent beings is the ability to express themselves through contractual signs, shapes or more precisely drawings, texts, music and other forms. However, it should be clearly stated that although colloquially, culture is associated with an art, it is not a synonym. If every art, that is sculpture, painting or literature is a culture or part of culture, then not everything that is culture is art. Culture is generally speaking of the entire output of humanity, that is everything that has been created, that is, good material, art, religion or conceptions and way of thinking, while art is a limited concept to clear activities (Gajda, 2008).

The origin of the term of culture, according to some of the literature of the subject, goes back to the first ancient countries, namely Egypt, Sumer or China. In terms of social psychology, its genesis is much older. Created about 30,000–40,000 years ago rock paintings, some of which have survived to this day, can certainly be considered as a manifestation of cultural activity (Olszewska-Dyoniziak, 2003).

There is a large group of definitions in the literature that sometimes differ from each other in a clear way and at other times in detail. In the case of nominalistic definitions, the criterion is indistinctly formulated and may assume a different typology depending on the researcher. The definition may include the words formulated by D. Malinowski, who says that “culture is an integral whole, which consists of tools, consumer goods, human ideas, crafts, beliefs, customs and community structures”. (Nowicka, 2009).

The second group of definitions are so-called historical ones. The term is taken from the fact that proponents of this typology emphasise the factor related to the mechanism of shaping and transmitting culture, sometimes called the factor of tradition. The author of one of such definitions is S. Czarnowski, who states that “culture is a collective good and heritage, the fruit of the creative effort of countless generations, it can be talked about when the discovery or invention is preserved and passed down as a part of the collective achievements of the community” (Jakubowski, 2012).

The third group is the so-called normative definitions, where the selected behaviours of people are assigned to norms, standards and values. This means that adapting an individual to specific norms has a cultural behaviour feature. T. Parsons recognises culture as passed and created model of ideas, values and content of symbolically important systems that shape human behavior (Kłoskowska, 2007).

In turn, the groups of psychological definitions attach particular importance to the psychological mechanisms of creating cultures, and thus learning, forming habits and externalising the norms in force in a given community and what is important for it to be recognised. The importance of imitation and learning skills is emphasised here. The definition of S. Ossowski seems to be clear, claiming that culture is a group of psychological dispositions in a given community and communicated by social contact (Herder, 2000).

It seems that, after all, the definitions quoted above do not constitute a simple and lucid expression of the concept of culture. Perhaps the most universal is the accent approach, that this is simply a kind of creativity that aims to convey symbolic and practical significance, which is a legacy for the next generations, i.e. cultural (Benedict, 2002).



### 3. DETERMINANTS OF SATISFYING CULTURAL NEEDS

The consumption of culture is strongly dependent on economic factors, which is manifested by the fact that in richer societies, the frequency of communing with culture increases, because basic needs do not show too many difficulties to satisfy them. However, if it were only about economic issues, one could come to the conclusion that economic growth, translating into the growing purchasing power of consumers, will be conducive to the dynamics of demand for cultural products (Rudnicki, 2000).

Analysing the process of satisfying cultural needs, it can be seen that other social conditions also work here. In a nutshell, internal and external determinants are distinguished here. At the very beginning, there is a complex process that ultimately leads to the ultimate use of culture. In the first place there must be a sense of cultural need. Then the search for information takes place. In the next sequence there is an assessment of the variants of how to meet the need, if it appeared in the earlier stages and finally the final decision and following feelings (Bombol, Dąbrowska, 2003).

As far as internal determinants are concerned, attention should be paid to issues strongly related to human personality. According to A. Maslow's theory, culture is a higher level of hierarchy of needs. Although, on the one hand, it is not only about satisfying aesthetic needs, but also about culture and raising society, at the time of economic crises, the first thing that people give up regardless of their preferences and cultural competences is the use of this area. An important fact is that some people who are in a specific social group participate in cultural events due to the fact that regardless of their own preferences, it has the feature of confirming their affiliation. Another external motive, similar to cultural participation, understood as confirmation of identification in a given social group is prestige (Rudnicki, 2000).

For some people who achieve high material status, culture, regardless of the actual taste or choices, becomes a kind of confirmation of social status in the sense that at some level it is simply not proper to have an extensive home library or financial support for the theater or gallery. It should be added that these motives of cultural participation and prestige do not have to be associated with the actual involvement in art, although, they can. Another internal motive that social psychology speaks is the desire to socialise, which is made up of more unofficial formulas that foster looser talks on the basis of theater art, cinema premiere or other cultural events (Rudnicki, 2000).

However, these internal determinants are subjective in nature because they may result from actual involvement in art or they may also be an expression of a certain imitation resulting from the social position and related norms. Another example of internal factors are personality ones. They result from elevated cultural capital, aesthetic thrills, the need for intellectual experience or even curiosity. It should be added that this type of participation may have either a paid participation formula or a selection of specific radio, television or internet content programs. Generally, internal determinants are divided into socio-economic factors related to the personality, social position and cultural context of the given environment (Rudnicki, 2000).

The second category is external determinants. In this case, the economic factor is obviously a perception of culture as a market element. There is a correlation between the economic development of a given region and the use and accessibility of cultural services (Bombol, Dąbrowska, 2003). However, it is not as strong as it seemed a few decades earlier.

It should not be forgotten that the important issues shaping the ways of using culture are the cultural needs of consumers, called colloquial tastes in everyday language (Noga, 2014).

If it comes from a purely economic perspective, then any form of participation in culture, regardless of the evaluation of its products, is significant and positive, because people participate in broadly understood cultural development, strengthening its economic foundations. On the other hand, the criterion of choosing cultural goods can in and of itself testify to some environmental or social affiliation, and in that sense, what we choose, even if it is unconscious, defines the individual, and thus creates a certain cultural code. It should be added that an important external determinant are the institutional activities of the state, the most important of them is the preparation of people to use culture primarily in intellectual terms by the school or the education system (Noga, 2014).

Participation in culture is an indispensable part of every human being, but it changes only with age. It indicates that with the beginning of human life, it grows under the influence of the science of everything and lasts until death.

#### **4. CULTURAL SERVICES IN THE LIGHT OF OWN RESEARCH**

The general objective of the research was to determine the level of meeting the cultural needs of the surveyed respondents, as well as the forms of cultural services they use. The research was carried out in March 2019 in the group of 201 respondents using the questionnaire. The selection of the sample for the research was on-target selection, the target group was people who were 18 years of age and co-create a household in the Lublin voivodeship.

Among the group of 201 respondents – 37.8% were men (76 people), while the number of women participating in the survey stood at 62.2%, which was 125 people. In the case of cultural needs, this is important because men and women may be guided by a slightly different perception of cultural needs.

When analysing respondents by age, it is possible to specify four main age categories. These include people aged 18 to 24 and respondents in the range of 25–34, 35–44 and above 45 years of age. Separation of several age categories allows you to look at the area under investigation from different perspectives. We are talking here about the fact that different things are perceived by younger people, and the older people, who already have certain life experience. The vast majority were people who did not exceed 35 years of age, over 50% of the surveyed population (155 people), 66 of whom are 24 years of age, and 89 people are in the range of 25–34. A smaller number are participants who were in the range of 35–44, while only 9 people are respondents over 45 years of age.

##### **4.1. Needs and level of their satisfying**

When assessing the level at which needs are met in households, respondents were divided into general groups, each of which was asked to indicate the appropriate frequency, in this case the level of satisfaction. The respondents received previously prepared categories of needs, including: food and non-alcoholic beverages, clothing and footwear, use of housing and energy carriers, health, transport, education, culture, tourism and recreation, and spirituous beverage as well as tobacco products.

These needs are, of course, only the most common in every human and household life, although the palette of needs that each person can have is much wider and also diverse. However, these general indicators allow to determine these regularities. As regards the very high level of satisfaction, food and alcohol-free beverages were ranked first in a clear and

dominant way, for 201 respondents as many as 67.3% of people indicated a very high level of satisfaction and an additional 27.9% high. This means that a total of 95.2% of all respondents meet this basic need in at least a high way. Additionally, this proves taking into account the research carried out regularly over the last 30 years, how the rate of living has risen.

In the case of needs that can be considered additional, i.e. culture, education or, for example, clothing or footwear, they are satisfied secondly. It is necessary to complete that it is not a second order in the sense of cultural needs or general human needs, but in the economic sense. To some extent, one can accept the thesis that satisfying the needs of respondents, apart from food and housing, is determined by the amount of income.

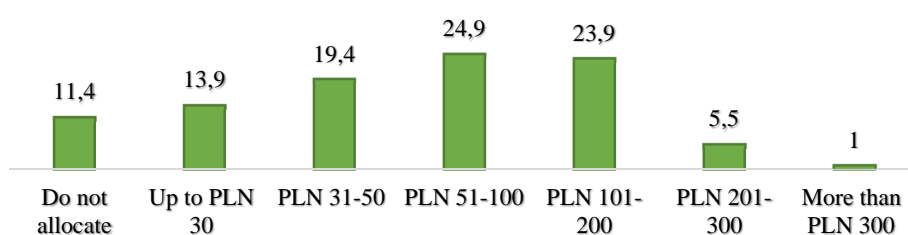


Figure 1. The amount of monthly financial resources spent by respondents on the purchase of cultural goods / participation in culture (%)

Source: own study based on the results of the research.

People using or participating in cultural property are obliged to bear costs related to the discussed area for some time. 23 people (11.4%) do not allocate any financial resources in this area. This means that most likely they are respondents who do not participate in the broadly defined culture, hence the lack of costs.

Slightly fewer respondents, 28 people spend up to PLN 30 a month, 39 people spend from PLN 31 to PLN 50, while from PLN 51 to PLN 100, about 1/4 of those surveyed, or 50 people. As for larger amounts up to PLN 200, costs are borne by 48 people, up to PLN 300 for 11 people, and more than PLN 300 a month for 2 people.

Expenses are mainly correlated with the material status, the professional situation and even age. All of these components are related because people with lower incomes must first meet the needs of the first order. On the other hand, respondents with higher status may allow for higher spending in the field of culture. In contrast, younger people are more likely to use cultural goods rather than older people, which shows that each age group has different priorities in terms of cultural needs.

#### 4.2. Participation in the forms of cultural life and evaluation of the offer of culture institutions

In this part, free time has been spelled out, limiting respondents to forms of cultural life. This means that other forms of spending free time were excluded, asking the respondents to indicate the frequency of each form of participation in the broader culture. The most active participation is 5 to 7 times a year or 8 times a year. Participation was rare for individual events 2 to 4 times a year or 1 year and not at all. It should start with the

approximation of the results of the most frequent cultural activities among the 201 respondents of this research.

The highest activity in the category of more than 8 times a year was given to the cinema, which was marked by 25.9% of people, with another 25.9% doing it 5 to 7 times a year. In the next positions, there were outputs to cafes, pubs or restaurants, respectively 47.3% and 16.4% people, going to clubs or discos respectively 23.4% and 16.9% of people and participation in music concerts and festivals 19.4% and 13.4% of people. It can be concluded that after the analysis of cultural activities is the growing dominance of socialising and going to broadly understood cafes or restaurants, which also does not exclude social activity and can be treated in a way as one category. In addition, the younger the age group, the more the category of cinemas, clubs, discos and music concerts increases. The remaining forms are relatively rare regardless of the age category, which can be explained by economic considerations, but perhaps by lack of cultural competence. It is difficult to treat participation in picnics, exhibitions in galleries or meetings with interesting people as expensive.

Table 1. Offers of institutions / organisations respondents use (%)

	museum	theatre	cinema	library	opera	art gallery	culture centre	university	association	fundation	church / other religious association	entertainment centre (eg amusement park, circus, etc.)
Average	2,05	1,88	3,31	3,34	1,39	1,83	2,15	3,04	1,60	1,50	3,29	2,29

Source: own study based on the results of the research.

Regarding the offers of institutions / organizations that individual respondents use in the Lublin voivodeship or elsewhere, respondents were asked to select individual categories and to assign activities on a five-point scale from never to very often.

Library, church and other religious association, as well as a university, these four institutions are definitely dominant in the sense of using them. What can be clearly seen is almost a division into exactly half between strictly cultural institutions (cinema and library) and those that cannot be defined in such a way, but belonging to culture in a broad and therefore social sense.

It is worth paying attention to whether the availability of institutions undertaking cultural activities influences the needs of the surveyed people. More than half responded answered „yes”, as 57.7% of the surveyed, this result can be considered quite low, especially if it is noted that 22.4% answered „do not know”. One can get the impression that the respondents could not decide whether the availability itself affects the satisfaction of cultural needs or whether attitude and activity are more important. If someone wants to use institu-

tions that undertake activities related to culture, then it is not an obstacle for him to overcome a few kilometers.



Figure 2. The influence of available institutions/organizations on satisfying cultural needs (%)

Source: own study based on the results of the research.



Figure 3. Evaluation of the offer of cultural institutions operating in the respondents' place of residence (%)

Source: own study based on the results of the research.

Answers to this question should be divided into two parts. The first of these is the opinion of people actually participating in culture, while the second part should be treated as a kind of common opinion, though sporadically confirmed by their own presence. Therefore, it should be considered crucial that the largest number of respondents, as much as 43.69% do not recognize the offer of cultural institutions, neither high nor low. In practice, this means that the majority of respondents (almost half of them) simply have no opinion on the topic, as it is not regularly or not widely used in this type of offer. Add to the fact that 9.4% of people said directly that there is no opinion on this subject, it only confirms the original thesis, that someone who does not participate naturally has difficulty in assessing. Therefore, taking into account other responses, it seems that they only reflect the actual opinion on participation.

Referring to the influence of culture on the quality of life, 66.7% of respondents felt that this was a positive impact. Nevertheless, it might seem based on some simplified social perceptions that even if a significant part of society does not use cultural institutions, at least it believes that it has a positive impact on the quality of life.

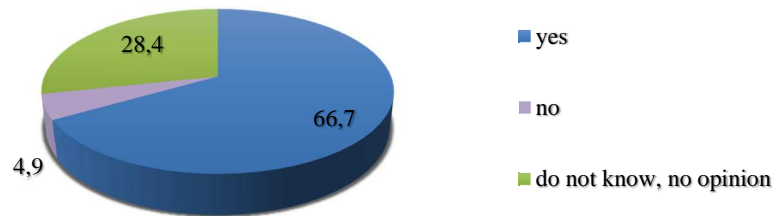


Figure 4. The influence of culture on the quality of life (%)

Source: Own study based on the results of the research.

Among those who took part in the study on the open-ended question "why culture has a positive impact on the quality of life" only those respondents who gave an affirmative answer to the previous question were answered, that is 66.7% of respondents. The most frequent responses are sensitization (49 people), personality development (25 people), widening of horizons (20 people). On slightly further positions with indications of less than 20 people there was relaxation, mental experience and mood improvement.

One can clearly see here the very active participants of culture, and that they perceive it not only as social events, but also something that can be translated into broadly understood cultural and social competences. In all studies carried out on a global scale, it has been proven many times that people who grow in a more culturally competent environment have fewer barriers to achieving their intentions and professional or social ambitions.

Table 1. Cultural institutions in short supply in the place of residence of individual respondents (%)

	yes	no	no need	total
<b>theatre</b>	40,3	45,3	14,4	100,0
<b>opera</b>	31,8	43,8	24,4	100,0
<b>institution that disseminates culture through education and artistic activities</b>	47,8	47,8	4,4	100,0
<b>institution presenting culture and curiosities from distant countries, e.g. Japan, China, Africa etc.</b>	42,3	39,3	18,4	100,0
<b>performance hall allows organising spectacular events</b>	48,8	46,8	4,4	100,0
<b>sports facilities / stadium, swimming pools etc.</b>	48,8	47,3	3,9	100,0
<b>intimate cinema with an ambitious repertoire</b>	37,8	56,7	5,5	100,0
<b>music clubs and disco</b>	35,8	58,2	6,0	100,0
<b>museum</b>	24,9	68,7	6,4	100,0
<b>pub and cafe</b>	33,8	63,7	2,5	100,0
<b>aqua park</b>	54,8	40,8	4,4	100,0

Source: own study based on the results of the research.

When assessing the level of cultural events organised in the place of residence, the respondents in the largest group, as many as 45.8% responded that they rate these events neither high nor low (92 people) should be added to 7 people who have no opinion on this topic. Therefore, it makes a total assessment that half of the respondents cannot in any way determine the level of events.

Considering which cultural institutions are missing in the place inhabited by the respondents, they were given the opportunity to indicate the differentiated answers for each category. Everyone could choose whether the given institution is a missing, non-existent or a variant that is not needed at all.

As for the most needed institutions, which is missing in the numerical sense, the largest number of people (54.8%) pointed to the aqua park. The next items included institutions popularising culture through education and artistic activities, as indicated by 47.8% of people and a performance hall and sports facilities, which was mentioned by 48.8% of people. It is clearly visible that the dominant response related to the aqua park is the result of a lack of awareness of the essence of cultural institutions among a large number of respondents.

Objects such as an aqua park and stadiums are not subjects of culture, but entertainment, though having social justification. It can be presumed that among those 54.8% of people who mentioned the aqua park, a large part is not participating in culture. Hence their problem with defining and distinguishing the aqua park from, for example, the museum, which was indicated by 24.9% of the respondents.

Considering the opinion of respondents regarding what features should be possessed by a modern cultural institution, the first place has been taken advantage of by using modern technologies, which were marked by 94.5% of people. In practice, this means that such an option, which is the most important for modern cultural institutions, has been indicated both by those who participate (participate) in cultural events as passive.

It seems that there is a common denominator in this place, based on the realisation of the fact that digital technologies are an integral part of the modern world, including culture. The next items included a varied cultural offer for children, youth and adults (93.5% of indications), implementation of programs for the disabled people (91%) and a combination of artistic and educational functions (95%). It should be noted that some respondents still have problems with defining cultural phenomena. It is difficult to recognize that the features which a modern cultural institution should have are the implementation of a program for the disabled or combining artistic and educational functions. It is true that the implementation of the program for the disabled is an important integration element, but this cannot be treated as a cultural offer of the strict sense, just like the joint education and culture in the guideline for children and youth. Nevertheless, the remaining responses, although marked by a slightly smaller number of respondents, are more in line with the functions of a modern cultural institution, for example, to perform an artistic function, offer outside the walls of the institution or be open to other cultural traditions or nations.

## 5. SUMMARY

Culture is a kind of sphere that surrounds human on every side, both in everyday activities and while spending free time. For the vast majority of respondents, free time is very important. This is important because those respondents who realise the importance of free time are people who use cultural goods to a large extent and satisfy cultural needs.

There are a number of factors that influence the use of cultural goods and thus the satisfying of cultural needs. One of them is the place of residence. Larger institutions and organizations dealing with culture are usually located in big cities. Age is another factor. This means that people who have participated in the study for the most part are students who have different cultural needs than older people. Therefore, it is not surprising that they consider going to a disco, club, cafe, pub, etc. as a form of cultural life. Also important are financial resources, which do not allow to meet cultural needs by people with low financial status in the same scope as people with higher incomes.

In summary, culture is an attribute of human, because only human being can create it. Culture integrates with the local community as it mediates between the human environment and the human being. Culture affects not only personality, but also human activity. Therefore, people should take care of this area and, above all, take an active part in it.

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## THE ROLE OF FACEBOOK IN PROMOTING THE COMMUNICATION OF NON-GOVERNMENTAL ORGANIZATIONS RELATED TO CHILDREN WITH CANCER

The aim of this work is to assess the use of Facebook as a social marketing tool by organizations dealing with children with cancer disease. The theoretical part contains information about non-governmental organizations, the characteristics of selected foundations from Spain and the function of social media. The empirical part of the work was carried out in October and November 2018 during the author's stay in Spain. Posts published by three Spanish foundations Aladina from Madrid, Aspanion from Valencia and Afanoc from Barcelona have been analysed. They are the three largest cities in Spain, which is why the foundations were chosen from them. The analysis included Facebook tools, which were the most used by foundations, then the type of published content and at the end was selected the best post. The results show that the main posts of the organizations are related to fundraising, while the most used tools were photos.

**Keywords:** social media, foundations, Spain, cancer disease, communication, fundraising.

### 1. INTRODUCTION

Cancer is the second leading cause of mortality in Spain. A report of the Statistics National Institute says that in 2017 year 26% of Spanish people inflicted with this disease die (2018). Unfortunately, in kids, this is the first leading cause of death in Spain. Every day in Spain, a child or a teenager dies because of cancer (Fundación Neuroblastoma, 2016). Each year, more than 1,000 new cases are diagnosed among children, of which about 200 cases are in Andalusia, 180 in Catalonia, 150 in Madrid, and 100 in Valencia. Moreover, even the remission does not guarantee that there will be no relapse. In Spain, the Spanish Registry of Childhood Tumors has been created to collect materials since 1979, and its aim is to diagnose cancer in children and learn about the causes. Regarding the frequency of occurrence of disease varieties, leukaemia is 30%, 13% are lymphomas and central nervous system tumours, 22% are several types of cancer, while the most dangerous neuroblastoma is 8.8% (Universidad de Valencia, 2014). In order to raise awareness about cancer, NGOs should educate the public in addition to fundraising activities. In social marketing, it is very important that all activities are focused on changing people's behaviour (Iwankiewicz-Rak,

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2013). Marketing tools for the needs of public sector organizations are modified. And so we can distinguish with this strategy:

- a. Developing an idea (create an offer) – in this part the most important thing is to notice the problem in society.
- b. Shaping society costs (price) – the price for the goods offered by the organization is related to which groups will join the help. In the initial stage, the organization is waiting for help from the state. Then come donors and volunteers.
- c. Availability of ideas (distribution) – in this aspect, the most important is to find the best communication channels that will allow reaching to the largest possible audience.
- d. Social advertising (communication) – the main goal is to bring about social change. Another is the development of the organization itself, gaining and maintaining trust, raising funds and attracting new people to work.

The purpose of the article is to analyze how organizations use Facebook for their marketing activities.

## 2. NON-GOVERNMENTAL ORGANISATIONS

Non-governmental organisations are one of the essential pillars of civil society. They are considered a key in the third sector with a structure balancing the state power and allow people to unite over issues important to them. (Kotnis-Górka, Wysocki, 2011). Non-governmental organisations have developed from civil society to be able to better handle matters that were avoided by public authorities. They have enabled people to build in the social, economic, and political spheres for the last several decades. To achieve it, it is necessary for non-profit organisations to continually implement new communication systems that will allow them to educate society (Castillo-Esparcia, 2017). On the role of the third sector, Lester Salomon says this:

“The diversity of this sector is so amazing that it encourages us to overlook the important similarities that exist in it. Developmental people do not want to be confused with those who only devote themselves to help” (Salomon, 2005).

The year 1980 was a breakthrough year for Spain in terms of the formation of society. This also translated into non-profit arrangements that were the most popular at that time (Gomez-Gil, 2005).

As far as non-profit organisations dealing with cancer in Spain are concerned, the Spanish Federation of Parents of Child with Cancer emerges first. Founded in 1990 by parents of children affected by this disease, the organisation unites and coordinates the work of 21 associations throughout Spain. The central principle of each of these associations is that the work should be carried out by parents of sick children. The Federation belongs to the International Childhood Cancer International association. The Aspanion foundation from Valencia, the third city in Spain, was selected for the study. Aspanion has been active in the Valencian Community since 1985.

From Madrid, an independent Aladin foundation was selected. The organisation that has been operating for only 13 years has changed a lot in cancer hospitals, in particular in the Madrid Hospital Niño Jesús.

From the Catalonia region, we have the Afanoc Asociacion, a group of parents who decided to set up an association that will support children and their families from Catalonia. The Afanoc affiliate has been operating in Barcelona since 1987. They also have branches in Lleida and Tarragona. They cooperate with the Federation of Parents of Children with Cancer.

Madrid, Barcelona, and Valencia are the three biggest cities in Spain. They are also the most important centres in the provinces which they represent. It was necessary for this research to show how the organisations in these cities work for their residents. We would also like to explain if a proper foundation – like Aladina from Madrid, functions better than foundations which are affiliated in one association.

### **2.1. Communication of non-governmental organisations**

For everything to go well in the process of raising awareness, promotion, donor sourcing, the conversation is the most important thing. The dialogue between organisations and donors and beneficiaries must be carried out in a clear and peaceful manner. Social networks and social media give much more possibilities to communication with the users for an organisation (Młodożeniec, 2013).

We know perfectly how important role media play in our lives. They are the principal intermediary in the transmission of more or less important information.

At the time of the emergence of a "hypermedia model of communication" (Pacut, 2016), that is the ability of many people to communicate with another group at the same time, it has modified the structure of economic processes, both on a macro and micro scale.

The use of new information and communication technologies, especially the Internet, is inevitable nowadays. In Spain itself, there is an increase in the use of the opportunities offered by the Internet. Such a serious issue as our health has found itself amidst this communication revolution. The health service has also made a tool out of the network to transmit messages daily (Lauckner & Whitten, 2015).

Social media means all these online platforms, thanks to which companies, organisations can inform potential recipients about their services. They are a new form of media to include users and interaction with them. (Dejnaka, 2013). The main features of social media include:

1. Published content can be widely used.
2. Freedom in creating and receiving information placed on social media.
3. Users of a given medium can share content.
4. They are built in a direct manner (Dejnaka, 2013).

NGOs know that their duties include ensuring that the information they publish concerns not only promotional aspects but also their activities and sources of financing. It is because they are under strict state control (Pacut, 2016).

In 2004, Tim O'Reilly began using the term Web 2.0. According to his theory, Web 2.0 sets new trends not only in technology but also in economic and social conditions. Altogether, they are to form the basis of today's Internet operation, of which users are the principal shareholders (Castillo Esparcia & López Villafranca & Carretón Ballester, 2015).

Health also has its answer to Web 2.0. Due to the popularity of using the network to acquire knowledge in the field of health, the term Health 2.0 or e-health appeared. Ignacio Basagoiti has the opinion that:

“The key aspect of the ‘revolution’ that the Internet assumes are problems in access to information and resources, drastically reducing inequalities caused by geographical and cultural barriers, but also organisation” (Basagoiti, 2009)

The authors of the article on communication in the network of patients with rare diseases in Spain refer to the statement in the White Book about oncology in Spain which states that each new patient is assigned consumer rights and access to a larger pool of health-related information through the Internet and traditional media (Castillo Esparcia & López Villafraña & Carretón Ballester, 2015). For better effect organizations focus on four aspects, which Bernoff calls POST:

- a. People – identification of recipients and what can be offered to them.
- b. Objectives – what kind of aims organizations want to achieve.
- c. Strategy – it is a plan to establish relationships with recipients.
- d. Tools – this will be used in social media (Gajda-Perek, 2013).

## 2.2. The purpose of the study

The study aims to investigate which methods of communication by selected organisations in Spain dealing with cancer-related diseases in children are best perceived by users. The study wants to answer these three questions:

1. What communication possibilities social media offer to organisations?
2. What types of messages are publishing on their profiles?
3. What post was the best and why?

## 3. METHODOLOGY

We have focused attention mainly on Facebook, which remains one of the most commonly used applications in the world. In Spain, about 86% of users only use Facebook (AIMC Report, 2017).

To be able to answer the above questions, messages published on Facebook were collected from the 1<sup>st</sup> of October to 30<sup>th</sup> of November 2018. The selected foundations operating in Spain are:

1. Aspanion – a foundation from Valencia, also having its branch in Alicante. It belongs to the Federation de Padres de Niños con Cancer
2. Aladina – a foundation from Madrid, but they help hospitals in the whole Spain
3. Associacio Afanoc – a foundation covering the territory of Catalonia. The headquarters is in Barcelona but the branches are also in Lleida and Tarragona.
4. For the first question, we analysed what kind of content is used by the foundations: videos, photos, hashtags, links to websites.

To be able to answer the second question, the method developed by Bender, Jimenez-Marroquin, and Jadad from 2011 was used. The researchers determined four types of information for the needs of the work *Seeking support on Facebook: a content analysis of breast cancer groups*. They were:

- a. Knowledge and awareness. In this case, organisations want to tell their recipients things about health, statistics about treatment, prevention, and translation of medical concepts.
- b. Support. What kind of actions they took for their charges and their families? The posts about the support are intended mainly for this group of recipients.

- c. Collecting funds. It is about every action made by the foundation where they can ask donors to support their charges. Particularly, collections for treatment, rehabilitation, to buy hospital equipment.
- d. Promotion. This applies to the foundation's activity itself, people who work there, volunteering, events, showing what hospital life looks like.

Fernandez-Campo and Campo added "other news" to this list, which refers to the content published on fan pages that is not related to any of the above types of information.

The last question applies to the best posts from the period when the study conducted. Choosing the best post depends on the number of likes, shares, and comments on the post.

#### 4. RESULTS

Table 1. Characteristics of the foundation

Name of Foundation	City	How many "likes" they have?	Year of appearance on Facebook
Aspanion ( <a href="https://pl-pl.facebook.com/aspanion/">https://pl-pl.facebook.com/aspanion/</a> )	Valencia	10,000	2012
Aladina ( <a href="https://www.facebook.com/FundacionAladina">https://www.facebook.com/FundacionAladina</a> )	Madrid	153,000	2011
Associacio Afanoc ( <a href="https://www.facebook.com/AFANOC/?ref=page_internal">https://www.facebook.com/AFANOC/?ref=page_internal</a> )	Barcelona	13,000	2010

Own source.

Table 2. Statistics of published posts

Name of Foundation	Number of posts in October	Number of posts in November	The best post: number of reactions/comments/shares
Aspanion	30	31	13 <sup>th</sup> of November, 376 reactions, 26 comments, 119 shares
Aladina	53	67	8 <sup>th</sup> of October, 2,200 reactions, 48 comments, 380 shares
Associacio Afanoc	9	12	29 <sup>th</sup> of November, 214 reactions, 20 comments, 58 shares

Own source.

We can see that foundation Aladina, which is a private organisation, is more popular than Aspanion and Associacio Afanoc. The result may indicate that this foundation is more active in social media than the other two, but also the fact that a separate unit must do much more to be able to support their charges. If we compare the three foundations in the context of the questions posed, it appears that they have a similar style of activity. Fundraising news are also the most important to them. In the following subchapter of work, we will introduce the results for each of the selected foundations based on an analysis of their activity on Facebook.

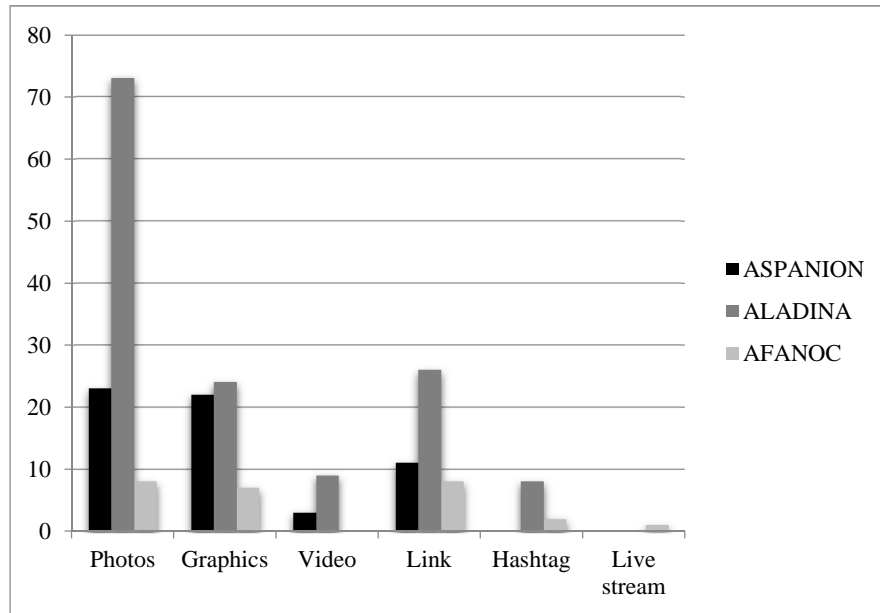


Figure 1. Tools used by foundations on Facebook

Own source.

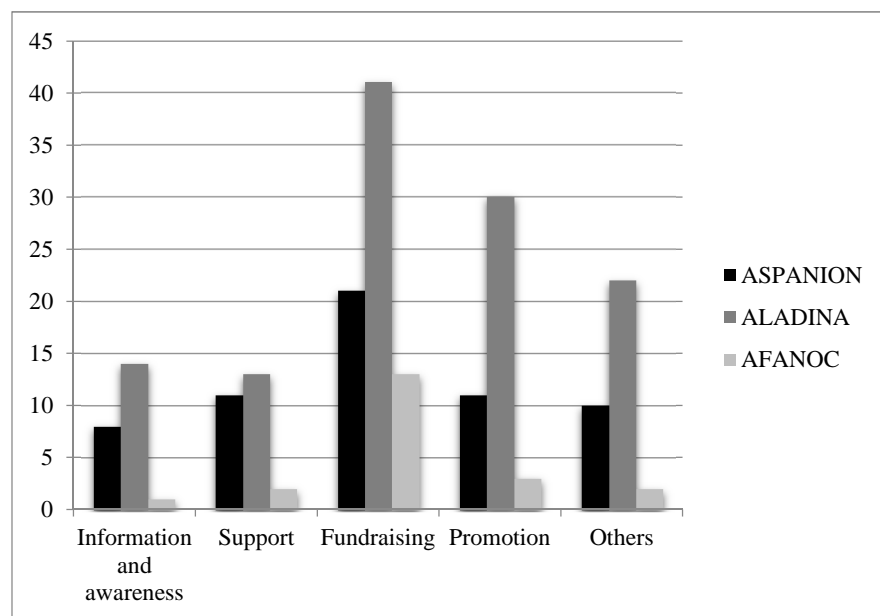


Figure 2. Type of messages on the Facebook profiles of the foundations

Own source.

#### 4.1. Aspanion from Valencia

Foundation Aspanion in this period made 61 posts. We can see in table 1 that for Aspanion, the essential choice are photos and graphics. The visual part is very important but the videos are not as popular. Only 3 of their posts contain a video. Regarding the answer to question number two, the posts about fundraising are definitely salient to them. Twenty-one of the posts are about fundraising. Then we have 11 posts about support and promotion and 10 other posts. Unfortunately, there are only 8 posts containing information and spreading awareness.

As we can see, the best post has a lot of information. It is about a mural which adorned a hospital. The foundation says that:

“Today we remember with fondness this mural that we painted so that children with cancer from Hospital University and Politècnic La Fe de Valencia see it from the window every day.

The result has been a great painting of a boy with a superhero cape and a gold awareness ribbon on his back, symbol of the fight against cancer, with the motto »you are heroes«.

A beautiful initiative promoted by an affected father and supported by Aspanion Children With Cancer with Red Cross Valencia, Caixa Popular, La Rambleta, Monto Pinturas, Electroacústica, clem, ZEDRE-Art Mural I Urban Culture-València and Jocu labels.” – own translation

This post has 376 reactions, 26 comments, and 119 shares. It is a very positive post talking about people who want to change the reality of children in the hospital. The best part is the one that tells that children fighting with cancer are superheroes. If its recipients see a group of people who are doing something for others, they may also want to help.

#### 4.2. Aladina from Madrid

Aladina has 120 posts. As we can see in table 1, photos are the most used of the tools. 73 of the posts have a picture. In the second place are links. 26 of the posts have links. 24 posts have graphics effects. Like in the Aspanion foundation, the videos are also not so popular. Only 9 posts used video. Aspanion knows that hashtags are viral in the social network. Therefore, they used them eight times.

Regarding the types of messages, like in Aspanion foundation, fundraising is an important thing on their profile on Facebook. We see in table 2 that 41 of the posts are about these issues. Next is promotion with 30 posts and in the third place, we have 22 other posts. If foundation Aladina is so popular, they can, or even they should post more messages spreading information and awareness. It is the same situation as in the organisation from Valencia that this kind of notes are omitted because only 14 posts are about this. Thirteen posts hold messages about support.

The best post is about a Spanish actor Santiago Segura donating 4.000 euro to Foundation Aladina. It was his prize from Masterchef Celebrity. Probably because he is a famous person, also the foundation tagged him, it is the reason why this post is the most popular. The foundation is thanking the artist for supporting children with cancer. People like it when a famous person helps other people, especially children. Also, the picture has been very positively received.

### 4.3. Associacio Afanoc from Barcelona

We must say that Associacio Afanoc is the least active organisation from the selected foundation. If we consider how large the Catalonia region is, it is downright incomprehensible. They created only 21 posts in this period.

Photos and links were used in 8 posts. Graphics appear in 7 posts. Hashtags only in 2. This is the first foundation which made one live stream post.

They do not write many posts, but among those that they published, about 13 are about fundraising. The second place is the promotion with three posts and then there are 2 posts regarding. They also have two other posts and just one about information and awareness.

It is surprising that the most popular post is about the prize received by the Afanoc foundation. It is a distinction for the organisation of activities for children who have cancer and their families. Two hundred seventeen reactions, 20 comments, and 58 shares. These results told us that the community could see how much good this organisation is doing for its region.

“We are excited to acknowledge our work with such a special award. We want to dedicate it to all those people who have done their part in the last 30 years to make AFANOC great and in this way continue working to improve the quality of life of children and adolescents with cancer and their families.” – own translation

These thanks have been directed both to those who established the foundation but also to the recipients who support the organisation’s activities in various ways. It is probably one of the factors that influenced such positive reactions of the readers.

## 5. CONCLUSION

The results tell us that a positive message has an impact on how liked post is among the readers.

We see in the first question that pictures are the most used tool by the foundations on Facebook. Organisations know that it is those elements that enrich the content that is important to the readers. The photos should show a group of happy persons or smiling kids.

In the second point, we can see that the foundations do not use the possibility of shaping awareness among their recipients. Fundraising and promotion are much more critical to them. It is understandable because they support their wards and their families, but they should also focus their attention on this aspect.

The last question tells us that when readers see how others help children, how it can affect the improvement of their state, they are more willing to share it with their friends and support the work of the foundation.

This research explains how important using social media is in communicating about cancer. Furthermore, the foundations have great opportunities to communicate about cancer with the largest group of recipients thanks to Facebook. They know how to communicate with readers, what form is the best. Apart from that, they have the ability to make the posts more visually attractive. In this way, they can become a significant support for doctors.

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## INFORMATION POLICY IN THE PARISHES OF THE ROMAN CATHOLIC CHURCH IN THE DIOCESE OF RZESZÓW – A COMPARATIVE ANALYSIS OF RESEARCH RESULTS

The paper contains a comparison and analysis of the results of the authors' research on information policy conducted by priests in the parishes of the Roman Catholic Church in the Diocese of Rzeszów. The research was conducted as part of two similar research projects. The first one was implemented at the turn of 2012 and 2013. The second study, based on the same assumptions, was repeated in 2018. The research was carried out using anonymous questionnaires. The aim of the study was to analyze the information policy carried out in parishes by priests. The questionnaire contained questions concerning elements of the parish information policy; information policy tools used in parishes; priests' opinions on information policy tools preferred by parishioners; information policy tools that priests consider to be the most effective; information policy tools that priests would like to use, but this is impossible; barriers in using information policy tools in parishes.

**Keywords:** Roman Catholic church, Rzeszów diocese, information policy, communication.

### 1. INTRODUCTION

The article compares and analyses the results of the author's research on information policy conducted by priests in the Roman Catholic parishes in the Diocese of Rzeszów. These results come from two research projects carried out on the similar basis. The first was implemented at the turn of 2012 and 2013. The second study, based on the same assumptions, was repeated in 2018. The research was based on anonymous questionnaires. The aim of both projects was to analyze the information policy pursued in parishes by priests in the Rzeszów diocese, diagnose the information policy tools used in parishes and identify barriers to the development of communication activities addressed to parishioners. The research conducted in both projects has been the basis for the preparation of three scientific publications so far (Chmielewski, Kuca, 2013; Chmielewski, Kuca, 2014-2015, Kuca, Chmielewski, 2019).

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## 2. REQUIREMENTS FOR COMMUNICATION OF CHURCH INSTITUTIONS

The foundations of the research conducted were the authors' conviction that the Church, like any organization, should pursue an information policy. This task should be carried out by church structures at every organizational, global and local level, including parish level, which are the closest to the faithful. Communication activities conducted in accordance with the principles of professionalism may influence the formation of the relationship of a parish with the faithful, which is in line with the principles applied to other entities or organizations. S. Michałowski drew attention to these aspects, e.g. in relation to local self-government. As he emphasized, authentic local government is impossible without a proper information policy, and many critical opinions towards local government units or mistrust to local government authorities result from lack of information policy or mistakes in its implementation (Michałowski, 2006).

S. Gawroński, using the concept of church marketing, analyzed that it can influence two processes, which concern the Church: an increase in the number of active believers, but also counteracting the processes of weakening of religious commitment in the Poles (Gawroński, 2013). It is also emphasized that changes that take place in the modern world also have an impact on the forms and scope of evangelization activities. They can be conducted not only in the church, but in all places where are people with their problems. Media, for example, could be used for such activities (Drożdż, 2011).

The role of an effective information policy becomes even more important for the representatives of the Church in the face of the expanding technological possibilities of conducting communication activities. The development of online media, social networking sites with principles of professionalism allow communicating effectively with the younger generation, which seems essential for the Church. In order to reach e.g. young people, one should speak their language and be present in the world in which they function. This world becomes increasingly Internet-based (Gawroński, 2003). The attention should be paid to the consciousness of ecclesiastical hierarchs about these processes. For example, cardinal Crescenzo Sepe, Archbishop of Naples, pointed out that the Church should be active in the sphere of communication, but also activities in this area, implemented properly, could prevent the Church from many mistakes that occurred (Krzyżak, 2019).

K. Marcyński claims that if the Church wants to be "heard in the social space", it must be present on the informational highway. The Internet is one of its elements, because people are there now (Marcyński, 2011). The aforementioned Cardinal Crescenzo Sepe stated that if Jesus lived in the modern times, he would be present in places such as Facebook (Krzyżak, 2019). This is in line with the view that the presence of priests in social media can also have a pastoral character. If they perceive their activity e.g. on Facebook as a pastoral activity, their friends may have contact with religious content (Laskowska, 2014). From the point of view of the effectiveness of evangelization activities carried out in social networks, an important issue is the appropriate professionalism level (Przybysz, 2013). On the other hand, the condition of professionalism should be applied to all activities carried out as part of communication activities of church structures.

## 3. METHODOLOGY OF CONDUCTED RESEARCH

The research presented in the article was carried out in the Diocese of Rzeszów. It has been functioning since 25 March 1992. It was created from part of Przemyśl diocese, of which 14 deaneries entered the new one and the diocese of Tarnów, of which 5 deaneries

entered into the new diocese of Rzeszów. At the time of its establishment, the Rzeszów diocese was divided into 201 parishes, 423 diocesan and 68 religious priests worked there, as well as 224 religious nuns (<http://www.diecezja.rzeszow.pl/2015/04/podzial-administracyjny-diecezji>; <http://www.diecezja.rzeszow.pl/2015/05/powstanie-diecezji>).

Currently, over 600,000 people live in the diocese. The diocese is administratively divided into 25 deaneries and 244 parishes, it employs 710 diocesan priests (including those who work outside the diocese and retired), and 120 monks and priests, as well as 348 nuns (<http://www.diecezja.rzeszow.pl/2015/04/diecezja-podstawowe-informacje>). It is worth noting that the Rzeszów Diocese is one of those where there is a high level of religious commitment of the faithful. The research of the Institute of Statistics of the Catholic Church shows that in 2017, 64.1 percent of the congregation participated in the diocese of Rzeszów in the Sunday Holy Mass. This is the second result in Poland, after the Tarnów diocese (ANNUARIUM STATISTICUM ECCLESIAE IN POLONIA).

The research conducted at the turn of 2012 and 2013 and in 2018 was carried out based on similar methodological assumptions. The research was conducted using the method of anonymous questionnaire interviews. The first project lasted from December 2012 to January 2013, while the second project was carried out from June to September 2018. In both cases, the questionnaires were sent via the Diocesan Curia in Rzeszów to all parishes in the diocese (240 in 2012 and 244 in 2018). In 2013, the answers were obtained from 81 parishes (33.7%), and in 2018 the questionnaires were completed by representatives of 85 parishes, which accounted for 34.8 percent of all parishes in the diocese. In 2018, the majority of questionnaires were sent to the Diocesan Curia. Several letters to the authors of the research, and a dozen questionnaires were also obtained through individual contacts with parishes. In case of both studies, the obtained response rate was considered sufficient to conduct the analysis. However, due to the number of respondents who took part in the study (below 100), the authors based their analysis of the results on numerical indications, not percentages.

The representatives of rural parishes prevailed among the respondents (55 subjects in 2012 and 56 in 2018). The remaining priests worked in urban parishes (26 in 2012 and 25 in 2018). Additionally, four priests indicated working in urban-rural parishes in 2018. Analyzing the respondents in terms of their functions in the parish, the majority of them were parish priests (77 in 2012 and 68 in 2018). The vicars also took part in the study – 3 in 2012 and 17 in 2018. During the implementation of the first research in 2012, one of the priests did not indicate the function fulfilled in the parish.

The surveyed priests were in different age groups. The largest group were priests aged 46 to 55 (42 people in 2012 and 33 people in 2018). The second largest age group were priests aged 56-65 (19 examined in 2012 and 28 people in 2018). In a study conducted in 2018, 8 priests were in the age group of 36-45 years, in 2012 there were 12 such priests. In the respondents' group in 2018, there were more young people in the age group 25-35. There were 12 of them, compared to 1 in 2012. A similar number of priests at the age of 66 or over took part in both projects (three in 2012 and four in 2018).

Both studies were carried out based on the same research questionnaire. There were 9 questions in it, including semi-open and open questions. The first question concerned elements that priests consider to be a part of the parish information policy. The subjects could indicate any number of the 13 tools listed in the cafeteria. Further questions concerned information policy tools that are used in parishes, as well as priests' opinions on information policy tools preferred by parishioners.

Table 1. Priests participating in the survey broken down by age groups

Participants' age	Study of 2012/2013	Study of 2018
25-35	1	12
36-45	12	8
46-55	42	33
56-65	19	28
66 and over	3	4

Source: own research.

The questionnaire also asked the priests which tools of information policy they considered the most effective in relations with the faithful from the point of view of the parish's information policy. The priests participating in the study were also asked to make a subjective assessment of the level of information of the faithful about the parish's activities.

The respondents also indicated the information policy tools they would like to use, but for some reasons it impossible. They also identified barriers to the use such tools. In the open question, priests could also indicate whether they use their own information policy tools other than those listed in the cafeteria in question 1. The questionnaire asked whether priests are interested in raising competence in communication through personal participation or delegating a person from the parish to workshops in the field of information policy development.

In semi-open questions, the cafeteria contained 13 elements assigned by the authors to the instrumentarium, which can be used in running the information policy of the parish. These were both tools recognized as traditional (parish announcements during Mass, a notice board at the church, parish newsletter, letters to parishioners, media coverage of events, meetings organized in parishes, individual meetings with parishioners) and new tools (website, parish profile on the social network, private profile of the priest on the social network). The cafeteria also includes elements that are not directly related to the information policy tools, but may be used in such activities (sermons, pastoral visit, pilgrimages and trips organized by parishes). The respondents could indicate more than one answer in these questions. Likert scale was used in two questions of the questionnaire from "very often" to "never" and from "definitely yes" to "definitely not". In 2012, Likert scale from "very effective" to "ineffective" was used to assess the efficiency of information policy tools used by parishes in relations with the faithful. The respondents marked a value from 1 to 10 on a linear scale responding to one of the questions – regarding the assessment of the level of information of the faithful.

#### 4. COMPARISON OF TEST RESULTS

In the first question, the priests described what elements belong to the components of the parish information policy. The indications from 2012 and 2018 show some differences, but also the persistence of some tendencies at a relatively constant level.

Invariably, the prime communication tool, which was most often indicated by the respondents as a component of the parish information policy, are the parish announcements during the mass. They were indicated both in 2012 and 2018 studies.

Both in 2012 and six years later, parish announcements are ranked as the first in the list of information policy components and are mentioned by almost all respondents. This may

indicate that the respondents perceived the “information policy” of the parish, primarily in terms of information communication (as opposed to persuasive), providing current information and news, which makes a weekly direct meeting during the Holy Mass, the most important tool for implementation of these goals in the opinion of the respondents.

Support for this argument seems to be another numerical indication of the components of the information policy. In both studies it is “information board at the church”. In 2012, it was indicated by 75 respondents, and in 2018 - 81 respondents. The popularity of this tool, unchanged over the last years, also indicates the understanding of information policy in terms of message forwarding, current affairs and announcements. For such purposes, it is used and recognized by parish priests and vicars as an important element of the information policy. This is understandable, because the “information board” is a tool that is easily accessible to anyone visiting the church, it is also easy to use when it comes to the perception of a user.

Comparing the results of the research, the pastoral visit item should be considered as an element of the information policy of the parish. It is high among the responses of the respondents (in 2012 in the third position, and in 2018 in 4). Although it is held once a year, a direct, individual meeting with the faithful at their homes is considered by parish priests and vicars to be an important element of the parish information policy. Pastoral visit is a form of contact with parishioners, which takes place at their homes, is conducted at once (December/January), is implemented systematically every year, in a planned manner and at the same time, includes almost the entire community of the faithful. Due to its form, it is therefore a public relations tool fulfilling the criterion of bidirectional dialogue, allowing not only for the transmission of messages, but also, listening to parishioners, gathering information from them. It enables a real dialogue, and thus interpersonal communication with all its benefits. Visits of the faithful at their homes provide a number of valuable information, starting from the inclination (or lack of thereof) of accepting the priest after the church, the family situation and living conditions of parishioners and their problems. Although it is not clear from the questions in the questionnaire, the above-mentioned features of pastoral visit can be considered as reasons for its persistence on a relatively high position among the elements of the parish information policy, even though it takes place only once a year.

It should be noted that in 2018, the parish website overtook the third position of the pastoral visit as a part of the information policy. This is a manifestation of a wider trend that can be seen in the study. A noticeable increase in the importance of online tools in communicating of the parish is visible over the 6 years that passed from previous research to the current one.

In 2012, 59 out of 81 respondents considered the parish website as an element of information policy, while in 2018 already 72 out of 84 respondents thought so. Similarly, we note an increase in the importance of the “parish profile in social media”. In 2012, only 13 out of 81 respondents indicated it as a component of the information policy, and in 2018 there were 32 such indications, which means almost a two and a half times increase. The number of a “priest’s profile in social media” is also growing as an element of information policy - from 3 in 2012 to 7 in 2018.

This tendency is followed by the decline in the importance of such traditional forms of information policy as the parish newspaper, pilgrimages and letters to parishioners. As compared to 2012, less respondents now indicate them as elements of information policy. The apparent dichotomy that we observe in case of the parish newspaper should be explained

by the fact that generally, the number of parishes in which this tool is used is decreasing. However, as the answers to further questions show, its role as an instrument of information policy is important in these parishes where it is still being published. Parish priests consider it important, but not everyone can afford it.

In 2018, a smaller number of the respondents included the “sermon” in the information policy of the parish, which seems not to be due to the decrease in the importance of this form in communicating with the faithful, but rather more frequently interpreting the separation of liturgical elements from strictly informational activities.

Table 2 presents detailed data on the components of the parish information policy in the studies conducted in 2012 and 2018.

Table 2. Components of the parish information policy according to the respondents in 2012/2013 and in 2018

Lp.	Components of the parish information policy	Number of answers	
		2012/2013 (N = 81)	2018 (N = 85)
1.	Parish announcements during the Holy Mass	80	84
2.	Information board at the church	75	81
3.	Pastoral visit	64	69
4.	Website of the parish	59	72
5.	Parish newspaper	46	39
6.	Meetings organized by the parish	44	42
7.	Individual meetings with parishioners	41	40
8.	Sermons	37	27
9.	Pilgrimages and trips organized by the parish	37	28
10.	Informing the media about events in the parish	36	28
11.	Letters to parishioners	17	12
12.	Profile of the parish on the social network	13	32
13.	Private profile of a priest on a social network	4	7

Source: own research.

Opinions on the frequency of using particular communication tools in the information policy of the parish shed light about their importance. The information board and parish announcements are among traditional forms of communication used more often than in 2012. In 2018 both forms were indicated by a larger number of respondents as used “very often” and more “often” than it was six years before. This increase is not at the expense of other tools, but results from the general trend of increased demand for information and greater expectations in this regard from the faithful. Communication in all types of organizations is increasingly becoming a standard and the pressure in this regard concerns also the parish.

Increasing trend in the use of online media is clearly visible. 62 respondents mentioned Parish website as “often” and “very often used”, while in 2012 it was recognized by 39 respondents. The trend to have the parish's profile in social media is even more apparent. The increase in the number of respondents declaring the use of this form “very often” or “often” rocketed from 4 to 15 over the past 6 years. Nevertheless, it should be noted that



despite the increase in use of this information policy tool over the past years, social media still have large reserves in the information policy pursued by the respondents.

At the same time, the frequency of using some traditional tools decreased. This is less noticeable in relation to e.g. letters to parishioners or pilgrimages, which were less frequent in 2012 than in 2018. The tools such as parish newspapers and informing local media about events in the parish were clearly less frequently used in the information policy of the parish in 2018.

Table 3 presents data regarding the frequency of using individual methods and tools of information policy in the parishes of the Diocese of Rzeszów.

Table 3. Frequency of using particular methods and tools of the parish information policy in 2012/2013 and in 2018

Information policy tool	Very often		Often		Rarely		Very rarely		Never		Numer of respondents	
	2012/2013	2018	2012/2013	2018	2012/2013	2018	2012/2013	2018	2012/2013	2018	2012/2013	2018
Parish announcements during the mass	66	68	7	13	4	1	0	0	0	0	N=77	N=82
Information board at the church	51	57	15	22	2	0	0	1	1	0	N=69	N=80
Pastoral visit	24	22	22	27	10	10	4	5	0	0	N=60	N=64
Parish website	33	47	6	15	2	0	2	0	4	1	N=47	N=63
Sermon	22	23	15	11	6	5	6	6	1	2	N=50	N=47
Meetings organized by the parish	6	5	22	19	11	17	3	7	0	1	N=42	N=49
Individual meetings with parishioners	9	7	22	26	10	8	3	6	0	1	N=44	N=48
Parish leaflet	11	14	11	3	4	4	4	3	7	12	N=37	N=36
Pilgrimages and trips organized by the parish	6	4	14	13	23	23	6	5	0	1	N=49	N=46
Informing the media about the events of the parish	5	1	5	5	13	14	12	14	3	2	N=38	N=36
Profile on a social network	4	11	0	4	0	2	0	0	16	10	N=20	N=27
Private profile of a priest on a social network	1	2	1	1	1	3	1	5	12	8	N=16	N=19
Letters to parishioners	0	0	1	0	6	3	9	3	11	15	N=27	N=21

Source: own research.

In both surveys, the respondents were asked to evaluate the effectiveness of information policy tools used in parishes. It is interesting to compare whether the assessment of the effectiveness of these tools by the priests and vicars using them changes and in what way. Research shows that over the last six years, the catalogue of tools that priests assessed as the most effective in information policy has not changed. It should not come as a surprise that both in 2012 and 2018, announcements during the Holy Mass and information board at

the church were considered the most effective. Priests invariably believe that parishioners obtain information about the life of the parish most effectively from these sources. The parish website was in third place. It is worth noting that in 2018 we can see a numerical increase in the indications on the parish website as the most effective tool in communication activities (51 indications). This should be considered as confirmation of the growing importance of online tools in the parish instrumentation in the Rzeszów diocese. A pastoral visit is in the forefront of effective tool in both studies. It is worth noting, however, that according to the respondents, social media have distant positions in the ranking of effectiveness of information policy tools. Parish profiles in social media was indicated as an effective tool in 2018 by more respondents than in 2012, but still only a small group of priests considers this tool to be effective. This applies even more to the private profiles of priests in social media. Thus, it can be seen that modern forms are successively permeating the communication instrumentation in the parishes of the Rzeszów diocese, but this process is slower than in other organizations. While the “older” internet tools such as the website are now widely used and recognized as effective, tools associated with social media, despite lightly growing belief in their effectiveness, have not yet entered the parish communication workshop in the diocese of Rzeszów area.

Table 4 and 5 presents data regarding the assessment of the effectiveness of information policy tools used in parishes of the Rzeszów diocese.

Table 4. Assessment of the effectiveness of parish information policy tools according to priests in 2012/2013

<b>Information policy tool</b>	<b>Very effective</b>	<b>Moderately effective</b>	<b>Little effective</b>	<b>Ineffective</b>	<b>Number of respondents</b>
Parish announcements during the mass	59	10	0	0	N=69
Information board at the church	23	21	5	0	N=49
Pastoral visit	21	10	1	0	N=32
Parish website	29	10	2	0	N=41
Sermon	17	9	3	1	N=30
Meetings organized by the parish	13	10	0	0	N=23
Individual meetings with parishioners	16	5	1	0	N=22
Parish leaflet	18	6	2	4	N=30
Pilgrimages and trips organized by the parish	8	6	3	0	N=17
Informing the media about the events of the parish	6	5	6	0	N=17
Profile on a social network	1	2	1	3	N=7
Private profile of a priest on a social network	0	2	1	3	N=6
Letters to parishioners	2	4	3	1	N=10

Source: own research.

Table 5. The most effective tools of the information policy of the parish according to priests (2018)

Information policy tools	The most effective tool
Parish announcements during the mass	80
Information board at the church	42
Pastoral visit	32
Parish website	51
Sermon	18
Meetings organized by the parish	6
Individual meetings with parishioners	10
Parish leaflet	17
Pilgrimages and trips organized by the parish	7
Informing the media about the events of the parish	1
Profile on a social network	1
Private profile of a priest on a social network	1
Letters to parishioners	1

Source: own research.

Another issue raised in the research were the barriers to the use of information policy tools. It was an attempt to answer the question what is preventing the wider use of instruments used to communicate with the faithful, which priests consider to be important and effective. Both in 2012 and in 2018, the respondents indicated four main problems in this respect, although over the years, the importance of particular barriers has changed. In 2012, the most important problems hindering the use of effective communication tools indicated by priests were the lack of financial resources and lack of qualified staff that could use tools in the field of information policy (“definitely” and “rather yes” were mentioned by 33 respondents). As the third barrier, the priests indicated lack of time to use communication tools (“definitely” and “rather yes” this factor was mentioned by 28 respondents), followed by insufficient equipment and technologies (“definitely” and “rather yes” - 26 indications).

In the study carried out in 2018, the same barriers were indicated as the most important, but in a different order. The greatest barrier indicated was the lack of qualified staff (30 “definitely” and “rather yes”) as well as lack of time (29 indications “definitely” and “rather yes”). The lack of appropriate equipment and technology was indicated in the third place (27 indications “definitely” and “rather yes”). The lack of money has significantly lost its importance and has ceased to be the main barrier in a more complete use of communication tools (“definitely” and “rather yes” – 21 indications).

The detailed data on the barrier in the application of information policy tools in the parishes of the Diocese of Rzeszów are presented in table 6.

Invariably, both in 2012 and in 2018, parish priests and vicars highly appreciated the level of informing the faithful about the matters of the parish. In their opinion, on a scale of 1 to 10, the effectiveness of communication can be assessed on average at 8.25 in 2012 and 8.32 in 2018. Such an assessment can be considered highly optimistic (in 2012 as many as 32 out of 76 respondents indicated 9 or 10 points, and in 2018 such a level of information was indicated by 40 out of 84 respondents). The distribution of grades in both studies is

very similar, and small differences result from the sample size. It would be interesting to examine the opinions of the faithful in terms of feeling the degree of information about the parish matters. Such a comparison would certainly shed new light on the state of dialogue in the parishes of the Rzeszów diocese. The authors do not exclude attempts to undertake such research.

Table 6. Barriers in the use of information policy tools

The barrier in using information policy	Definitely yes		Rather yes		Rather not		Definitely not		Difficult to say		Numer of indications	
	2012/2013	2018	2012/2013	2018	2012/2013	2018	2012/2013	2018	2012/2013	2018	2012/2013	2018
Lack of money	17	13	16	8	7	7	5	5	5	7	N=50	N=40
Lack of qualified staff	13	9	20	21	9	7	1	2	7	4	N=50	N=43
Lack of interest / acceptance on the part of residents	4	3	10	16	8	10	8	3	13	8	N=43	N=40
No time to use new tools	10	14	18	15	7	6	2	3	8	5	N=45	N=43
Misunderstanding on the part of superiors	2	1	2	3	5	8	27	17	1	4	N=37	N=33
Media negativity	7	1	9	6	10	11	10	12	4	4	N=40	N=34
Insufficient equipment and technology	14	15	12	12	7	6	4	2	2	3	N=39	N=38

Source: own research.

Table 7 presents the opinions of the priests participating in the study regarding the degree of informing the faithful about the parish matters.

Table 7. Priests' assessment about the degree of informing the faithful about their parish affairs (on a scale of 1 to 10)

The year of research	1	2	3	4	5	6	7	8	9	10
2012/2013 N=76	0	0	0	2	2	5	12	23	16	16
2018 N=84	0	0	0	0	4	3	13	24	22	18

Source: own research.

Regardless of the relatively high self-esteem of parish priests and vicars in terms of the effectiveness of communication activities, they appreciate (at least on the declarative level) the importance of workshops in the field of forming information policy for the development of parish communication activities. It can be argued that a large proportion of the respondents feel the need to raise the level of professionalism in the field of communication in the parish.

Half of the respondents, both in 2012 and in 2018, would send a representative of the parish to a workshop on the conduct of information policy. At the same time, in the last six

years, the number of priests who would like to take part in such training personally increased. While in 2012 such a declaration was made by 15 out of 79 respondents, in 2018 there were already 27 out of 85.

The respondents also emphasize the importance of the practical aspect of such workshops. A larger number of the respondents mention this when it comes to their participation in training. On the other hand, the clearly smaller number of parish priests and vicars conditions their participation in the workshops on the fact they are free of charge. While in 2012 such condition was imposed by 25 out of 79 respondents answering this question, in 2018 only 17 out of 85.

It confirms that the importance of financial resources as a barrier to the parish's communication activities has decreased. In 2018 money was not a primary problem for priests in their implementation (see also Table 5), which obviously does not mean that the issue disappeared completely. It can be noticed that the number of people declaring willingness to participate in paid trainings not only did not increase, but decreased relatively, which indicates the lack of a decisive willingness to take paid trainings and workshops. The same number of priests in both studies (17 people) unequivocally declared that they were not interested in information policy workshops regardless of their form, price or other conditions.

The results of the research regarding the interest of priests or a parish representative in workshops on information policy are presented in Table 8.

Table 8. Interest in attending the workshops in shaping the information policy by priests or a representative of the parish

<b>Interest in attending workshops in the field of developing information policy</b>	<b>Years: 2012/2013, N=79</b>	<b>Year 2018, N=85</b>
Yes, I would send someone from the parish	40	40
Yes, provided they are carried out in a practical way	26	32
Yes, provided they are for free	25	17
Yes, provided that trainers are people from media or Catholic organizations	18	16
Yes, I would take part in them myself	15	27
Yes, even if they will be charged	7	6
I would not be interested in such workshops	17	17

Source: own research.

## 5. CONCLUSIONS

By analyzing the results of both studies, several conclusions can be drawn. The most popular tools in the information policy conducted by priests in the Rzeszów diocese include those from the category of traditional tools. Both in the questions concerning the components of the parish information policy, as well as the frequency of using particular communication tools in parishes, the priests most often indicated the announcements during the mass and the information boards at the church.

Comparing the results of research, the role of online media is worth stressing. Research shows that priests are more aware of the importance of communication in the parish website. Comparing the results of research from 2012 and 2018, this tool is more often used and

described as effective. However, it leaves much to be desired when it comes to the use of social media. It is true that within a few years, the number of priests who use the parish profiles in social media in the information policy has increased, but it is still a relatively small group in comparison to the whole group of respondents.

It should also be noted that the priests participating in the research declare their willingness to develop a professional information policy of the parish at a relatively high level. This is expressed both in the declaration of sending representatives of the parish to the information policy workshops, as well as the increase in the number of priests who would like to participate in such training personally. This is partly consistent with the view expressed by some of the respondents in 2018 that the greatest barrier in using the information policy tools in the parish is the lack of qualified staff.

Looking at the results of the research, it would also be worth considering two further research projects that would give a broader picture of the subject. On the one hand, in the context of the priests' high self-assessment regarding the effectiveness of the information policy carried out in parishes, it would be advisable to confront these results with the opinions of the parishioners themselves and to get their opinion on the information policy pursued by the priests. The second interesting study would be to compare the results from the Rzeszów diocese with the information policy pursued by priests in another diocese or dioceses in Poland. The focus should be on those in which the Roman Catholic Church does not have such a strong position as in the Rzeszów diocese. Perhaps it would also affect the scope and manner of conducting the information policy of priests with parishes.

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## ENERGY INTEGRATION AS AN ELEMENT OF EU SECURITY IN A HISTORICAL OUTLINE

The civilization development in Europe significantly influenced the priorities when it comes to national security within European countries. The energy security became a valid aspect of properly functioning country. Europe, which fossil sources are limited, is forced to secure the sufficient amount of fossil sources supplies, that guarantees the energy security for EU countries. The key aspect seems to be the diversification of supplies, differentiation of energy balance through increased use of renewable energy sources and increasing the energy effectiveness. However, Russia which is the main supplier of the fossil sources to Europe is some extreme circumstances may become the main threat. Such complex security environment requires implementation of fully integrated internal market, that would be resistant to external threats, thanks to optimally planned distribution, regional cooperation and development of reverse flows infrastructure. The article is a synthesis of the current state and has the character of a historical analysis for which methods of analysis and criticism of documents were used.

**Keywords:** energy security, EU policy on energy, EU energy, EU-Russia relation, diversification of energy supplies, European common energy market.

### 1. INTRODUCTION

Energy was the main factor allowing prehistoric tribes to survive and develop. At first, energy was used mainly as a source of heat and light. Also, it provided a sense of physical security. Through the years, the importance of energy was growing and it was used by people much more often in everyday life. However, a great breakthrough could be observed in 20<sup>th</sup> century and the electricity became the main medium. The technological progress resulted in increasing the necessity for energy, which resulted in situation that energy sector became the most challenging and important in all countries around the world. Such situation changed the perception of energy security in EU countries. A limited amount of fossil sources forced EU countries to align with each other and as a result a common internal energy market was formed. In a creating process of the article, the author used the method of analysis and criticism of source materials, as well as the method of analysis and criticism of literature on the subject and provides a historical analysis of the European security energetic process.

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## 2. THE ESSENCE OF SECURITY

The issue of security has its beginnings as far as the first civilizations were sat. It was always an important element of people's needs. In general, the security is a state of calmness, it's a lack of threats and dangerous situations, which may influence on individuals or whole nations. The security guarantees confidence and possibilities to develop and improve it (*Słownik z zakresu bezpieczeństwa narodowego*, 2008). The definition of security has been changing over the centuries. As a result, a lot of different security branches were created, including energy security.

Analyzing security criteria a definition of "nation" must be discussed. According to Andrzej Czupryński "nation is a total amount of citizens living on a certain area, sharing the same language and cultural background. They have common political and economic interests. Nation is bounded by ethnic and cultural bounds, which are passed through generations. The sense of national identity is an effect of being a part of group which shares the same history" (Czupryński, 2015). The national security is often defined as a similar to country security. However, the nation differs from country. According to Andrzej Czupryński country is "a political, sovereign organization, which serves a particular functions and covers the community living in a certain area. The main aim of the country is to secure the national interests". The national security is responsible for being aware of potential threats and able to react in dangerous situations. Moreover, national security is obliged to provide a necessary means of surviving, provide stabilization and quality of life. All of those can be implemented by state institutions, which as political organization possess financial resources. The international security is defined as "protection of all nations and countries around the world from threats, development of countries. The international security is implemented by developing and creating national and international institutions, which are associated in one international security system". Summing up, the issue security is connected mainly with people, nations and the methods how to secure they needs, basic values, development and quality of life (Czupryński, 2015).

The issue security is related to the "issue" which is supposed to be secured and the methods how to achieve it. Such security creates a wide spectrum of means for security formation, which are still developed and increased in number (Czupryński, 2015). The energy security is one of the most crucial among all security branches nowadays.

## 3. ENERGY SECURITY

The energy is a factor which was present in people's life from the very beginning. Firstly, it was used to lit a fire in order to prepare meals. Together with civilization development the forms of energy use were increased and specialized. There are six basic changes in energy use over the centuries:

- Initial;
- Hunting;
- Early-agricultural;
- Late-agricultural;
- Industrial;
- Technological (Łęcki, 2015).

Each of this stages characterized in increase of the energy use. In the first stage the prehistoric human used 2 thousand kcal per day, meanwhile nowadays this amount has been

increased almost seventy times and it equals 150 thousand kcal per day (Łęcki, 2015). This factor clearly shows how consumption of energy was booted. The energy became the most crucial element of everyday life. Its maintenance and obtaining of the new sources became the priority to the whole world. The awareness of the importance of energy in proper functioning of countries, nations and institutions led to the development of new security sector which is called energy security (Łęcki, 2015). The general definition of energy security was defined in the Energy Security Law as a state of economy enabling covering the future needs for supplies of fuel and energy according to technical and economical possibilities, which must be environmental friendly (*Energy Law Act 1997* (Art. 3, No. 16). There are many definitions of energy security, which were named in different acts and laws, however, all definitions at first seems to be similar, many differ from each other in some aspects. Taking into consideration all known definitions, four main general aspects of energy security may be named:

- Minimization of the negative effects for environment;
- Balance between supply and demand for energy;
- Ability to cover the demand for energy;
- Introduction of economic mechanism allowing to improve the performance of energy market (Jankowska, 2015).

Each of those aspects are crucial for national energy security. If they are not executed it may lead to severe industrial, economic or social crisis.

#### 4. THE EVOLUTION OF EU ENERGY POLICY

The first attempt to develop a common energy policy in Europe was made on 9<sup>th</sup> May 1950 in declaration called the Schuman Declaration ([https://europa.eu/european-union/about-eu/symbols/europe-day/schuman-declaration\\_pl](https://europa.eu/european-union/about-eu/symbols/europe-day/schuman-declaration_pl)). Schuman presented a plan to form an international organization, which would take control over French and German production of coal and steel. Also, the organization was supposed to be independent form French and German governments. The idea allowed other countries to join the organization. On 18<sup>th</sup> April 1951 in Paris Belgium, France, the Netherlands, Luxemburg, Germany and Italy signed a treaty which resulted in forming The European Coal and Steel Community. The main reason for forming the community was to unite European countries economically and politically in order to secure lasting peace (Ruszel, 2016). The main pillar of the integration was the coal sector. In the 50s, almost 90% of energy was obtained from the coal. The ECSC was formed mainly in order to control the coal and steel sources and to develop a common market, which was supposed to secure ECSC countries with regular supplies. Also, it allowed to remove the duty and quantitative limitation (Nehrebecki, 2008).

A rapid development of ECSC countries resulted in the increase of energy supplies and fossil sources. Although, the coal was mined in Western Europe, the other sources such as liquid fuel had to be imported from other countries. Such situation forced ECSC countries to search for alternative energy sources. One of the main method was to invest in nuclear energy. In 1955 in Mesina all ECSC countries decided to create a committee that would be responsible for developing nuclear energy in Europe. The decision led to signing two very important treaties. In 1957 in Rome two new communities were established: the European Economic Community and the European Atomic Energy Community. They came to live on 1<sup>st</sup> January 1958. The main idea of the EEC was an enhancement in developing and inte-

gration of community countries, reinforcement of economic stability and creating a common market or free trade area. In order to fulfill those assumptions a number of tasks had been assigned, such as: reduction of duties between ECC countries, unification of duties for countries that didn't belong to community, free movement of services, goods and capital. Meanwhile, the main idea of EATC was a prompt development of nuclear energy, which was supposed to result in increasing of energy security and energy self-sufficiency of Community countries. It was assumed that nuclear energy as cheaper and more environmental friendly in comparison to other sources would play a crucial role in the future energy balance (Nehrebecki, 2008). However, soon it came clear that nuclear energy generated high cost when it came to electricity production. Another factor which seemed to be crucial was a conflict between France and EU Commission. France possessed a more significant technological potential when it came to nuclear production than other EU countries. This situation led to difficulties in reaching a consensus between EU Commission and France in terms of financial support. EU Commission was convinced that already known technological solution should have been improved, whereas France was more eager to invest in new more advanced technologies. Additionally, EU Commission considered the EATC as an instrument of West Europe countries' integration in terms of energy security, whereas French government tended to see it as way for financial and technological support for its own ideas. Those two different outlooks resulted in decreasing of the EATC's budget (Doliwa-Klepacki, 2005). Moreover, new sources of petroleum and natural gas were discovered. The import of those became more affordable and the nuclear energy declined in interest (Ruszel, 2016).

However, in the 70s, it came clear that import of cheap petroleum wouldn't last long. A huge demand for petroleum in Europe and the US led to the problems in supplies. In addition, the outburst of Arab-Israeli war in 1973 resulted in imposing an embargo on European countries and the US, which were in alliance with Israel. The embargo effected almost all world markets and led to a severe economic crisis. The petroleum crisis ultimately ended the era of carless petroleum use, also it showed how much EU countries depended on this source and how different were their priorities. This experience resulted in change of policy within ECC countries, the integration among countries became less important. Now, the individual countries security policies were seen as a priority (Bodio, 2009). This change was an impulse for establishing new law acts by the Council of the European Communities. The acts were supposed to secure the supplies of energy sources. However, the second petroleum crisis (1979–1980) became the fundamental for today's energy security in Europe (Ruszel, 2015). One of the main act was The European Act signed in 1986, it amended and supplemented the Rome Treaty. It obliged all ECC countries to establish one internal market, rationally use of the fossil sources and it changed the decision making method within the European Council (Bodio, 2009). Another document was so called "Green Paper" (The EU Council Working Document, (1998) **Internal energy market, COM (88) 238 final, Brussels**), it was prepared and enacted by the European Commission in 1988. The act highlighted the importance of one internal energy market, also, it presented the main reasons why European community still had problems with full integration. The Green Paper was considered to be the engine for all community counters (Nehrebecki, 2008).

The next years brought another acts which were supposed to enhance energy security in Europe. In 1991 the European Energy Charter was signed in the Hague. It was one of the most significant acts connected with the European energy security. It was signed by 46 countries. The document was a political and economic declaration, which was seen as an

opportunity for a more effective international cooperation within the energy sources supply sector (Nehrebecki, 2008). The next mile stone in the way of further energy integration was an act signed on 7<sup>th</sup> December 1992 in Maastricht known as the Treaty on European Union. The treaty was a breakthrough, because it officially declared the formation of European Union. Also, it defined the main aims, and introduced significant changes when it came to energy policy. Now, the energy policy was supposed to be based on different regulations, such as: the growth and development of trans European transmission systems (connecting already existing transmission systems in order to boost their competitiveness and effectiveness, investment in high-pressure gas pipelines to simplify the gas supplies from external markets). Moreover, rational use of European energy sources and introduction of renewable energy were seen as priorities (Nehrebecki, 2008).

The Treaty on European Union liberalized and liberated energy sector in Europe. The European Commission consequently implemented new policy through acts and bills. In 1995 the "Green Paper" was signed. The act became a pretext for a multi-month discussion over the main aims of energy policy. The long discussion resulted in signing the "White Paper", which was fully devoted to energy policy in Europe. The White Paper listed the main energy policy targets, such as: energy security, economic competitiveness, continuous energy supply and protection of natural environment (Dobroczyńska, 2003). Subsequently, The EU Parliament and the European Council passed two directives: 96/92/WE (*European Parliament and the Council Directive of 19th December 1996 on common rules for internal market in electricity*) and 98/30/WE (*European Parliament and the Council Directive of 22nd June 1998 on common rules for internal market in natural gas*). The former was devoted to regulation within internal energy market, such as: effective management of energy production, transfer and distribution, the latter described spectrum of regulations within internal natural gas market (Nehrebecki, 2008). Overall objective of those directives was to continue and develop energy policy in Europe by opening of the market and unobstructed access to energy systems (Ruszel, 2015). In 2000, another important act was signed. The Green Paper *European Strategy for Energy Security*. The act enumerated the main threats connected with the fact that EU countries were more and more depended on external energy sources supplies, also it presented statistics that showed that European Union was the second energy consumer in the world. The document appointed strategic targets for energy security, such as: diversification of gas supplies, development of strategic gas reserves, balanced energy policy (*Common EU Gas Market...*, p. 73). The Green Paper resulted in new directives: "2003/55/WE (26<sup>th</sup> June 2003) connected with natural gas supply market repealing 98/30/WE (Directive European Parliament and the Council Directive of 26<sup>th</sup> June 2003 on common rules for internal market in gas) and 2004/67/WE (26<sup>th</sup> April 2004) devoted to measures to provide for gas supply security (Directive of 26<sup>th</sup> April 2004 on measures necessary to ensure the safety on gas supplies). Also, 1775/2005 Regulation passed by the EU Parliament and EU Council on 28<sup>th</sup> September 2005 connected with gas transmission systems conditions (European Parliament and Council Regulation of 28<sup>th</sup> September 2005 on requirements for gas transmission networks)".

In 2006 the first gas crisis occurred, which resulted in cut-off gas supplies from Russia to EU countries. The cut-off was the outcome of the lack of agreement between Russia and Ukraine in terms of gas transmission costs. As a result, on 1<sup>st</sup> January 2006 Russian GAZPROM partly cut off Ukraine from gas supplies. This also affected EU countries, because a part of gas pipeline which led to EU was on the Ukrainian territory. The gas obstruction lasted only for few days, but it was strongly noticeable by all EU countries

including Poland. The gas crisis made EU governments aware of the fact that they became too dependent on external supplies. The EU organizations began to work on new projects, which were supposed to increase energy security. Finally, two new acts were passed: *the Green Paper European strategy for balanced, competitive and safe energy* and *statement European Energy Policy* (Ruszel, 2016). The former described EU priorities when it came to energy policy: constant development of internal electricity and gas market, supply sector security, reinforcement of EU countries solidarity, expansion of renewable energy sources, common external energy policy. The latter enumerated a number of challenges, targets, plan of action and measures used to implement energy policy (Ruszel, 2016). Equally, the third energy package was presented. The package assumed the growth in energy efficiency by 20%, the increase in the use of renewable sources by 20% and reducing CO<sub>2</sub> emission by 20% in 2020 (Ruszel, 2016). Additionally, in Lisbon in 2007 was signed a significant treaty. 27 countries declared that the European Union was due to be transformed into an unified international organization, also the competences of EU and individual countries were specified. The treaty was a mile stone for an internal European energy policy. The main targets of the internal energy policy were: ensuring the functioning of the energy market and security of energy supply, promoting energy efficiency, the development of renewable forms of energy and prompting energy networks (Ruszel, 2016).

Unfortunately, in 2009, the second gas crisis occurred. Again, it was a result of Russian-Ukrainian conflict. In November, 2008 GAZPROM requested from Ukraine to repay the debit of 2,4 billion dollars. Additionally, Russia accused Ukrainian NAFTOHAZ of trying to take over the gas pipeline leading to the EU countries. The accusation resulted in termination of the negotiation between GAZPROM and NAFTOHAZ, and on 1<sup>st</sup> January 2009 the gas transmission was fully cut off. A decline in gas supply level was noticeable in all European counters, including Poland. Thanks to increasing of gas transmission form Belarus and under the Black Sea, EU countries avoided being fully cut off form gas supplies. The negotiations between Russia and Ukraine was finished on 9<sup>th</sup> January 2009 and ratified on 12<sup>th</sup> January by all sides (*Common EU Gas Market...*, p. 68).

In 2014, another gas crisis happened and as the previous one, it was a result of Russian Ukrainian conflict. The main cause of 2014 crisis was the Russian gas price increase. Negotiations between both countries were long and tough, and they didn't solve the issue, so Ukrainian debt increased to 5,3 billion dollars. GAZPROM introduced pre-payment so when Ukrainian gas transmission was cut off, the EU countries wasn't affected by it. The negotiations lasted until October, 2014 when both sides reached the agreement (*Common EU Gas Market...*, p. 68).

The process of establishing a common energy policy in Europe was long and tedious. The main pillar of energy security was liberalization of internal market, protection and diversification of energy sources supply. Gas crises which occurred in last years, was a clear sign that there was many aspects that needed to be improved. Also, it was a main factor for more effective integration and cooperation between EU countries. It is worth mentioning, that apart from common European policy, the integration and cooperation is also visible in the individual countries. As an example, some energy companies lobby their interest in one country, but it may also affect the whole EU. The same situation may occur when energy companies try to influence on national politics in order to have an impact on political decisions. Such circumstances may lead to undermine integration and solidarity between particular countries (Ruszel, 2016). It seems that the most important challenge is connected

with the fully integrated internal market, better regional cooperation, development of transmission systems and infrastructure, which are they key for energy security.

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## MODELING OF EXPORT-IMPORT POTENTIAL

The article deals with the process of modeling export and import potential as a sequence of transformations of cognitive, substantive, conceptual, informational, and mathematical models. It describes these models and provides recommendations for the development of each of them. It is recommended that a cognitive model of export-import potential is defined as the combination of the subject (the ability) and the object (the possibility) of its components contributing to the ability to carry out export and import operations, an opportunity to provide them a positive balance, namely to carry out effective export and import activities for the formation and reproduction of a competitive position on domestic and foreign markets. A list of the main analytical tasks of determining the export and import potential was proposed in this paper. It was given real-world multiobjective optimization model for finding optimal values of indicators of export-import potential of the enterprise.

**Keywords:** export import potential, cognitive model, substantial model, conceptual model, information model, mathematical model, control.

### 1. INTRODUCTION

Export-import development ensures the development of countries, regions and enterprises in modern conditions. It is through the use of this potential is the country's entry into the world economy, a high level of development of the region and the efficiency of the company. But the efficiency of export-import potential is due to the implementation of all functions that control them, so the research problem of this potential is relevant and necessary. For example, one of the need of export-import potential of Ukraine is evidenced by the following statistics: in the first half of 2019, exports of goods amounted to 24469,0 million. The United States, or of 105.2% compared with the first half of 2018, import – 28205,4 million or 108.5% (Publication of documents of the State Service of Statistics of Ukraine (2019)).

The aim of the research is justification of values and recommendations of the development of sequence models of export-import potential, which serve as the scientific basis for the management of the potential.

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### 1.1. Methodology of research

Models of export-import potential are a scientific basis for the implementation of all management functions. Hence, the prerequisites of effective management of export-import potential is the adequacy, reliability and efficiency of its models. Therefore, to carry out simulation expatria-import potential should be according to its methodology. Understanding the model of export-import potential as it is, is a formalized way, which is in the process of studying this potential substitutes, and provides new knowledge, the process modeling should be viewed as a sequence of the development of models such as: cognitive (mental picture of export-import potential), content (presentation of the cognitive model building in natural language), conceptual (formulation conceptual model the concepts and ideas of the existing theory of the potential), formal models (views of the conceptual model of the potential using the methods of mathematics or other formal languages) (Malyarets, 2014). Also, the modeling of import and export potential should take into account that there are three kinds of conceptual models: logical-semantic, structural-functional and causal ones, as well as two kinds of formal models: mathematical and information ones (Trusov, 2004). Consequently, the modeling of export-import potential involves the development of cognitive, substantive, conceptual and formal models, which are in fact stages of the modeling techniques of this potential. This understanding of the modeling provides an adequate reflection of such a complex characteristics of the object as its potential. The formation of cognitive and conceptual models of export-import potential is through the analysis of scientific and practical works of well-known specialists on the issues of potential, foreign economic activity and export-import activities such as Spiridon Pralea (2012), Minh Quang Dao (2014), Cooke, S. & Watson, P. (2011), Stoian, M., Rialp, A. & Rialp, J. (2012), Draghescu, F. (2015) and others. Also the theoretical foundations of the potential is reflected in the writings of such domestic and foreign scientists-economists as N. Kasyanov V., Solokha D. V., Moreva V.V., A.V. Belyakov, A. Be. Talk (2013), Pogorelov Yu. s. (2016), Zdeněk Mikoláš (2014) and others. Despite the obvious merit of these works, a significant drawback is the lack of perfect theory that would appear in a conceptual model of potential, the General trend of emphasis on one of its characteristics. The presentation about export-import potential creates a correct idea of it as for modeling, and to manage it in practice.

## 2. MODELS OF EXPORT-IMPORT POTENTIAL

### 2.1. A cognitive model

The export and import potential is a combination of abilities and possibilities to carry out export and import operations, to provide them a positive balance, to carry out effective international business for the formation and reproduction of competitive position on domestic and foreign markets (Malyarets, 2018). It is recommended to distinguish the types of export and import potential according to the following classification criteria as level of governance (global, national, sectoral, regional), types of management (strategic, tactical, operational, situational), components (export, import), structural and functional elements (resource, technical, technological, financial, informational, managerial, organizational), form of representation in the process (formation, using, development of the potential) (Malyarets, 2017). Such a declaration about export and import potential is more correct for modelling, as well as for managing in the practice.

## 2.2. A meaningful model

Substantial model is clear, structured expresses the cognitive representation of export-import potential. According to the cognitive model a meaningful model of export-import potential in the structural form shown in Fig. 1.

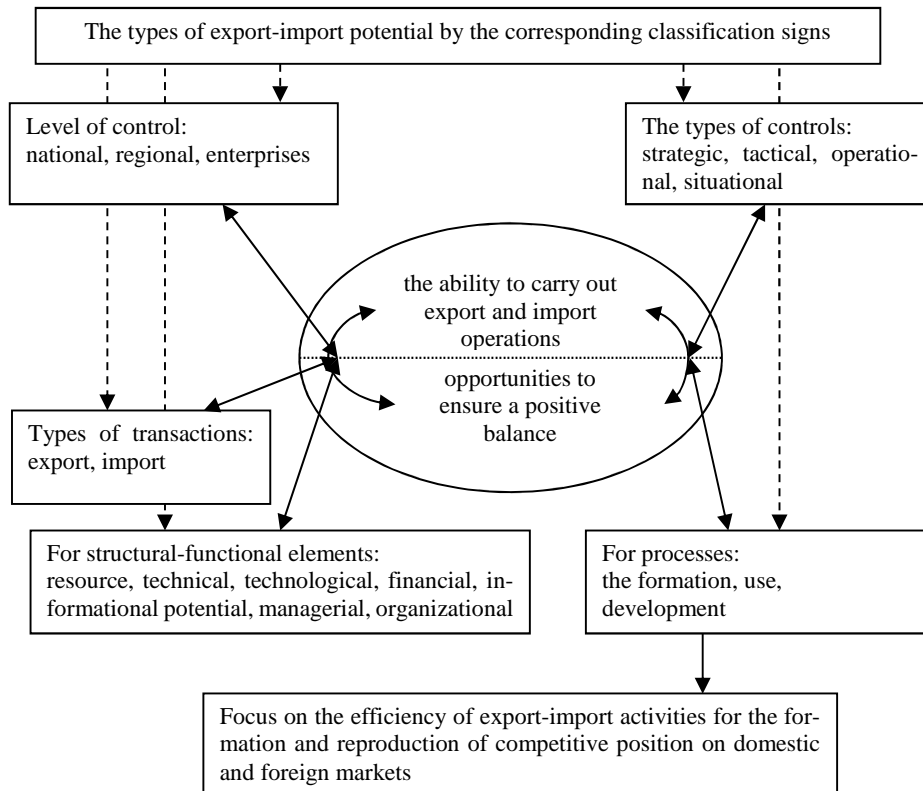


Fig. 1. A meaningful model of export-import potential

Source: own study.

## 2.3. Conceptual model

Substantial model is clear, structured expresses the cognitive representation of export-import potential. For a meaningful model it is a conceptual model, which expressed area model in the concepts of the subject and considers its laws and regularities. Development of a conceptual model directly based on the analysis of the developments of scientists and practitioners on the theory of potential, existing concepts of potential in domestic and foreign science and practice, theory of foreign economic activity, export-import activities (Otenko, 2015). An analysis of the leading specialists in Ukraine and abroad have allowed us to build a semantic conceptual model of export-import potential of industrial enterprise (Fig. 2).



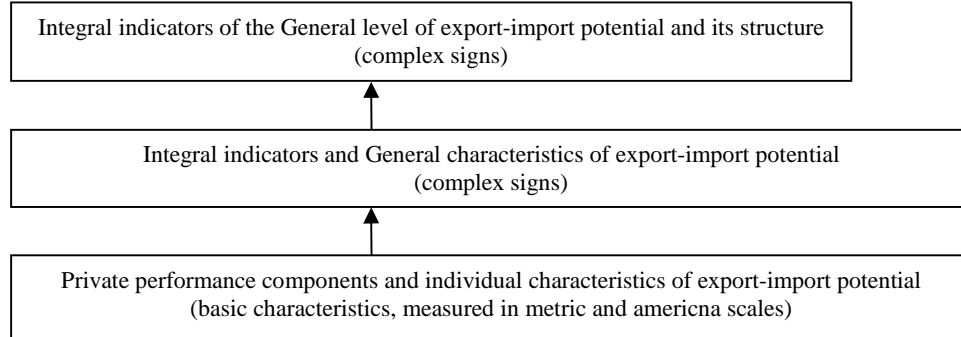


Fig. 3. A General diagram of contents of an information model for indicators export-import potential

Source: own study.

The information model of export-import potential can in general be represented with the tuple of characteristics which reflect its conceptual model, namely, in this kind of complex and elementary features:  $O = \left\langle O_{s_{3p}}, O_s(sk), O_{s_{st}}, O_s(m), O_s(pr), O_s(f), O_e(sk), \right\rangle$ ,  $\left\langle O_e(st), O_e(m), O_e(pr), O_e(f) \right\rangle$ ,

where  $O_{s_{3p}}$  – a sign of the (complex) overall level of export-import potential;  $O_s(sk)$  – signs of (complex) components of the potential;  $O_{s_{st}}$  – the characteristic (complex) level of structure potential;  $O_s(m)$  – signs of (complex) mechanisms for realizing the potential;  $O_s(pr)$  – signs of (complex) processes of potential;  $O_s(f)$  – signs (complex) factors influencing the potential;  $O_e(sk)$  – signs (elementary) components of the potential;  $O_e(st)$  – features (basic) structural elements of the potential;  $O_e(m)$  – signs (elementary) mechanisms of realization of potential;  $O_e(pr)$  – signs of (basic) processes of potential;  $O_e(f)$  – signs (elementary) factors influencing the potential. For example, large industrial enterprises system of indicators export-import potential is recommended in this part of the partial indicators that reflect the status and level of development of export-import potential of the enterprise are:  $x_1$  – the share of exports in sales;  $x_2$  – the share of imports in the volume of sales;  $x_3$  – the density of export enterprises in the external market;  $x_4$  – the share of the domestic market;  $x_5$  – the rate of change of export supplies;  $x_6$  – the pace of change of import;  $x_7$  – the level of product diversification of exports;  $x_8$  – utilization of working time;  $x_9$  – the share of employees with higher education;  $x_{10}$  – the proportion of workers trained in new occupations;  $x_{11}$  – the proportion of employees who improved their qualifications during the reporting period;  $x_{12}$  – the turnover rate;  $x_{13}$  – productivity;  $x_{14}$  – the coefficient of renewal of fixed assets;  $x_{15}$  – capital productivity;  $x_{16}$  – the capitallabor ratio;  $x_{17}$  – the ratio of own working capital;  $x_{18}$  – the share of own circulating funds in the assets;  $x_{19}$  – ratio of capital turnover;  $x_{20}$  – the turnover ratio working capital;  $x_{21}$  – the turnover ratio of inventory;  $x_{22}$  – the turnover ratio of finished products;  $x_{23}$  – the turnover ratio of equity capital;  $x_{24}$  – the coefficient of autonomy;  $x_{25}$  – the coefficient of maneuverability;  $x_{26}$  – measure of financial leverage;  $x_{27}$  – the security coefficient of stocks and expenses

own funds;  $x_{28}$  – the stock of material resources;  $x_{29}$  – the intensity of production;  $x_{30}$  – the amount of material costs;  $x_{31}$  – amortization;  $x_{32}$  – the cost of labor;  $x_{33}$  – deductions for social events;  $x_{34}$  – other operating expenses;  $x_{35}$  – the volume of inventories;  $x_{36}$  – the volume of work in progress;  $x_{37}$  – the volume of finished products. The specific indicators that reflect the use of export-import potential of the company such as:  $y_1$  – economic efficiency of export;  $y_2$  – the economic efficiency of the import;  $y_3$  – the profitability of export;  $y_4$  – the profitability of export operations;  $y_5$  – the profitability of imports;  $y_6$  – the profitability of imports;  $y_7$  – gross profit margin;  $y_8$  – operating margin;  $y_9$  – net profit margin.

## 2.5. Mathematical model

It should be noted that the complex signs of potential mathematically modeled on the basis of elementary features that are measured in different scales and generated indicators. Based on the elementary features of the information model are calculated mathematical descriptive megamodel potential, which consists of various models that display blocks of the conceptual model. To megamodel potential includes integral indicators of the General level of development, structure, each component of the potential models for determining the factors influencing the potential of the model efficiency potential, forecasting models, multi-objective optimization models. In table. 1 lists the analytical task of determining the potential of mathematical methods, by which they are solved and the results of the decision.

Table 1. A list of the main analytical problems of determination of export-import potential

The contents of analytical tasks	Solution method	The result of the decision
1) Identify the main characteristics (basic and complex) export-import potential	Theoretic and logical analysis	Principal and secondary signs
2) Analysis of trends in the values of particular indicators (elementary signs)	Tools of descriptive statistics	Symbolic space models
3) Determination of General level of development of export-import potential, levels of development of its components and its structure (complex signs) to describe this potential	Methods of building the integral indicators	Methods of building the integral indicators
4) Determination of a causal relationship in the structure of export-import potential	Regression, factor, cluster, canonical analyses	The causal relationship structures and processes and mechanisms
5) Determine the optimal values of the measures of implemented features and efficiency of export-import potential	Multiobjective optimization methods	The optimal values
6) Forecasting of the values of export and import potential to identify trends and diagnostics development	Models of growth curves	The predicted values of the indicators

Source: own study.

So, mathematical megamodel of export-import potential can be represented in the logic of the separate mathematical models, as shown in Fig. 4.



For example, when calculating the multi-objective optimizing model of export-import potential of the enterprise private criteria it is advisable to consider two criteria, namely the level of development ( $F_1 \rightarrow \max$ ) and the efficiency of it ( $F_2 \rightarrow \max$ ). In the process of compiling individual criteria should consider the impact of each individual factor (Malyarets, 2018). To accomplish this we paired based on appropriate levels from each factor of influence. In this many-criterial optimisation tasks as constraints, it is recommended to use intervals of values of the factors with regard to their numerical characteristics, namely the minimum, maximum values of the index and standard error. Specific criteria should take into account the dependency levels of its factors with the preset weight coefficients, which are based on the priority factors of influence.

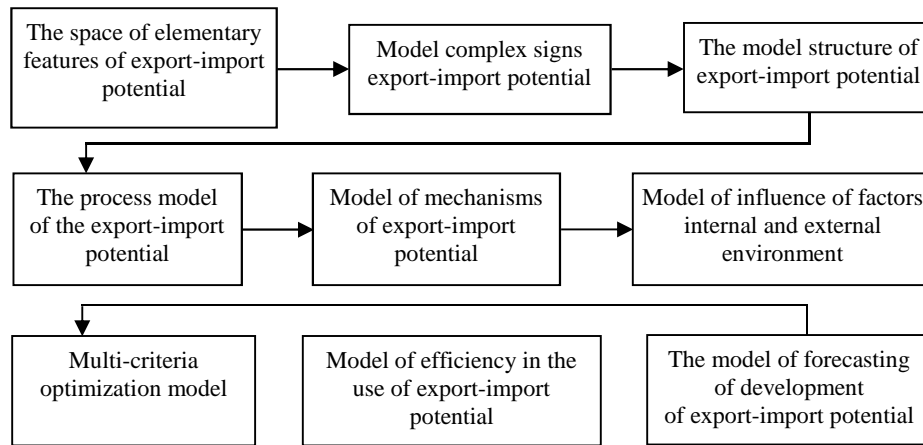


Fig. 4. The logic of development of mathematical megamodel export-import potential

Source: own study.

For example, specific criteria in multi-criteria optimization problem of determining the optimal values of indicators of export-import potential of PJSC „Turboatom” (Kharkiv, Ukraine), built by the recommended system indicators large industrial enterprises, have the following form:

$$\begin{aligned}
 F_1 = & 0,05 \left( 0,0402 + \frac{0,2132}{x_1} \right) + 0,05 \left( \frac{1}{-1,6312 + \frac{0,5978}{x_2}} \right) + \\
 & + 0,05 \sqrt{0,2395 - 2,526E(-10)x_3^2} + \\
 & + 0,05 \left( \sqrt{0,0136 + 0,2045x_4^2} \right) + 0,05e^{-1,224 + \frac{0,4435}{x_5}} + 0,05 \sqrt{0,2257 - 0,0111x_6^2} +
 \end{aligned}$$

$$\begin{aligned}
& + 0,05\sqrt{0,7563 - \frac{0,4904}{x_7}} + 0,0216e^{\frac{69,0143 - 59,926}{x_8}} + \\
& + 0,0216\sqrt{-1,1686 + 14,6492x_9^2} + \\
& + 0,0216\left(\frac{1}{1,642 + 8,7707x_{10}}\right) + 0,0216\left(\frac{1}{1,9229 + 21,1762x_{11}^2}\right) + \\
& 0,0216\sqrt{-0,0806 + 7,4098x_{12}} + \\
& + 0,0216\left(\frac{1}{1,53 + 0,0007x_{13}^2}\right) + 0,0216\sqrt{0,9677 + 0,2145\ln x_{14}} + \\
& + 0,0216\frac{1}{1,1379 + \frac{3,1033}{x_{15}}} + 0,0216\sqrt{1,6014 - \frac{65,1425}{x_{16}}} + \\
& + 0,0216\frac{1}{1,5655 + 3,3306x_{17}^2} + 0,0216\sqrt{-0,0013 + 2,2369x_{18}^2} + \\
& + 0,0216\frac{1}{0,675 + \frac{0,696}{x_{19}}} + 0,0216\frac{1}{0,1867 + \frac{3,053}{x_{20}}} + 0,0216e^{-1,325 + 0,2914x_{21}^2} + \\
& + 0,0216\frac{1}{1,6305 + \frac{3,1689}{x_{22}}} + 0,0216\frac{1}{0,7372 + \frac{0,9346}{x_{23}}} + \\
& + 0,0216\frac{1}{-2,191 + 8,991x_{24}^2} + 0,0216\sqrt{-0,0355 + 1,2489x_{25}^2} + \\
& + 0,0216\frac{1}{-0,0721 + \frac{0,9514}{x_{26}}} + 0,0216\frac{1}{0,9807 + 5,302x_{27}^2} + \\
& + 0,0216\sqrt{0,0252 + 2,138E(-7)x_{28}} + 0,0216\left(0,7092 - \frac{1,2359}{x_{29}}\right) + \\
& + 0,0216\sqrt{-0,319 + 1,862x_{30}^2} + 0,0216\frac{1}{6,017 - \frac{0,1062}{x_{31}}} + \\
& 0,0216\frac{1}{-6,2614 + 17,8626\sqrt{x_{32}}} + \\
& + 0,0216\frac{1}{-1,8474 + 46,0463x_{33}} + 0,0216\frac{1}{1,4261 + \frac{0,1048}{x_{34}}} + 0,0216e^{\frac{0,0973 - 0,1974}{x_{35}}} +
\end{aligned}$$

$$\begin{aligned}
& + 0,0216 \frac{1}{1,1098 + \frac{0,251}{x_{36}}} + 0,0216 \frac{1}{1,3902 + 6,3879x_{37}} \rightarrow \max . \\
F_2 = & 0,2 \frac{1}{6,0467 - 3,6403y_1} + 0,15 \left( \frac{1}{-0,3987 + \frac{3,1784}{y_2}} \right) + 0,2 \sqrt{0,1276 + \frac{0,2952}{y_3}} + \\
& + 0,15 \left( 0,9465 - \frac{505,31}{y_4} \right) + 0,1 \left( \frac{1}{1,3329 - 0,4465 \ln y_5} \right) + 0,05 \left( \frac{1}{1,0803 + \frac{0,0507}{y_6}} \right) + \\
& + 0,05 \sqrt{0,079 + 2,2857y_7^2} + 0,05e^{\frac{0,251 - 0,1957}{y_8}} + 0,05 \left( \frac{1}{0,8448 + \frac{0,1751}{y_9}} \right) \rightarrow \max .
\end{aligned}$$

Constraints are:

$$\begin{aligned}
& 0,4671 \leq x_1 \leq 0,7213, \quad 0,1227 \leq x_2 \leq 0,1785, \quad 10301,2738 \leq x_3 \leq 14998,662; \\
& 0,9055 \leq x_4 \leq 1,0052, \quad 0,8929 \leq x_5 \leq 1,739, \quad 1,0918 \leq x_6 \leq 1,8519; \\
& 0,8267 \leq x_7 \leq 0,9276, \quad 0,8543 \leq x_8 \leq 0,8608; \\
& 0,2967 \leq x_9 \leq 0,3208, \quad 0,0602 \leq x_{10} \leq 0,1071, \quad 0,000 \leq x_{11} \leq 0,1953; \\
& 0,0291 \leq x_{12} \leq 0,0591, \quad 26,9076 \leq x_{13} \leq 42,1939, \quad 0,019 \leq x_{14} \leq 0,0588; \\
& 1,5143 \leq x_{15} \leq 4,5555, \quad 43,3698 \leq x_{16} \leq 52,1809, \quad 0,4036 \leq x_{17} \leq 0,5356; \\
& 0,2309 \leq x_{18} \leq 0,3542, \quad 0,3102 \leq x_{19} \leq 0,5636, \quad 1,0012 \leq x_{20} \leq 1,7343; \\
& 0,9501 \leq x_{21} \leq 1,5347, \quad 2,0088 \leq x_{22} \leq 11,8686, \quad 0,3989 \leq x_{23} \leq 0,8124; \\
& 0,6556 \leq x_{24} \leq 0,7777, \quad 0,3486 \leq x_{25} \leq 0,5437, \quad 0,2803 \leq x_{26} \leq 0,524; \\
& 0,4346 \leq x_{27} \leq 0,5834, \quad 401596,000 \leq x_{28} \leq 1508005,00, \quad 3,053 \leq x_{29} \leq 10,8301; \\
& 0,4774 \leq x_{30} \leq 0,5951, \quad 0,0244 \leq x_{31} \leq 0,0393, \quad 0,1998 \leq x_{32} \leq 0,2863; \\
& 0,0775 \leq x_{33} \leq 0,1111, \quad 0,0860 \leq x_{34} \leq 0,1612, \quad 0,1792 \leq x_{35} \leq 0,2835; \\
& 0,1275 \leq x_{36} \leq 0,2886, \quad 0,0643 \leq x_{37} \leq 0,2902, \quad 1,0865 \leq y_1 \leq 1,284; \\
& 1,0537 \leq y_2 \leq 1,7492; \quad 0,8921 \leq y_3 \leq 2,5947, \quad 1000,9625 \leq y_4 \leq 2556,5671, \\
& 0,0537 \leq y_5 \leq 0,7492; \quad 0,0324 \leq y_6 \leq 0,1795, \quad 0,2805 \leq y_7 \leq 0,4784, \\
& 0,1653 \leq y_8 \leq 0,3977; \quad 0,1043 \leq y_9 \leq 0,337.
\end{aligned}$$

Analysis of mathematical methods of solving this type of optimization problems showed the feasibility of using the procedure fminimax that software is implemented in MatLab. The computed optimal values of the export-import potential of the enterprise are:

$$\begin{aligned} x_1 = 0,4671, x_2 = 0,1227, x_3 = 10301,27; x_4 = 0,9055, x_5 = 0,8929, \\ x_6 = 1,0918, x_7 = 0,8267; x_9 = 0,2967, x_{10} = 0,0602, x_{11} = 0,1953; x_{12} = 0,0291, \\ x_{13} = 26,9076, x_{14} = 0,019; x_{15} = 1,5143, x_{16} = 43,3698, x_{17} = 0,4036; \\ x_{18} = 0,2309, x_{19} = 0,3102, x_{20} = 1,0012; x_{21} = 0,9501, x_{22} = 2,008, \\ x_{23} = 0,3989; x_{24} = 0,6556, x_{25} = 0,3486, x_{26} = 0,2803; x_{27} = 0,4346, \\ x_{28} = 401596,0, x_{29} = 3,053; x_{30} = 0,4774, x_{31} = 0,0244, x_{32} = 0,1998; \\ x_{33} = 0,0775, x_{34} = 0,086, x_{35} = 0,1792; x_{36} = 0,1275, x_{37} = 0,0643, y_1 = 1,0865, \\ y_2 = 1,0537; y_3 = 2,5947, y_4 = 1000,963, y_5 = 0,0537; y_6 = 0,0324, \\ y_7 = 0,2805, y_8 = 0,1653; y_9 = 0,1043. \end{aligned}$$

The values of individual criteria, namely the maximum level of development of export and import potential of enterprise "Turboatom" are equal 0,4004 ( $F_{1\max} = 0,4004$ ), and the maximum level 0,4392 ( $F_{2\max} = 0,4392$ ). Comparison of the levels testifies to the great possibilities of the enterprise to use its export and import potential. Therefore, to develop management actions for the use and development of this potential it is necessary to compare these levels with the levels calculated as a convolution of the system of private indicators of specified states of the potential. If you continue this analysis with the construction of a causal diagram factors of increasing the level of export-import potential and its use, it is possible to specify the state of each element and to develop mechanisms to deal with identified problems, as well as set unused opportunities and available reserves.

### 3. CONCLUSIONS

Thus, the modeling of export-import potential should be carried out in a sequence transformation models, namely the cognitive→meaningful→conceptual→information→math. This logic provides a scientific, accuracy, adequacy, objectivity in the description and management of this potential.

Proposed models of export and import potential are scientific basis for the formation of effective managerial decisions for using, development, improvement of international business. In terms of enterprise, we offer information and mathematical models may be used in the development of various strategy activities and programmes to improve management efficiency, determination of the reserves development. Based on the results of such modeling provides consistency in the management of export-import potential of the enterprises and other economic objects and provides features to implement a system of digitization in the economy.

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## CONSTITUTIONAL DUTY TO ENSURE SECURITY BY THE ADMINISTRATION IN POLAND

The purpose of this article is to present conclusions from the analysis of the essence and significance of public tasks and constitutional principles that should guide the imposition of these tasks on public and private entities. Due to the relatively wide context of action in the public sphere, these considerations are limited to the sphere of protection and ensuring security. Tasks in this area are subject to high specificity, therefore the purpose of the analysis is to indicate different factors and conditions affecting the shape of security administration. The method of analysis was used as the principal method of the researcher. Critical analysis was used to determine the importance of public tasks and determine their scope in the sphere of security. System analysis allowed explaining the current conditions of the security administration. A comparative legal and legal analysis covered the provisions of the constitution and legal acts regarding the functioning of administration and allowed to give appropriate directions for their interpretation. In order to make the necessary generalizations, the synthesis method was also used.

**Keywords:** public tasks, security administration, security management.

### 1. ADMINISTRATION AS THE IMPLEMENTER OF STATE TASKS

The modern state should effectively fulfill its ministerial role towards all citizens. It does so primarily through public administration units, it can also act through local government or non-public entities, transferring part of its public tasks to them. In the modern state satisfying the needs of citizens, both collective and individual ones, belongs primarily to public administration. In fulfilling the tasks of protecting and ensuring the security of the entire state community, it also plays a leading role (Niewiadomski, 2010; Stahl, 2019; Zimmermann, 2018).

The Constitution and statutory provisions not only confirm the division of responsibilities between individual public administration bodies, but also specify and list them. A deeper analysis of issues related to security ensures that public administration bodies have the necessary legal instruments to act in this regard. There is a whole system that can be called a security administration that guarantees the existence of specialized bodies with the right tools and instruments to prevent security threats.

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Tasks in the field of ensuring security reflect one of the most important goals of the state which is to protect individual citizens and the entire community against threats to public life. It should be emphasized that these tasks are also of an original nature. Regardless of how the role of the state is perceived, they are one of the basic human needs – the need for security.

By undertaking its tasks, public administration carries out the basic functions of the state. W. Szostak states that the functions of the state are tasks constantly carried out by the state, remaining in a specific relation to the objectives adopted by the state apparatus – on the one hand, and to the needs (interests) of the society – on the other one (Szostak, 1997). Therefore, these are certain types of state activity undertaken in specific areas of public life. A. Łopatka emphasizes that the content of individual functions depends on the ruling group, the national interests pursued by the state, and the situation of the given state in the international community. It also rightly indicates that the state in various periods of development, depending on historical circumstances or its geographical location, simultaneously performs many functions. The intensity of the state's activity in particular spheres of social life is variable, sometimes it is more intense, sometimes less (Łopatka, 2005). The separation of these spheres is the basis for the separation of the functions of the state (Zieliński, 2006).

The subject scope of the tasks of the state depends on the understanding of the role of the state in social life and could be understood differently at various stages of historical development. In the modern era, views on the role of the state in social life are expressed under two opposing concepts. The first of these – the concept of the liberal state – recognizes that the state should refrain from any interference in various areas of social life, and the state's tasks are reduced to protecting the interests of the individual, safeguarding his personal inviolability and property. State interventions should be moderate and concern separated social areas and be limited to overcoming social tensions, eliminating sharp social contradictions and effectively implementing social reforms. This perception of the state is called the role of “night watchman” (Seidler, Groszyk, Pieniążek, 2008). The second concept, called state interventionism, assumes the state's interference in various areas of social life, in particular in ensuring law and order, satisfying the need for security, as well as in the economy and social affairs. All this is to be carried out in the interests of general social development. The scope of state intervention may be narrower or wider and may include a smaller or larger range of matters, all depending on the adopted detailed concepts. The essence of this idea is to emphasize the role of the state as a regulator and coordinator of all social relations (Seidler, Groszyk, Pieniążek, 2008). Ensuring security, order, stability and stability, however, always appears in the first place of the realized goals of the state, requiring the intervention of its organs, regardless of the perception of the role of the state, regardless of the stage of society's development, regardless of the political system, and accepted values. Of all the tasks of public administration, it takes priority.

It should be clearly stated that the tasks of public administration are the ones of the state itself (Leoński, 2010), which, because of the function of public administration, always fall into the catalog of public tasks. They are determined by the revealed needs and interests of society (both as individuals and as social groups) (Korybski, 2010). At particular stages of the state's development, current tasks are formulated to implement current socio-political goals. The contemporary catalog of tasks may therefore differ from the catalog formulated by the state in previous eras. Some tasks the state invariably implements, some become outdated and subject to elimination, while others only change their character, taking on a different priority. E. Knosala points out that the catalog of public administration tasks has



been growing steadily. There is also no doubt that the reorientation of the state's goals entails changes in the tasks aimed at achieving them (Knosala, 2006). Current tasks must serve the implementation of current goals and be necessary to achieve them.

The need for security in the current world is quite strongly emphasized and is high in the hierarchy of all social needs. Therefore, it seems that the catalog of public administration tasks in this area will certainly not be significantly reduced in the near future. However, the opposite situation may occur – this catalog will expand. The reasons for this state of affairs should be seen in the emergence of new threats arising from the development of technical civilization and the information society. New threats create new areas of activity for administration, especially those specialized in the protection of communication security, information security and energy security (Chochowski, 2014). Threats and pathologies known today also change their face under the influence of current social, technical or political conditions. Such evolution requires setting new goals for the state and its organs, defining current tasks and indicating appropriate measures for their effective implementation. As an example, it is worth pointing out the need to engage in closer international cooperation to counter terrorism, organized crime and computer crime. It is worth emphasizing that the variability of security threats in the modern world implies the need to regularly verify the tasks of public administration and constantly adapt their catalog to current needs (Pomykała, 2015).

## **2. ENSURING SECURITY AS CONSTITUTIONAL TASKS OF PUBLIC ADMINISTRATION**

Tasks of public administration (including tasks in the field of ensuring security) as tasks of the state are formulated in the highest-ranking regulations, i.e. in the constitution and laws. They define the organization of tasks performed, indicating the competences and properties of specific organizational units of public administration, as well as the procedures for performing tasks. According to J. Wyporska-Frankiewicz, the tasks of administration are a derivative of constitutionally defined obligations of the state or constitutionally defined rights of citizens to a specific activity of the state. It is the obligations of the state mentioned in the constitution regarding various spheres of activity that are the basis for the statutory definition of the tasks of individual public administration entities (Wyporska-Frankiewicz, 2010).

The Constitution can, therefore, be regarded as a kind of stabilizer of the tasks of public administration. It should set boundaries in defining public tasks, limiting the scope of the legislator's and administrative bodies' freedom in determining public tasks. It also translates into boundaries in the selection of tasks and the principles of their implementation. The determinants of the border are both constitutionally defined state goals as well as the principles and values contained in the constitution. In the absence of such a border, public tasks of the administration could be shaped quite freely by the executive, and this should not be considered at all in the rule of law (Błaś, Boć, Jeżewski, 2004).

The Constitution directly defines only part of the tasks of public administration, since calculating their full catalog in this way is obviously not intentional or possible. In the sphere of security, where for the effectiveness and efficiency of activities it is necessary to constantly update tasks, this is particularly justified (Wiśniewski, 2013). The constitution, as a fundamental act, does not seem appropriate for this purpose. The statutory regulation, on the other hand, allows the legislative authority to interfere in the goals and principles of

the administrative authority by setting ongoing tasks according to identified socio-political needs.

In the current Constitution of the Republic of Poland, an example of a direct definition of administrative tasks in the field of security is Art. 146 (4), which enumerates the competences of the Council of Ministers as the body of executive power, while in point 7 obliges the Council of Ministers to ensure internal security of the state and public order. Findings of the administration's tasks can be found in regulations specifying the objectives and functions of the state and the rights of citizens regarding security-related issues. Such provisions are the basis for specific competences and tasks of administrative bodies, which should, however, be sought in the provisions of the Constitution establishing these bodies or in the provisions of special acts.

In art. 5 of the Constitution of the Republic of Poland (Constitution, 1997), the main directions and objectives of the state were established, and one of them was the assurance of citizen security. Article 26, specifying the general wording of Article 5, indicates the Armed Forces as the entity which, in addition to protecting the independence of the state, the integrity of its territory, and inviolability of its borders, is intended to ensure state security. Article 74 obliges public authorities to pursue policies ensuring ecological security for both present and future generations. Article 76, on the other hand, imposes an obligation to protect the rights of consumers, users and tenants against threats to their health, privacy and security, and unfair market practices. Analyzing the above provisions of the Constitution of the Republic of Poland, it can be stated that the tasks of the administration in the field of security protection to a small extent result from the Basic Law. Rather, these are fragmentary provisions, relating to ensuring security in some areas particularly relevant to society at the current stage of its development, most of them define only the area of activity of state organs, leaving the determination of specific competences and means of their implementation to specific regulations.

### **3. ENSURING SECURITY AS A TASK OF PUBLIC ADMINISTRATION**

For the most part, public administration tasks are determined by laws and executive acts issued on their basis. It can even be seen that the focus of legal regulation is shifting more and more to laws, and the statutory delegations placed in them open the possibility of deciding on the scope of these tasks by public administration bodies that will implement them. This situation also includes the tasks in the field of ensuring and protecting security. It should be emphasized, however, that in the case of statutory regulations, freedom in shaping tasks is not unlimited and does not belong solely to the legislative authority. "Unless the constitution explicitly defines the tasks of public administration, the boundaries in the choice of tasks, the manner in which they are implemented, constitute constitutionally defined state goals, as well as the principles and values contained in the constitution" (Błaś, Boć, Jeżewski, 2004). The tasks detached from constitutional principles and values would arise from political demands, economic programs, election promises and would be the subject of pre-election tenders. That is why the Constitution contains more or less specific administrative tasks (M. Karpiuk, 2013).

A. Błaś emphasizes that "the administrative authority derives its powers to perform public tasks from legal norms which it does not itself" (Błaś, Boć, Jeżewski, 2004). Therefore, he is not a disposer of the tasks he carries out. There is also no freedom in determining the scope of the task being carried out. The administration cannot free itself from tasks by

reducing them, suspending their performance or transferring them without any explicit instruction to other entities. Therefore, the administration's tasks can be described as the obligation to undertake active activity by the entity entrusted with it. They have the nature of legal obligations, and their non-performance gives rise to legal liability. The administration may, however, have some freedom as to how the task will be carried out, however, its boundaries are always drawn in constitutional or statutory acts, and never in the norms of law it makes.

Normative establishment of administration tasks means that the administration cannot avoid accepting these tasks for implementation. The provision of law usually simultaneously specifies the actions that the administrative body should take in a given case. By making these actions, he makes use of his right. The scope of powers and duties assigned to the administrative body is referred to as the competence of that body. As J. Zimmermann states, competence is 'a possibility (right) and at the same time an obligation to use a specific form (forms of action) belonging to administrative activities. "(...) Having competences in a given scope, the administrative body is obliged to use it, and not fulfilling this obligation is tantamount to the so-called inaction of the body. Such defined competence of an administrative body should be distinguished from its tasks, which are also defined by law, but do not relate to a specific action and the obligation to perform a specific action, but relate to the more general purpose to be achieved by the body, using all its competences" (Zimmermann, 2018). Competency regulations are usually found in specific laws regulating individual areas of public administration. In the case of security, these will be provisions regulating the tasks and forms of activity of entities responsible for ensuring, maintaining and protecting security.

Security tasks, regardless of whether they are performed by public administration entities or non-public entities, should be included in the category of public tasks (Pieprzny, 2007; Pieprzny, 2008). The concept of public tasks is considered one of the most difficult categories in the study of administrative law. According to R. Stasikowski, "public tasks are those which the legislator and public administration entities are interested in performing due to certain social goals (values) valid in a given place and time, as part of constitutional norms determining the state system" (Stasikowski, 2009). As M. Stahl rightly argues: "public tasks are, as a rule, assigned to the state. It decides, under the influence of political factors, which tasks it will carry out by its organs on an exclusive basis, which can be (and even must be) delegated to other public authorities, and which can also be performed by non-public entities" (Stahl, 2007). S. Biernat, on the other hand, notes that the audience of tasks is primarily demonstrated by the fact that the state or local government is legally responsible for their implementation. At the same time, it is not necessary for the performance of tasks to take place within the organizational structures of public administration, or even the structures of the state or local government (Biernat, 1994).

Public tasks are always the legal obligations of the state and public entities in a legally defined scope in a permanent, continuous, uninterrupted manner, ensuring universal access on a non-commercial basis. Nowadays, the sphere of tasks considered solely state-owned is increasing, and therefore more and more tasks are transferred for implementation to other public entities (local government) and even non-public entities. However, protecting and ensuring the security of citizens is little affected by this trend (Knosala, 2006). This is due to the need for quite frequent use of state coercion in this case, usually reserved for public entities. In this way, most of the tasks from the sphere of security remain in the hands of public administration bodies, especially government administration.

The tasks of the state referred to as administrative are divided between individual entities performing the role of public administration in the state. Appropriate division is aimed at ensuring their effective implementation (Wyporska-Frankiewicz, 2010). The complexity of today's state organizations and their activity on many levels allows to see a number of detailed functions to be fulfilled, and in addition to each of them to create complex task systems. Increasing the number of tasks results in the creation of new administrative units, because the existing ones become inefficient. Taking into account the multiplicity and diversity of administrative tasks, it is possible to create independent groups of entities within public administration structures, responsible for the implementation of more specific tasks. In this way, within the public administration, security administration can be distinguished as a specific group of entities with a properly adapted organizational structure, as well as equipped with an appropriate set of measures.

#### 4. CONCLUSIONS

Public tasks are the legal obligations of the state in certain areas of public life performed in a permanent, continuous, uninterrupted manner, ensuring universal access on a non-commercial basis. The modern state is taking over more and more tasks, which in this way become public tasks, with public administration being the direct implementer of most of them. However, there is a noticeable tendency to transfer the rights to perform public tasks to non-public entities, which, however, does not affect the nature of the tasks themselves.

Contemporary tasks in the field of protection and ensuring security also change and diversify, and the preoccupation of the state with this group of tasks increases. Security administration is increasingly specialized, creating new units to counteract previously unknown threats. However, the security administration seems to be resistant to task privatization processes, because an important element of action in this sphere is the need to use state coercion, usually reserved for public entities. The main burden of implementing public tasks in the sphere of security protection rests on public entities, including those constituting government administration.

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## COMBATING TERRORISM IN THE EUROPEAN UNION AND THE REPUBLIC OF POLAND

International terrorism is one of the most serious threats to global security nowadays. Countries that struggle with problems such as respecting democracy and human rights, as well as free market economy are especially threatened by terrorism.

Strong separatist tendencies as well as national, religious, social and race divisions are the significant factor influencing the development of terrorism.

The scale of this phenomenon often goes beyond the borders of individual countries or regions becoming the global dimension threat.

Due to complexity of the problem one should consider it to be the permanent element in international politics.

**Keywords:** security , terrorism, human rights, European Union, The Republic of Poland's security policy.

### 1. INTRODUCTION

One of the most important human needs is safety. Stanisław Kawula states: “A need for safety is among the most important primary human needs, and a need for impact on the course of current events and their own faith among the psychosocial needs” (Kawula, 1999).

Safety needs become predominant for a person right after the physiological ones in Maslow's hierarchy of needs (Maslow, 1986).

Comprehensive personality development can be achieved by living in a full sense of security. Only concise personality makes an integrated psychophysical and moral whole with full human rights. A human being constituting the highest value as a social and independent individual should never become an object, tool or a means to achieve a goal by someone else (Stefański, 2003).

A need for security is an underestimated psychological and social value. It almost becomes an aim of human aspiration, and hence it is often a bargaining chip or a social engineering tool in social and political life. Lack of security introduces chaos, frustration, and hopelessness of life aims set in advance (Tomaszewski, 2001). All the activities which may bring to undermine the plans of terrorist acts cannot be overestimated, because it always involves/it is always about the highest value which is life. It can be acknowledged that prevention of criminal offences, especially terrorist attempts, requires particular care/ is of

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special concern of country entities responsible for the security of its citizens. It is undeniable that terrorism is a problem of maximum alert level for societies of various country governments.

## **2. ACTION OF THE EUROPEAN UNION IN ORDER TO COMBAT TERRORISM**

A catalyst for cooperation of the states in terms of internal security was the occurrence and the rise of terrorism. Terrorism, which then posed a special challenge, forced members of the European Economic Community to exchange information connected with terrorist activity regularly. This situation was the reason for establishing, in 1975, an organization called TREVI, which was responsible for coordination of activities and prevention of terrorism (Bukowski, 2010).

Protection of the borders of the European Economic Community and transmission of information concerning acts of terrorism to police forces of the Member States are its task. There was also cooperation within the framework of the Police Working Group on Terrorism, the European Political Cooperation Working Group and Schengen Group.

The decision of the creation of the European Police Office (Europol) was taken during the ministerial meeting of the TREVI organization.

The adoption of the Maastricht Treaty (Treaty on European Union) meant including the police cooperation in the Third Pillar of the European Union – the cooperation in the fields of justice and home affairs. Under the Treaty of the European Union, police cooperation in order to prevent and combat terrorism, drug trafficking, other forms of international crime as well as implementation of the system of exchange of information within the framework of the European Police Office (Europol) became a subject of interest of the Member States (<http://www.uniaeuropa.org/europol>).

In the Treaty of Nice, reference in turn was made to the body of prosecution cooperation of the European Union, that is, Eurojust. There is an European Union agency dealing with prosecution, detection and detention, and making accusations.

The cooperation of the European states in the fight with against terrorism is determined by the process of the European integration. However, the coordination of activities between the Member States and the bodies of the European Union was considered as very bad, and introduction of anti-terrorist measures as slow. Three dates, which have had far-reaching impacts on the European Union cooperation in terms of combating terrorism need to be pointed out. There are: 11<sup>th</sup> September 2001 (attacks in the USA, 11<sup>th</sup> March 2004 (attacks in Spain) and 7<sup>th</sup> and 21<sup>st</sup> July 2005 (attacks in London).

The adoption of legal and political instruments, the establishment of new structures, the shift in the emphasis in the European political debate were the products of this cooperation. The Justice and Home Affairs Council on 1<sup>st</sup>-2<sup>nd</sup> December 2005 and the European Council on 15<sup>th</sup>–16<sup>th</sup> December 2005 summarized the state of the cooperation when two programming documents: *the EU's Counter-Terrorism Strategy* and *the European Union Strategy for Countering Radicalisation and Recruitment* were adopted (Bukowski, 2010).

The consequences of the attacks in London and Madrid, was a noticeable signal to indicate that the terrorist issue inside the European Union was inappropriate. Therefore, after those events, the European Union intensified contacts with either regional or global international institutions that aims to combat terrorism. These groups include: the European Council, the United Nations (UN), the North Atlantic Treaty Organization (NATO), the



Organization for Security and Co-operation in Europe (OSCE), the Western European Union (WEU), the African Union (AU), the Association of Southeast Asian Nations.

In response to the provisions of the United Nations Security Council Resolution 1373 (2001), the Union got involved, among other things, in: work of counter-terrorist teams under the protectorate of the United Nations, discussing issues totally backed by the Member States of the European Union; promoting universal anti-terrorist legal acts created by the system of the United Nations which consists of thirteen universal anti-terrorist together with additional protocols and the directional United Nations Security Council Resolutions; supporting the work on the newest document developed by the United Nations, that is, the UN Global Counterterrorism Strategy (<http://www.cbnt.collegium.edu.pl/index.php?option=com...>).

The European Union cooperates with other third countries, and Canada, Australia, Japan, Russia, Israel and especially the USA are its biggest partners. Apart from this, the European Committee prepares EU aid schemes and projects with: Pakistan, the Philippines, Indonesia, Morocco, Algeria, Kenya, Jordan, Afghanistan, Iraq. These projects aim to combat organized crime and terrorism. The Union aids them in the development of multi-level instruments such as judicial and police cooperation, border surveillance, combating terrorist financing, combating the illicit trade in arms, non-proliferation of weapons of mass destruction (WMD).

The EU strategy in the field of fighting terrorism concerns:

1. preventing terrorist threats,
2. protection against terrorist threats,
3. prosecution of perpetrators of terrorist attempts,
4. responding to terrorist threats,
5. strategic commitments concerning terrorist threats (Cymerski, 2013).

Therefore, the strategy of the European Union can be divided into four pillars: preventing, protection, prosecution and responding.

Key elements in the field of preventing terrorist threats in the countries of the European Union are, as following:

- development of a common approach in terms of identification and combating problematic behaviour,
- solution of an issue on incitement and recruitment, especially in the environment such as prison, places of worship or religious education through introducing laws recognizing such behaviour as crime,
- creation the strategy for media and communication policy allowing to familiarize journalists with the Union policy,
- promotion of democracy, education and economic well-being through aid programmes of both the European Union and the Member States,
- development of intercultural dialogue inside the Member States of the EU and outside them,
- drawing up of a neutral/an impartial language in favour of pursuing the discussion concerning the above mentioned issues,
- continuation of studies, exchange of analyses, skill-sharing in order to understand the above mentioned problems more deeply and draw up political response (Cymerski, 2013).

**Protection** of the potential targets of terrorist attempts is a key element in the fight against terrorism which needs to be strengthened by the minimizing effects of the attempts, limiting susceptibility to attack and protection of the external borders.

Priority activities in terms of protection include:

- implementation of improvements concerning European Union passport security through introduction of the biomedical data,
- development of the Visa Information System (VIS) and the second generation Schengen Information System (SIS II),
- performing of a risk analysis regarding the EU's external borders,
- implementation of common standards agreed concerning civil aviation safety, port and maritime security,
- adjustment of European programme in favour of protection of infrastructure of strategic importance,
- the best possible use of research works at the level of the European Union and the European Economic Community (Cymerski, 2013).

Instruments belonging to the category of an European Arrest Warrant are to be important tools for **prosecution**. Prosecution deals with dismantling any terrorist networks, terrorist groups, preventing them from preparing a terrorist attempt and as well as bringing to justice of the alleged perpetrators. Actions relating to prosecution include:

- making use of Eurojust and Europol to enhance cooperation between judicial and police authorities in order to develop a joint assessment of the phase of terrorist threat,
- development of cooperation of the criminal justice system,
- preventing of the access to explosives and weapon, starting from elements necessary to construct homemade bombs to biological, chemical, radiological and nuclear materials.
- assurance of full implementation of the currently applicable legal solutions and recognition of the international conventions and treaties,
- blocking of external financing for terrorist phenomena,
- guaranteeing of the technical assistance serving the increase of potential of third countries.

**Responding** requires joint operation of each Member State of the EU. The European Union should take all possible measures in case of the terrorist attack on one of the Member States, realizing that this can affect other states of the Union.

The strategy, in that regard, primarily include:

- correction of union mechanisms caring about protection of the citizens,
- development of a risk assessment of threats as a tool of creating Union abilities to response at the time of the terrorist attacks (a coordinated, uniform system of a rapid alert and response – ARGUS is to be responsible for this),
- improvement of the coordination with international organizations in the context of responding to terrorist attacks and other disasters,
- exchange of the best practice and development of agreements in order to provide victims of terrorist attacks and their families with aid” (Aleksandrowicz, 2008).

Cooperation of the states belonging to the European Union in the fight against terrorism is a necessity because it is a duty of each Member State. Combating terrorist groups and counteracting attacks in the EU must respect human rights and the principles of democracy.

### 3. COMBATING TERRORISM IN THE POLISH SAFETY POLICY

Being a member state of the NATO military alliance and the European Union contributes to an improvement in the feeling of security of the member states although it does not guarantee this. Hence, many experts claim that Poland's membership in NATO and the EU is a threat from the phenomenon of terrorism. Poland is not recognized as the main target of terrorist strikes, however, the fact that there is a real danger and threat cannot be excluded.

Thus the Republic of Poland has not taken any action which could threaten any other country. Nevertheless, sources of threats need to be noticed in our surroundings. This was because Poland as a devoted ally of the United States of America participating in military missions and anti-terrorist action, involved in Afghanistan and the Persian Gulf, a significant country of the European Union, and a country, full of its internal conflicts and disputes, is vulnerable to terrorist attacks.

There are a few reasons why Poland is facing the threat of terrorism.

The most important ones include:

- global character of the international terrorism. Our country is not an isolated island and it is difficult to say that has a peculiar immunity protecting from this threat (Bukowski, 2010);
- change of Polish foreign policy. Mainly, joining NATO, normalizations of the relations with Israel, participation in an anti-terrorist coalition, Poland's military involvement in stabilization missions in Afghanistan and Iraq cause that there are clear threats for Poland from Arab fundamentalists (Lonca, 2005);
- the opening of borders, that is, uncontrolled migration of people and contraband;
- creation of civil society and liberalization of regulations, which means that a state does not control all the spheres of social life. There is an opportunity to create structures which may serve the aims of the terrorists (Cupryjak, 2005);
- increase in the number of individuals isolated from the society, mostly badly educated and creating clans of Caucasian refugees who are a breeding ground for activity of criminal groups and Islamic radicals (Cymerski, 2013);
- membership in the European Union;
- alliances, especially with the USA and pro-western policy;
- media information of secret CIA prisons operating in Poland;
- a project of construction of the American anti-missile shield installations.

Poland's involvement in military operations in Afghanistan and Iraq caused that we became participants of the asymmetrical clash and thanks to this, our current threat level is increasing significantly. Despite the fact that conflict is taking place far from our borders, it should be borne in mind that asymmetrical action can occur in the territory of our country (Bukowski, 2010).

Apart from the above mentioned factors connected with the international political and military situation, factors resulting from the internal situation of our country should be pointed out. These include:

- economic difficulties resulting in deterioration of budgets of ministries responsible for shaping the state policy of safety,
- an imperfect system of combating terrorism for which the main weakness is the lack of coordinating particular components resulting primarily from the lack of organizing

of the improvement and coordination training, especially at the highest levels of the command and control structures, including the Councils of Ministers,

- a lack of the clearly defined competences and division of tasks of people who function in the command units as well as operating procedures in special crisis situations (Cymerski, 2013).

As a result, one can state that Poland is threatened by mainly international terrorism resulting from the involvement of our country in the fight with the terrorism in the world and the change of form of the contemporary terrorism which changes from the local one into the global one. Apart from this, there is also a threat of internal terrorism which results from activity of criminal groups dealing with smuggling and proliferation of weapons of mass destruction.

It cannot be excluded either that criminal organizations making use of terrorist activity will force the government administration, self-government one and non-government organizations to issue specific decisions aiming at adoption of legal solution beneficial for the given organization or appointment of their own people for the appropriate positions.

The most serious signals of terrorist threats in Poland include:

1. In July 2003, a signal/message was received concerning the plans of the bomb attack in Marriott Hotel in Warsaw, a few days later there was a terrorist attack in one of the Marriott hotels in Malaysia (Wójcikowski, 2007);
2. In November 2003, Internal Security Agency (ABW) got the most serious information. Terrorist attacks on "Jews and the Crusaders" were planned between Christmas and New Year. Synagogues and churches in big cities in the whole Poland were to be targets of the attacks. The signal started the operation "Sword". Within the framework of this operation ABW monitored behavior of the groups of foreigners who appeared in the western regions of Poland. There were: a Libyan, a Lebanese and a stateless person. An Algerian was probably a coordinator of this action. They behaved as if they were trained officers of the intelligence service. They used so called counter observation, they phoned from pre-paid mobile telephones, which they had bought just before phoning and used them only for a few hours. According to ABW, their visit had a connection with the planned terrorist attacks. The agency states that they managed to prevent these attacks, however, it did not reveal any details (Wójcikowski, 2007).
3. In the first days of April 2004, signals of highly probable terrorist attempts in the territory of our country occurred. They indicated that one of the leaders of Al-Qaeda was coming to carry out terrorist attacks in Poland and Ukraine. They suggested the reality of the attacks during the European Business Forum in Warsaw in April, 2004 and attacks at the time of so called the March of the living in Oświęcim. It was recognized that a potential terrorist act in the territory of our country might be (Cymerski 2013) prepared and conducted only with the support of external forces and Islamist extremists living in Poland. That threat ended with assumptions and forecasts (Lonca, 2005).

Taking into account the possibility of occurrence of the terrorist threats, legal regulations facilitating prevention of these threats are applied. This area, in case of the Republic of Poland, was regulated by the Constitution of the Republic of Poland and subordinate acts.

The Article 228 of the Constitution states that "in situations of particular threats if the ordinary constitutional measures are not sufficient, an appropriate state of Poland Emergency: martial law, a state of emergency, a state of natural disaster may be introduced"

(Konstytucja RP z dnia 2 kwietnia 1997 r.). Consequently, terrorist attacks may cause the above mentioned states of emergency.

The Article 146 of the Constitution states that “within the scope and on the principles defined in the Constitution and law of the Council of Ministers ensures the internal security of the state and public order of the state” (Konstytucja RP z dnia 2 kwietnia 1997 r.).

The importance of a terrorist threat in Poland was noticed in the National Security Strategy of the Republic of Poland adopted by the Council of Ministers on 4<sup>th</sup> January 2000 (Bukowski, 2010). Napisane jest tu, że nawet geograficzne oddalenie Polski od źródeł zagrożeń nie zapewni bezpieczeństwa. It says here that even Poland’s remote location from the sources of threats do not ensure security. The strategy describes tasks of the government services that aims at ensuring and maintaining security, among other things, protection of independence of the Republic of Poland, protection of sovereignty, and maintaining territorial integrity and inviolability of its borders.

Our country is a signatory of many contracts, conventions and international agreements concerning counteraction of the terrorist threat. The counter-terrorism conference of 16 states of the regions of East Europe and South-Eastern Europe on 6<sup>th</sup> November 2001 should be undoubtedly recognized as the most important initiative in this sphere of the action. Thanks to the ACTION PLAN adopted during that conference, a wider regional cooperation was established. It included, among other things, applying uniform procedures for combating terrorism, money laundering, applying uniform procedures for customs and passport control, fighting illegal migration (Mickiewicz, 2005).

Table 1. International Treaties in the field of combating terrorism, to which Poland is a party

Type of the agreement	The date of the conclusion	The scope of activities related to the fight against terrorism
International Treaties		
Treaty between the Republic of Poland and the Federal Republic of Germany on good neighbourliness	17.06.1991	„(...) the contracting parties will cooperate in respect of combating organized crime, terrorism (...)”: Art. 33. sec.2
Agreement between the Republic of Poland and the Czech and Slovak Federal Republic on good neighborliness, solidarity and friendly cooperation	04.05.1992	„(...) the contracting parties will cooperate in respect of combating organized crime, terrorism (...)”: Art. 20. sec.2
Treaty between the Republic of Poland and Ukraine on good neighbourliness, friendly relations and co-operation	18.05.1992 (came into force 30.12.1992)	„(...) the parties will cooperate in respect of combating organized crime, terrorism (...)”: Art. 16. sec.2
Treaty between the Republic of Poland and the Republic of Lithuania on friendly relations and neighbourly cooperation	26.04.1994 (came into force 26.11.1994)	„(...) the parties will cooperate in respect of combating organized crime, terrorism (...)”: Art. 24. sec.2
Treaty between the Republic of Poland and the Russian Federation on friendly relations and good-neighborly cooperation	08.05.1993	„(...) the parties will cooperate in respect of combating organized crime, terrorism (...)”: Art. 16. sec.2

The source: (Mickiewicz, 2005).

Table 2. International and Interdepartmental Treaties in the field of combating terrorism, to which Poland is a party

International and Inter-departmental		
Agreement between the Ministry of the Interior of the Republic of Poland and the Ministry of the Interior of the Kingdom of Morocco relating to combating crime, terrorism, drug trafficking.	26.06.1995	These agreements include:  - exchange of information of people, events, models of documents and objects which are fruits of crime;  - reciprocal rules on the protection of classified information exchanged;  - defining competent authorities for carrying out authorities  - principles of undertaking joint actions
Agreement between the Government of the Republic of Poland and the Government of the Republic of Slovenia on cooperation in fighting terrorism, organized crime, illegal trade of narcotic drugs, psychotropic substances and their precursors.	28.08.1996	
Agreement between the Government of the Republic of Poland and the Government of the Republic of Hungary on cooperation in combating terrorism, unlawful drug trafficking and organized crime.	15.05.1996	

The source: (Mickiewicz, 2005).

Acts of international law in the related issues which Poland has ratified include:

- United Nations International Convention for the Suppression of the Financing of Terrorism of 9<sup>th</sup> December 1999 (Journal of Laws 2004, No. 263, Item 2620 – from 10<sup>th</sup> April 2002 (All) / 26 October 2003 (RP));
- The European Convention on the Suppression of Terrorism of the Council of Europe, done in Strasbourg on 27<sup>th</sup> January 1977 (Journal of Laws 1996, No. 117, Item 557 – from 4<sup>th</sup> August 1978 (All)/1<sup>st</sup> May 1996 (RP))
- The Application of Council Regulation (EC) No 2580/2001 of 27<sup>th</sup> December 2001 on certain specific “restrictive measures” against certain persons and entities aiming at combating terrorism (Journal of Laws UE L, No. 344, Item 70, with the later amendments from 28<sup>th</sup> December 2001 (UE) / 1<sup>st</sup> May 2004 (RP)).

The Republic of Poland in their organizational structures worked out a system concerning combating terrorism, which is based on four stages: exploration, counteraction, combating, consequence management. Appropriate entities, services, offices of the government administration, collective advisory and opinion-making bodies are responsible for each area.

**Exploration** consists in observing activity of individuals or groups who may use terrorist methods in order to achieve actions of a political basis. Internal Security Agency (ABW), Intelligence Service Agency (AW), Military Information Services (WSI), the Military Intelligence Service, the Military Counterintelligence Service, the Special Services Committee and the Central Coordinating Team of Operational and Exploratory Activities in relation to Counteracting Political Terrorist Activity are the main institutions which are responsible for detection and identification terrorist threats.

**Counteraction** consists in preventing groups or individuals from using terrorist methods. It cannot exist without exploration, because the exploration may lead to identifying and taking appropriate security measures. Preventive activities can be also distinguished in

counteraction. The state institutions dealing with counteraction include: the above mentioned special services, that is, ABW, AW, WSI, as well as the Government Protection Bureau (BOR), the police and the Border Guard. On the other hand, non-government organizations are internal services which prevent from a terrorist attack, and different security agencies.

In terms of counteraction, the Interministerial Centre for the Fight against Organised Crime and International Terrorism at the Ministry of Interior and Administration, formed in 2002, played a very important role in the system of counteracting against terrorism in Poland. It was appointed pursuant to the Ordinance No. 54 of the Prime Minister dated 30<sup>th</sup> April 2002 (not published in the Official Journal). It is a basic institution which coordinates counterterrorist activities in Poland (<http://www.terroryzm.com/system-przeciwdzialania-terroryzmowi-w-polsce/>).

The tasks of the Centre concerning the issue of the prevention of terrorism include: monitoring terrorist acts, making analyses and assessment of these acts and presenting conclusions and opinions, setting directions for programmes against terrorist acts, preparing operations with the use of means of transport, dedicated premises and possessing operational capabilities.

**Combating** consists in elimination of the groups or individuals that apply terrorist methods. Combating as well as counteraction, is connected with exploration, but in case of combating, a terrorist attack should occur/take place. There are different measures that may be taken to combat terrorism in the system of counter-terrorism in Poland. Apart from the physical aspect of combating terrorism, namely typical forcible measures, there are also formal and legal ones. In terms of combating, all the actions aimed at catching and arresting the perpetrator of the acts of terrorism need to be contained.

The services responsible for combating terrorism include: police forces together with anti-terrorist sub-units, Internal Security Agency (ABW), Intelligence Service Agency (AW), Military Information Services (WSI), special military units, Polish Air Force (in order to defend the air border), the Board Guard (to protect the state border), the General Inspectorate of Financial Information, the Customs Service.

In the Polish General Police Headquarters, they established the Bureau of Counter Terrorist Operations which consists of 175 police officers and tackles physical elimination of threats connected with terrorism (but its main task is the fight against criminal terrorism) (<http://www.terroryzm.com/system-przeciwdzialania-terroryzmowi-w-polsce/>).

**Consequence management** involves leading the rescue action and protecting against the secondary attack, that is, physical elimination of the effects. A threat of terrorist attack is connected with the crisis management problems. Crisis management concerns both at the district level (powiat in Poland) and the provincial level. A voivode is responsible for operating Crisis Management Centers at the provincial level but a foreman or a president of the city at the district level.

Thus, central and self-government administration has an influence on the emergency. Moreover, Crisis Management Centers prepare scenarios of potential terrorist attacks. During the crisis caused by a terrorist attack, a Command for Emergency Response is appointed, where the most significant political decisions are taken with respect to activities which aims at eliminating effects of the attack.

The Police Forces, The State Fire Service, National Defence, medical services, volunteers and the Armed Forces of the Republic of Poland also deal with elimination of effects of the terrorist attack.

According to the internal legal regulations of the Republic of Poland, a terrorist threat may cover all fields of state activity, but it cannot be combated effectively by one service or one Ministry.

Efficiency of terrorism prevention is connected with an appropriate operation of the military sub-system, the non-military one and the management system based on legal formal and legal grounds, aimed at exploration, of threats, counteracting and combating them and consequence management of terrorist acts (Bukowski, 2010).

These undertakings involve a wide range of activities, which aim at the neutralization of the threat of a terrorist attack.

Szlachter, in his book, writes that an analysis of the system of preventing and combating terrorism, arising in Poland, allows one to say that our country has appropriate potential, which may serve effective counteraction against the phenomenon which threatens not only Poland but also all members of the international community. However, a lot of effort is required to create a system of coordination which enables to make use of this potential (Szlachter, 2007). As a result, there is a need of cooperation and coordination of all the subjects responsible for security. This cooperation should serve to monitor and combat threats of terrorism, benefiting from the experience of foreign alliances.

#### 4. CONCLUSIONS

Taking into account the previous considerations, it is concluded that issues connected with combating terrorism are and will be a permanent/fixed element of the security policy of the Republic of Poland and the European Union. When analyzing the events in Ukraine and in other world's volatile regions, one can state that at present fight with terrorism, independently, on the fact how this phenomenon is understood by certain entities subject to international law, will be a threat not only for particular countries but also for stability of the whole international system.

Although, according to experts, the adopted organizational and legal model of preventing the terrorist threat is not sufficient (*System przeciwterrorystyczny w Rzeczypospolitej Polskiej*), one should state that it fulfills all the basic criteria and its development connected with transnational structures is heading in the right direction.

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## IMAGE MONITORING AS A FACTOR SHAPING THE SECURITY OF THE MUNICIPALITY OF THE CITY OF SZCZECIN

This paper presents the process of developing a concept of modernization of visual monitoring in the Municipality of the City of Szczecin taking into account the module of digital image analysis. The concept took into account a number of determinants, such as: mainstreaming technological assumptions for monitoring, opinions on technical documentation concerning modernization of municipal infrastructure, integration of functionally dispersed “monitoring solutions” and developing the end model of management. It included conclusions from a 2018 survey on the sense of security. The paper includes references to regulations shaping competences and tasks of local government entities. The developed model also takes into account the integration of sensors operating in the municipality. The functional aspect is crucial here which boils down to minimizing human element involvement at the stage of signal analysis and shifting the emphasis on the speed of response from agencies and guards responsible for public security and order.

**Keywords:** monitoring, local government unit, security, system, integration.

### 1. INTRODUCTION

One of the key public tasks implemented by self-government bodies for residents of each local government unit is broadly understood security. Examples of it feature in provisions of a number of normative acts, i.a. as one of the basic needs of a self-governing community (Act of 1990, section 1 subsection 1). The aspect of the size of the community and the area it occupies is irrelevant here. It seems that residents perceive them not only through the presentation of “achievements” of bodies responsible for public security and order and for the persecution of offenders. The statistics with which these entities justify the high level of security, illustrating trends in the dynamics of various categories of events, are not very interesting for an average resident of the municipality. It is obvious that he expresses his interest in each case of a drastic violation of the provisions of the law, especially in a situation where it concerns an event on the territory of the commune. The category of events of such a character needs to include crimes marked with the perpetrator’s particular cruelty or tragic road accidents. Interest in such events is stimulated to a large extent by the media, in particular those of a local nature. A cumulated result of these behaviours in local commu-

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nities involves increasingly frequent attitudes that do not only postulate to neutralize specific threats but demand that a high level of public security and order be ensured. It is worth emphasizing here a worrying interrelation involving on the one hand a progressing indifference towards and tolerance of behaviours contrary to applicable law, and on the other hand staff problems amongst entities that are by statute responsible for public security and order, clearly evidencing the weakening of the state's structures. A consequence of this involves a growing role and activity of local self-governments in the sphere of public security and order. A direct election of authorities of commune heads, mayors and presidents as well as councilors of each level is crucial here. The development of municipal potential postulated by them that serves the implementation if this objective covers an extensive scope of tasks. They are defined by statute or determined by many various variables, i.a. such as: demographical potential, geographical location, level of residents' awareness and education, communication availability, diversification of energy sources, cultural determinants, and stability of public authority or the community's financial capabilities.

The purpose of this paper is to present the process of modernization of the visual monitoring system on the territory of the Municipality of the City of Szczecin (hereinafter referred to as MCS) in a personal, material and functional approach. As the method the author will use an analysis of the following: normative acts, literature and source documents including results of research concerning the sense of security of residents of the MCS conducted in 2018. The described process – due to the presented ontological approach – is a breakthrough in the current model of security management on the territory of Szczecin.

## 2. MULTIFACETED FUNCTIONING OF THE COMMUNE

The new administrative division introduced in the Republic of Poland in 1999 established 16 voivodships, 308 poviats and 5 cities with poviat rights. During the next 15 years these numbers increased slightly, since as of 1 January 2015 there were 314 poviats and 66 cities with poviat rights with the number of voivodships unchanged (Żółciak, 2015). A similar trend can be observed in reference to a commune as a basic unit of the country's administrative division (Constitution of the Republic of Poland, 1997, Article 164 section 1). In the period between 1990 and the beginning of 2018 their number was 2,383 and 2,478, respectively (Żółciak, 2015). A commune operates on a precisely defined (specified) territory which determines relatively uniform settlement and spatial set-up, taking into account specific bonds of a cultural, social and economic nature and others facilitating "the capability to execute public tasks" (Act of 1990, Article 4 section 3). One needs to note here a significant diversification of the demographic potential of individual communes in Poland – from those with just over a thousand inhabitants to those that have a few thousand residents.

Due to its complexity and ambiguity security is of a multifaceted nature. It seems that it is aptly portrayed by a state of "certainty, peace, protection... lack of threat... guaranteeing the development" of man (Fehler, Piątek, Podgórzńska, 2017). For the needs of this study it should be analysed both in personal categories (individual or group security) as well as material ones: social, health-related or economical (Sulowski, Brzeziński, 2009). It is also possible to examine the security of commune residents as societal security (International Organization for Standardization, 2012). Such an approach to the issues of security dedicated to protection against events of a sudden nature (technical catastrophes and failures, natural disasters) is universal in Scandinavian countries, especially Norway. The legislator,

introducing a unified catalogue of commune's own tasks (Act, 1990, Article 7), did not include the wide spectrum of variables (differences) that occur within them, i.a., the area, population, dominant objects of activity, cultural or religious determinants, intensity of needs, interests, relations or ties occurring there. Unifying them, he concluded that they should include tasks "not reserved by statutes to other entities" (Act, 1990, Article 6), whose material scope covers, i.a.:

1. Land use planning and real estate management as well as council housing,
2. Municipal infrastructure (provision of the following utilities: water, electricity and heating, gas) as well as construction and maintenance of roads, streets and bridges,
3. Protection of the environment and nature (including municipal green areas and forest cover), removal and disposal of municipal waste, water management and sewage treatment,
4. Road traffic organization and local collective transport,
5. Protection of health, organization of social assistance, supporting the family and the foster care system,
6. Organization and maintenance of public education institutions, cultural institutions as well as protection of historic sites and care over them,
7. Physical activity and tourism, including taking care of recreational areas and sports equipment,
8. Public order and security of citizens and protection against fire and flood, including equipping and maintenance of a municipal flood protection warehouse,
9. Keeping up and disseminating the self-government idea, including boosting citizens' activity, cooperation and activity for NGOs and public benefit organizations, cooperation with local and regional communities of other countries and promotion of the municipality.

There is no doubt here that all listed tasks are crucial for the broadly perceived security of residents of the municipality. Their impact is obviously diverse, however, it cannot be omitted even in reference to such a strategic area as planning the directions of the municipality's land use development. However, it is key to undertake offensive actions in terms of public order and security. They need to be of a be-ahead and comprehensive nature, but first and foremost, their character must maximally use the potential of all entities operating in the municipality. In this regards it is essential to take an approach that integrates social, functional and technological solutions (Czarnecki, Siemiński, 2004). However, they should be preceded by a careful analysis of threats or of the state of security, adequate to the characterized area, performed both by the police, state fire brigade or city guard.

The author believes here that this requires an adoption of a different formula of evaluation of potential threats – especially in the city. At the same time one needs to depart from the traditional "departmental" approach and replace it with a multidimensional perception of security of a self-government community. It is worth noting here that the implementation of tasks defined by statute is performed by the commune "in its own name and on its own responsibility" (Act, 1990, Article 2 section 1).

With reference to the MCS, an important argument confirming the need for modernization or to be more specific for the development of a brand new concept of the operation and structure of the monitoring system involved results of the research "*Sense of security of residents of the Municipality of the City of Szczecin in 2018*" (Municipality Office in Szczecin, 2018) conducted in July 2018 on the sample of 600 residents by the Laboratory for Research on the Security of Self-governing Communities in the Institute of Political Science

and European Studies of the Faculty of Humanities of the University of Szczecin. As a result of the research very extensive analytical material was obtained that featured a high level of confidence and included a number of valuable, objective opinions from residents of this local government unit concerning various aspects of public security. It needs to be stressed that it included opinions taking into account views of persons residing throughout all neighbourhoods making up the municipality. One of the key issues was obtaining an answer to the question: *What do you expect from Szczecin Police?*. More than half of adult residents of Szczecin considered *efficiency* (52.67%) and *prompt arrival at the site* (51.17%) as the most important requirements from the police, the meeting of which to a large extent depends on issues equally important to the respondents, namely: *presence of patrols in the respondents' neighbourhood* (35.67%) and *openness to problems, providing help*. A quarter of Szczecin's residents expect the following from the police: *honesty and incorruptibility*, *elimination of unnecessary formalism* and *professionalism*. Promptness of action is in the author's opinion one of the key determinants deciding about the positive image of a secure city. More than one fifth of respondents postulates *immediate receipt of notifications*. This answer corresponds to *the possibility of easy communication with the police* (19.67%). The respondents also expected *easy contact with the district police officer* from the police. Whereas few, i.e. approximately 2%, respondents brought forward other postulates, including: *professional service*, *kindness*, *good manners*, *empathy for the elderly and physical fitness*. Only about 5% of the residents of Szczecin did not indicate or formulate any expectations towards the police.

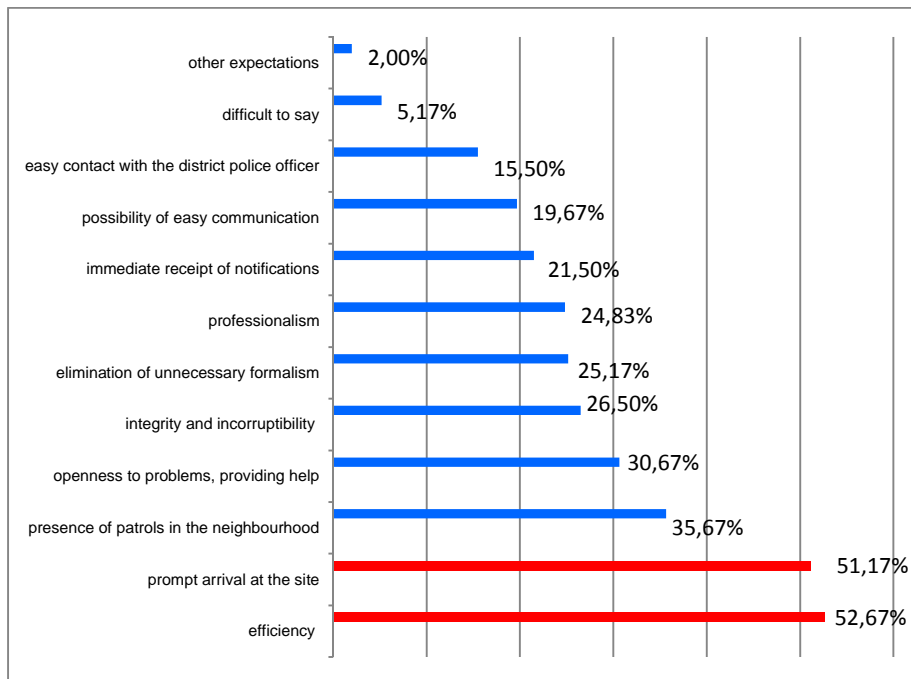


Figure 1. Response to the question: what do you expect from the Szczecin Police? Data in %

Source: Municipality Office in Szczecin.

One of the crucial issues determining the sense of security of residents of the MCS was the response to the question: *What threats are you most concerned about in your neighbourhood in Szczecin?* It is illustrated by the next figure. The obtained responses clearly show that most respondents were afraid of *daring drivers* and *aggression of drunks or drug addicts*. Slightly over one third were concerned about *destruction of property and vandalism*, while close to one third of respondents felt *fear of theft and harassment from aggressively behaving youth*. A fear of *a fight or battery* accompanies over a quarter of respondents. More or less every fourth resident of Szczecin was concerned about *burglaries*, *noisy and rudely behaving neighbours*, whereas every fifth – *assault and robbery*. Relatively few respondents are afraid of *drug dealing* (only 11%). The following caused least concern among the residents of Szczecin: *extortion and ransoms* and *other threats* to which the respondents classified: *stray dogs, dogs without supervision (without a muzzle), wild animals, mentally ill (those blocking trams), elderly mentally ill (flooding flats), arson, persecution or pseudo patriotic law enforcement officers from the National Radical Camp*.

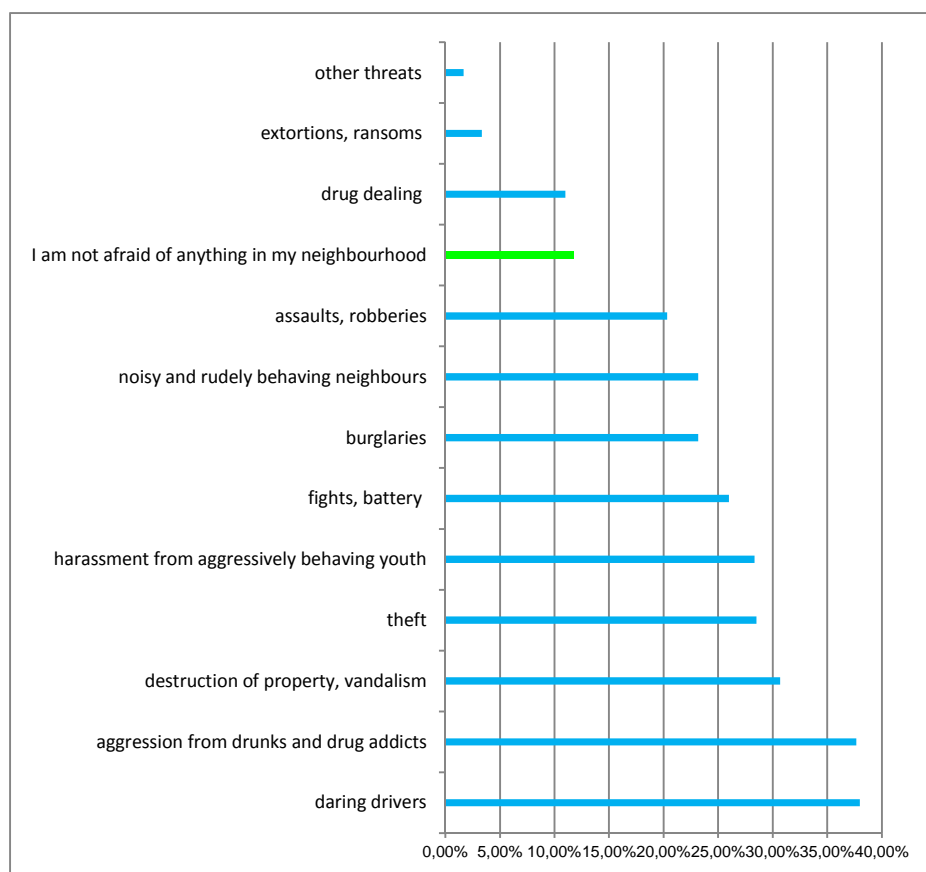


Figure 2. What threats are you most concerned about in your neighbourhood on the territory of Szczecin? Data in %

Source: Municipality Office in Szczecin.

The above opinions clearly show that threats the identification of which and counteracting which may be largely supported by image monitoring integrated with a module ensuring transferring the responsibility for the analysis of signals from the human factor onto a digitally advanced technological solution. It is not insignificant here that this technical solution may perfectly support management of police or city guard forces and resources, particularly in the event of staff shortages therein (directional priorities of the police assume successive improvement of the so-called response time to an event – material from an annual briefing of the Municipal Police Headquarters in Szczecin in 2018 held by the author).

### **3. THE CONCEPT OF THE DEVELOPMENT OF MONITORING ON THE TERRITORY OF SZCZECIN**

Citizens' safety and security is one of the key programme postulates of political parties (Stempiński, 2018) and unaffiliated candidates in parliamentary and self-government elections in Poland. The Author, by taking up the subject matter of monitoring space, with full awareness narrows the normative approach solely to the issues of monitoring image and sound. Unfortunately, contrary to many European countries, Poland has not developed legal solutions comprehensively addressing this area. There have been at least two attempts to regulate public space monitoring by statute. Unfortunately, they have not moved beyond the sphere of consultations of assumptions for a statute. Nevertheless, it is worth emphasizing that the idea included therein of vesting the right to monitor space solely in public entities or private entities acting on their behalf, of taking decisions on the application of such solutions in local communities (resolution of commune council), limitations in the form of a prohibition of using fake installations or monitoring places where human dignity could be violated, as well as indicating the catalogue of agencies and guards were, in the author's opinion, the right direction in regulating this sphere, in directional compliance with solutions of other European states (website of the The Chancellery of the Prime Minister, 2015). Currently the authority to use monitoring of image and sound is held by a number of entities responsible for public security and order, for border protection, for anti- and counter-terrorist activities or for security of mass events. In 2018 communes' rights to apply public space monitoring were specified: "In order to ensure public order and security of citizens as well as fire and flood protection, the commune may apply technical measures that allow recording images (monitoring) in the area of public space..." (Act, 2018, Article 114).

In the historical angle, the operation of visual monitoring in the area of the MCS began in 2000 as one of the integral components of the Command Support Station of the Municipal Police Headquarters in Szczecin (Decision of the Police Main Headquarters, 1999). This is when the tele-information structure was built on the basis of functional and technical requirements (developed in 1994) for the management of police forces in the area of the Szczecin agglomeration.

These assumptions included, i.a.:

1. The TETRA system of digital radio communication.
2. The system of electronic protection of a facility.
3. The system of digital registration of correspondence.
4. The system of observation of 9 key junctions involving 36 video cameras.
5. Independent sets of cameras in service vehicles.



6. Modules: of dynamic GPS patrol location, of large format visualization, of telecommunication, of usable application of GEM C 3, of a digital map, and integration of all systems and modules.

The operation of these systems over the past dozen years has proved its usefulness (especially the TETRA digital communication system and the monitoring system). The initiative of modernization, and in truth of building of an entirely new system of monitoring, is a consequence of significance that the President of the City of Szczecin assigns to broadly understood security of citizens. The team set up by him in 2015 was tasked with the following:

1. Defining directions of development of municipal monitoring.
2. Establishing principles of cooperation with other entities.
3. Coordination of works related to the development of the municipal monitoring system.
4. Approving the mode of implementation of the City's investments in terms of the municipal monitoring system (Order, 2015).

The key task in the initial phase of the team's operation was stocktaking of the city's resources in terms of: the fiber optic network operating in its area, the systems and number of cameras monitoring public space, the scope of investments carried out by the MCS, the capabilities of agencies and guards in terms of using the existing potential – including exchanging the obtained signal (at least three main monitoring centres operate on the territory of the MCS: the Municipal Police Headquarters, the Roads and Public Transport Authority, the Department of Municipal Management and Environmental Protection of the Municipality Office in Szczecin). Further, the activities were focused on specifying: the model of processing gathered data, including the distribution of signals from entities responsible for public security and order, the functionality of the system and technical conditions that the city's monitoring should meet. The team also took up activities in terms of searching for sources (including internal ones) for financing the task. An essential determinant which accompanied the functioning of the team, and in the initial period indeed hampered it, was overcoming the "sectoral" approach, one that lacked the synergy effect, of a number of entities who had already built their potential in this regard. It was essential especially in the perspective of the implementation of key infrastructural investments by the MCS in 2018 – 2023 (football stadium, aqua park, construction of transport hubs – bridges and roundabouts, building the Szczecin Metropolitan Rail or modernization of waterfronts) and strategic directions of its development. The team's authority was also expanded to include i.a. defining its prerogative to give opinions on investment projects carried out by municipal companies on the territory of the MCS.

The developed concept is the result of several years of careful analyses and preparations both from the MCS's organizational units and bodies and administration merged at the poviat level. Key support in terms of identification of locations that are at risk and the functionality of the monitoring system was given to the team by the Municipal Police Headquarters in Szczecin. The concept's general postulates assume that:

1. The integration of the system will be based on the potential of the Technopark Pomorania (hereinafter: TP, municipal company of the MCS).
2. Its development is to be based on full integration of resources (data processing and retention by the TP), including fiber optics that are owned by the city and the police.
3. Each data owner has access to their data (where they are responsible for its handling and making it available to other entities).

4. Investment projects (also at the stage of a concept) must take into account the need of a parallel expansion of resources (MCS's monitoring) in compliance with the principle of their full integration
5. The TP will develop the monitoring support infrastructure by using the model of digital (automatic) image analysis.
6. Sensory points monitoring a number of other indicators will be included in the system (e.g. the information system of public transport or the measurement system functioning since 2016 composed of scales monitoring the axle load in vehicles. They are located on four key transport hubs covering both entry to and exit from the city).

The Functional and Utility Programme developed in July 2018 entitled: "Expansion of the monitoring system of the City of Szczecin with the delivery of the image analysis system" is a consequence of developing a comprehensive concept of development of the MCS monitoring assuming the operation of the municipal monitoring as one of the most important technological elements of support for agencies and guards by statute responsible for public order and security. It is a key element of the application for launching the procedure of public procurement. The end result of these activities should involve building an infrastructure including:

1. an expansion of the currently functioning monitoring system of the city of Szczecin, through... construction of visual monitoring points of the city of Szczecin with the execution of necessary construction and assembly works in the indicated locations, together with inclusion into the existing system;
2. equipping visual monitoring points with devices that allow obtaining visual image and image for analysis in the image analysis system,
3. construction of tele-technical connections from the monitoring points being constructed to the tele-technical infrastructure of the city of Szczecin,
4. reconstruction and configuration of the data transmission system of the city of Szczecin;
5. supplying mobile video camera points,
6. designing, supplying and launching the image analysis system;
7. designing, supplying and launching the system of analysis of data obtained from the image analysis,
8. supplying the computing power to the image analysis system and the data analysis system (Municipality Office in Szczecin, 2019).

The attached map illustrates the distribution of fiber optic networks in the strict centre of Szczecin and planned distribution of cameras monitoring public space. The author stresses that the development of the fiber optic network – apart from ensuring connections between key entities responsible for public security and order, as well as fire protection – is also determined by directions of the planned city monitoring expansion. It is essential to point out that the signal from 97 camera locations will be transmitted in 95% using fiber optic networks. The developed context assumes that in the functional terms the monitoring system will be equipped with the following analytical possibilities:

1. Vehicle type identification.
2. Number plate identification.
3. Identification of crossing on red light.
4. Traffic flow analysis module.
5. Identification of objects left behind in municipal space.
6. Monitoring assemblies of people.

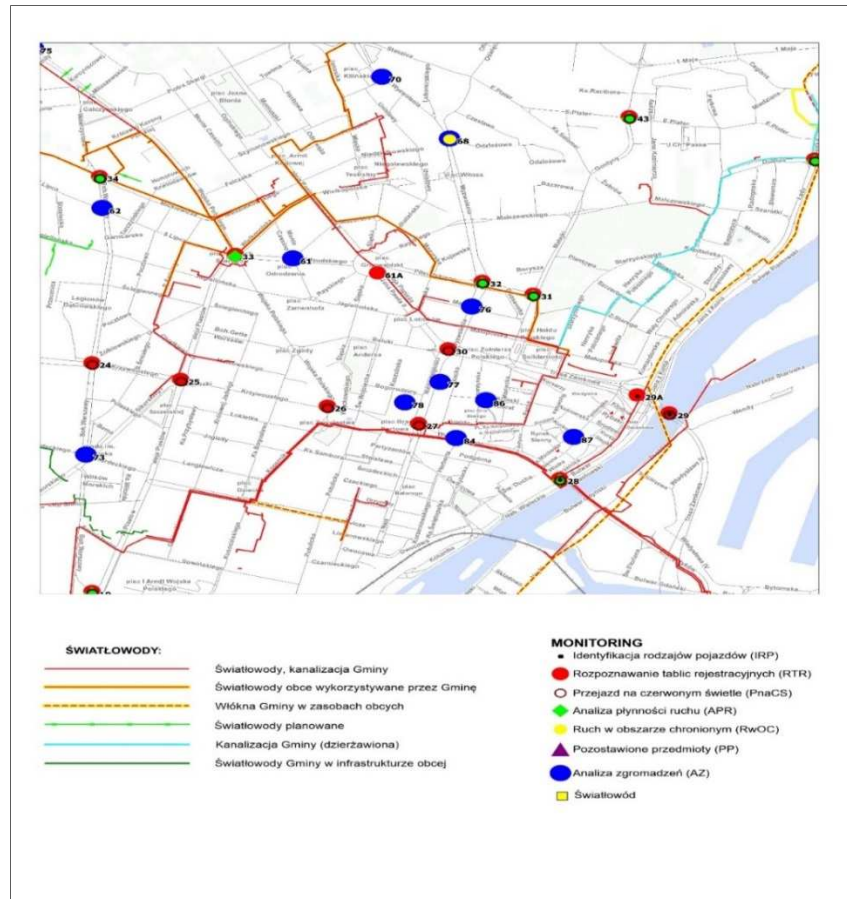


Figure 3. Distribution of fiber optic networks and planned location points for monitoring cameras in the centre of Szczecin

Source: Municipality Office in Szczecin.

[Author's note: map key in Polish. English translation provided below]

#### FIBER OPTICS:

Fiber optics, Municipality's sewage system  
 Third party's fiber optics used by the Municipality  
 Municipality's fibers in third party resources  
 Planned fiber optics  
 Municipality's sewage system (leased)  
 Municipality's fiber optics in third party infrastructure

#### MONITORING

Vehicle type identification (VTI)  
 Number plate identification (NPI)  
 Crossing on red light (CRL)  
 Traffic flow analysis (TFA)  
 Traffic in protected area (TPA)  
 Objects left behind (OLB)  
 Assembly analysis (AA)  
 Fiber optics

In the author's opinion it is essential for the team responsible for the operation of monitoring on the territory of the Municipality of the City of Szczecin to be guided by the following determinants: the need to develop a model integrating the current equipment diversity, elimination of the current institutional dispersion, the requirement to monitor space diversified in sensory terms (not only visually), the establishment of a catalogue of places key due to the city's security – also in the perspective of directions of its development – and transferring the responsibility for signal analysis from the human factor onto a digitally advanced technological solution. It is essential to point out that constructing the system requires the MCS's involvement of significant financial resources. The adopted multiannual financial prognosis for 2019-2020 allocated in total PLN 18 million for this purpose.

## CONCLUSION

Monitoring, as a systemic technological solution may to a significant degree support the activity of entities such as the police, the commune (city) guard, the state fire brigade or the structures of commune crisis management. Its particular importance is seen not only in a crisis situation but also, and perhaps most of all, in optimal management of forces and resources of the abovementioned entities. A crucial premise for the task team established by the President of the City of Szczecin in the described example – apart from developing directional infrastructural changes – also involved optimal use of the municipal potential, including the Technopark Pomerania (TP). In the technological concept, apart from the identification of needs (of residents as well as agencies and guards) the concept also took into account risks identified by the proprietary team. One of them involves the lack of national normative regulations in terms of using visual monitoring as well as gathering and retention of obtained data. The discussed subject matter is a crucial element in building an integrated potential directed towards raising the level of security of residents of a local government unit. Developing the concept of the operation of monitoring is an example of task-based management of the commune's security also in the budgetary dimension.

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