Innovations 2016

ICT in the service of society

promuje **łódzkie**

INTERNET
Information society
Public information   public e-services
Communication   health   law
Education   social media
Cybersecurity
public e-services   INTERNET
Public information
Communication
law   personal data security
health   spatial economy
social media
Education
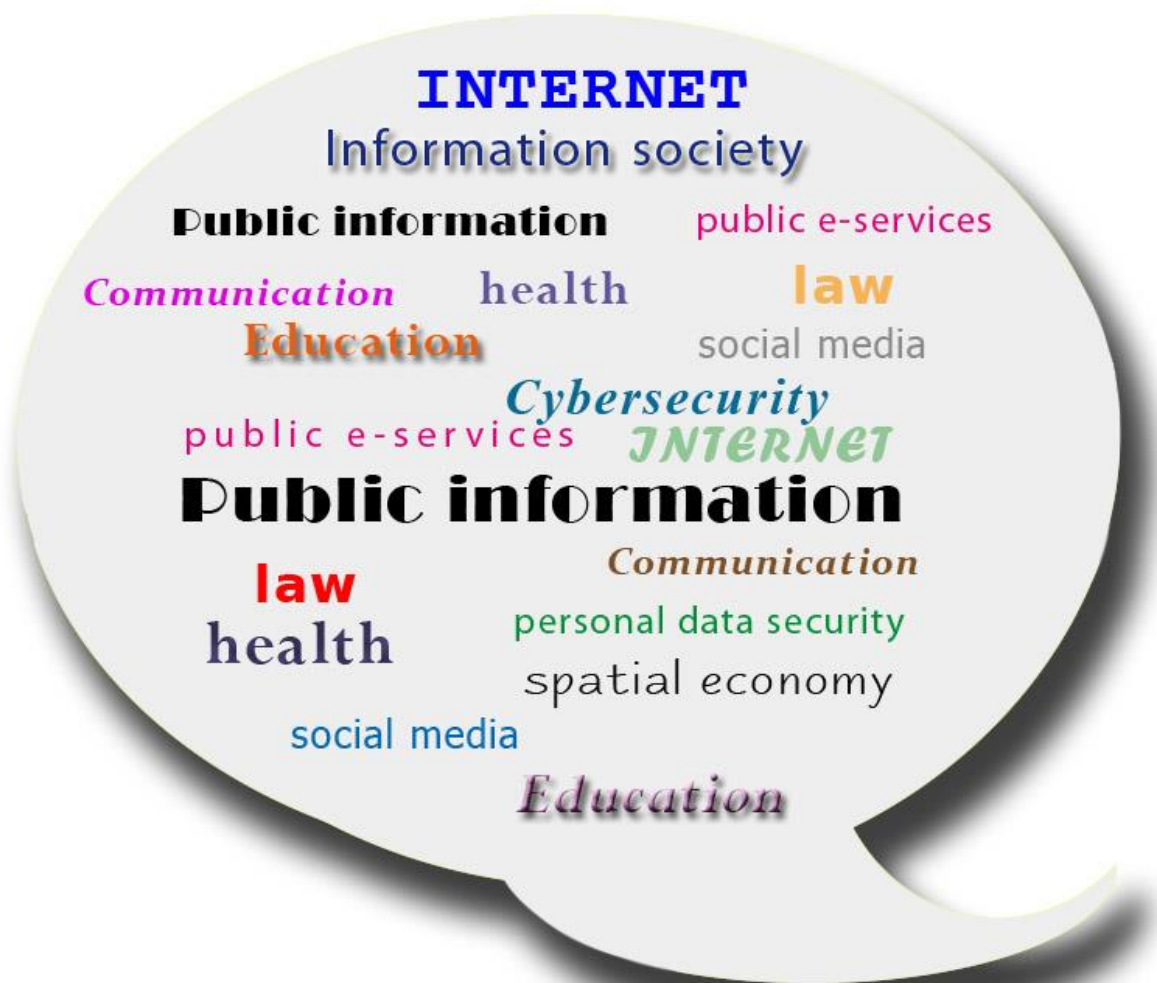
Marshal's Office of the Lodzkie Region

Lodz 2016

INNOVATIONS 2016

ICT in the service of society

Peer review: dr hab. Ewa Kusideł

Collective work
Edited by **dr Paweł A. Nowak**
Editorial secretary **Maria Kucińska**

Dear Sir/ Madam,

once again, at the invitation of the Local Government of the Lodzkie Region, the Lodz universities researchers looked at the issues of innovation and information society. In ***INNOVATION 2016. ICT in the service of society***, you will find both theoretical considerations on the potential and future of the information society, as well as a description of practical solutions to the problems associated with them.

The construction of the information society is very difficult due to the fact that it connects typically investments activities, launching and promoting public e-services and activities in the field of construction of digital literacy of inhabitants. This requires a wide view of the execution of the tasks in this area. Therefore, I would like to thank the employees of the Faculty of Law and Administration, the Faculty of Economic and Sociology, and the Faculty of Management at the Lodz University, as well as the employees of the Academy of Arts and Economy in Lodz for involvement in the preparation of the 7th publication of the INNOVATIONS cycle and granting permission to publish their work in open web resources.

I wish you interesting reading

/-/ Witold Stępień
Marshall of the Lodzkie Region

Lodz, December 2016

CONTENT:

Aldona Podgórniak-Krzykacz [1] Citizens technology - ICT as a tool involving citizens in public affairs

Abstract

The information and communication technologies increasingly enter to the management of public affairs. Under the assumptions of the concept of participation 2.0, a citizen through ICT can actively participate in shaping public decisions and deciding on matters of its municipality. One of the civil engagement methods gaining popularity, and applying mew media is crowdsourcing, described in this article. The purpose is to identify good practices of crowdsourcing and identify effects generated in the municipality management process. The analysis involved the Polish examples of crowdsourcing initiatives.

Keywords: e-participation, crowdsourcing, civic engagement

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[1] **dr Aldona Podgórniak-Krzykacz**, Faculty of Economics and Sociology, University of Lodz, Department of Regional Government Economy

Introduction

The citizens' technology, i.e. the socially-sensitive technology, means the more and more popular term describing the application of modern information and communication technologies in creating a city by its citizens. The technology should serve inhabitants, provide a tool to solve local problems and meet collective needs. It is not just to be used by municipal entities and offices in the public service process, that is, to computerise the municipal economy. Equally important is to apply the ICT in shaping public decisions and solving various problems in local communities. The main purpose of citizens' involvement in this process is to recognize that they have detailed knowledge of needs and problems. Its application in public decisions is to ensure high efficiency of solving local problems. Drawing from the collective knowledge (Citizensourcing) also allows to generate innovative solutions in a public sphere. The ICT create favourable conditions for cooperation and integration of the inhabitants, and the residents with the public administration, as well as their creativity. Finally, due to the ICT, the public participation process has a chance to spread on a large scale in local government units, as communication, dialogue, interaction between public administration and citizens have not been simple and cheap so far.

Therefore, in the first part of the chapter, the theoretical concepts that justify the need for the implementation of social participation and public management based on cooperation with the inhabitants is reviewed. Subsequently, the author discussed the methods and tools of public participation conducted via the Internet and social media in local communities. The purpose of the chapter is to identify good practices of crowdsourcing and identify effects generated in the municipality management process. The Polish examples of crowdsourcing initiatives involving the inhabitants in co-creation of a city with new media were analysed.

The need to involve the inhabitants in public affairs - an overview of the theoretical concepts

The involvement of citizens in public affairs is today not only a requirement, but also a necessity. It results from the need to take into account the will of the inhabitants in decisions regarding their place of residence and immediate neighbourhood. In order to make the correct decisions which correspond to real local problems, it is necessary to know the preferences and needs of the inhabitants and the knowledge an end user, i.e. a citizen. Public participation ceased to be limited exclusively to the act of voting, or even consultation, a long time age. The public authorities and officials were provided with a wide range of tools, including the Internet, to spread information, communicate with an inhabitant, and actively involve it in the decision-making process. An open and inclusive public policy is often the only method to improve the effectiveness

of policies and gain acceptance of citizens. The OECD indicates a clear positive correlation between the effectiveness of policies and the effectiveness of democracy.[2]

The main theoretical concept justifying the need to involve citizens in public affairs is the public governance. In accordance with this concept, citizens, along with other actors (NGOs, business organisations, employers, employees, public entities) are regarded as participants in public decisions. The purpose of their involvement is to develop effective solutions, derived from the knowledge and preferences of various stakeholders.

The need for the inter-organisation cooperation of public entities is stressed in the concept of the Collaborative Public Management. Its author M. McGuire identified the date of the introduction of facilities and activities in the process of inter-organisational arrangements in order to solve problems impossible or difficult to solve by a single public organisation.[3] The cooperation of public organisations with other stakeholders, including inhabitants and groups of inhabitants, requires solutions and management.

Another term is associated with the participation of citizens in the public decision-making process, namely the citizen engagement, promoted by the OECD. It means the ability and motivation of people to commonly deliberate and take actions for problems and issues regarded as important by them.[4] It is therefore to actively participate by a citizen, and not only to inform, or support by a citizen for the decisions and actions taken by the public administration. The involvement of citizens in this sense means the development of democratic citizenship and creating and strengthening a community.[5]

Another idea, i.e. the co-production of public services provides a citizen with a far-reaching role, due to the fact that it stresses the involvement of citizens in the design and even the direct production of public services. In turn, Citizensourcing justifies the need to draw from the collective knowledge of citizens in the formulation, implementation and monitoring of public decisions.[6]

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[2] OECD, *Focus on Citizens Public Engagement for better Policy and Services*, OECD Studies on Public Engagement, OECD, 2009, p. 22.

[3] McGuire M., *Collaborative public management: Assessing what we know and how we know it*, [in:] "*Public Administration Review*", 2006, no. 66, pp. 33-4.

[4] Gibson C.M., *Citizens at the Center: A New Approach to Civic Engagement*, Wydawnictwo The Case Foundation, 2006, p. 2.

[5] Lukensmeyer C.J., L.H.Torres, *Public Deliberation: A Manager's Guide to Citizen Engagement*, Wydawnictwo IBM Center for the Business of Government, 2006, p. 9.

[6] Lukensmeyer C.J., L.H.Torres, Citizensourcing: *Citizen Participation in a Networked Nation*, [in:] K. Yang, E. Bergrud (red.), *Civic Engagement in a Network Society*, Wydawnictwo Information Age Publishing, Charlotte, NC, 2008, pp. 207-33.

Figure 1. The structure of the co-governance based on the involvement of citizens

Creating ideas and innovations by citizens
- Citizen involvement in the process of creating ideas and innovations
- Solving local problems with new ideas, innovations
- Improving the quality for the common good

Cooperating administration
- Effective public service: creation of public value and cooperation as administration tasks
- Increases speed, responsiveness, competence, quality
- Innovative public services

Cooperating administration
- Effective public service: creation of public value and cooperation as administration tasks
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Citizensourcing
Citizen's' collective knowledge
Government involving citizens
(new rules integration, motivation, organisation)

Open government
- Effective public sector institutions
- Easy access to information
- New technologies
- Emphasis on public participation

Source: D. Hilgres, Ch. Ihl, *Citizensourcing: Applying the Concept of Open Innovation to the Public Sector*, The International Journal of Public Participation, vol. 4: 2010, no. 1, p. 74.

An interesting approach to involve citizens in public affairs including modern information and communication technologies were presented by D. Hilgers and Ch. Ihl (fig. 1.) in their model. This model integrates the concepts discussed above and defines the environment to create open social innovations. They pointed to the different roles played by citizens in the public sphere. Acting as customers and users of public organisations, they provide new ideas and innovations. The knowledge and creativity of citizens are used here to build new public value. The transfer of innovation can be provided, e.g. by open innovation platforms. As taxpayers, citizens will be willing to cooperate with the public administration, aimed at increasing the efficiency and productivity of the public sector. On the other hand, in the democratic decision-making process, citizens become participants in politics. They engage in the public decisions formulating process or monitoring the actions of public authorities. The examples here involve consultations and deliberative actions.

ICT as a tool to involve citizens in public affairs

Electronic participation, i.e. e-participation means the participation of citizens or citizens groups in the public decision-making process by using the information and communication technologies. The ICT are used in the public consultation process, development of common decisions in city governance, creating social innovations, and revitalizing public spaces. Social

media and virtual networks changed the nature of electronic participation. With a dominant of one-way, asynchronous, and individual information exchange, communication and active participation (participation 1.0), it transformed into a bi-directional, synchronous and based on networks (participation 2.0) participation. This change results from the new opportunities offered by Web 2.0. including a set of new technologies (e.g. RSS, XML), new applications (e.g. blogs, wikis, social networks), new concepts (e.g. collective intelligence, a combination of production with a user), social networks services (Facebook, MySpace), social media and multimedia platform sharing (YouTube, Flickr), wikis, blogs, mickroblogs (Twitter), masch-ups.[7]

The application of the ICT in the participative procedures and the management of public affairs is in addition in the concept of City 3.0 (Smart City 3.0) [8] - the latest generation of smart cities awarded by B. Cohen.[9] Smart Cities 3.0 are co-created by inhabitants applying the ICT techniques. The role of local authorities is to create space and opportunities to apply the potential of diverse citizens and build "smart" city based on it.

Benefits of the ICT application in the social participation are evident and include:
- Increased availability of information to citizens and collective knowledge for the public administration,
- Increased involvement of citizens in public affairs,
- The ability to get feedback from a wide range of inhabitants,
- Improved consultation procedures,
- Increased effectiveness of the consultation procedures,
- Access to creative human capital,
- Building and strengthening the unity of the local community.

Despite the computerization of the socio-economic life, the development of e-participation is slow. One of the reasons is the continuous attachment to the traditional bureaucracy. The limitation also involves low confidence of citizens in the public administration, which translates into a reluctance to share their opinions or preferences. E-participation, like the traditional participation, requires active and engaged citizens. Critics of e-participation show the possibility of widening the digital gap and even digital exclusion of people who do not have access to adequate equipment and the ICT.[10] This results in a risk to strengthen the existing inequalities.

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7 Bertot, J. C., Jaeger, P. T., Munson, S., Glaisyer, T., *Social Media Technology And Government Transparency*, Computer, 2010, no. 43(11), p. 53-59.
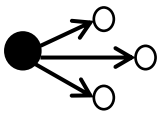[8] Miasta 3.0 określane są także terminami „Human Smart Cities" lub „Sharing Smart Cities".
[9] B. Cohen, *The 3 Generations of Smart Cities*, http://www.fastcoexist.com/3047795/the-3-generations-of-smart-cities, [access 9.06.2016]
[10] K. Kraemer, K. King, Information Technology and Administrative Reform: Will e-Government be Different?, The International Journal of Electronic Government Research, vol. 2: 2005, no. 1, p. 1-20; T. Zarycki, Społeczne
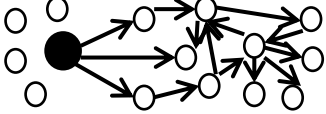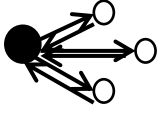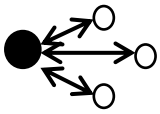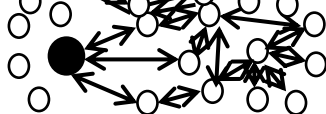
Involving the citizens in the public decision making process by using the Internet and social media can take many forms. One of the classification of e-participation takes into account the generation of applied techniques (Table 1)

Table 1. Tools of participation 1.0 and 2.0

Process	Participation 1.0	Tools	Participation 2.0	Tools
Informing		e-mail alerts web pages		RSS feads Tag clouds Pocasts Webcasts
Consultation		on-line consultations on-line forums		blogs on-line poll on-line survey citizens' e-panel
Active participation		discussion forums shared on-line workspaces		e-petitions mahs-ups wiki tagging virtual worlds

Source: State Services Commission of New Zealand, *The Guide to Online Participation,* 2007, https://www.ict.govt.nz/assets/Uploads/Drupal/guide-to-online-participation-2007.pdf, following OECD, *Focus on Citizens Public Engagement for better Policy and Services*, OECD Studies on Public Engagement, OECD, 2009, p. 73.

Within participation 1.0., the applied tools allow to communicate and obtain information from am inhabitant, and do not require the simultaneous participation of all participants of the social participation process. Consultation platforms are the most commonly used solution in this case. They help local authorities to carry out the on-line public consultation procedure. Such solutions can be found in a number of Polish cities (e.g. Warsaw[11]). In addition, the procedures for submitting projects and voting for projects to be implemented within the citizens' budgets are transferred to special platforms (e.g. Lodz launched a web page http://budzet.dlalodzi.info through which one can submit project proposals and vote for them, and an application http://tablicabo.uml.lodz.pl application allowing to view information about current projects and contact with their authors).

The tools and methods of participation 2.0 offer a lot more opportunities to engage citizens and give them active roles in the decision-making process. Their characteristic feature is the interactivity and support on the network connections. The most popular option in this group is an on-line survey, usually applied in the public consultation process. The tools of crowdsourcing are more and more often applied to search for and develop new solutions at the local level.[12] It means

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konsekwencje rozwoju Internetu – rewolucja czy reprodukcja struktur społecznych?, in: Społeczna przestrzeń Internetu, D. Batorski, M. Marody, A. Nowak (red.), Warszawa 2002, p. 337-346; D. Batorski, Internet a nierówności społeczne, Studia Socjologiczne, 2005, no. 2 (177), p. 107-131.

[11] Warsaw Social Consultations Platform http://konsultacje.um.warszawa.pl/

[12] The word "crowdsourcing" is a combination of the words "crowd" and "outsourcing" - the application of external resources (the etymology sometimes provides a combination of the words "resource" and "using"). This term was applied by Jeff Howe for the first time in 2006. The journalist of "Wired" magazine described this phenomenon as the

deriving knowledge, opinions and ideas from a wide range of people, in this case from residents, and apply them in the management. This solution is a tool for the city intelligent management - the smart city. It allows to generate open social innovations, engage citizens to decide on local matters, as well as develop an informed and active citizen. Crowdsourcing involves a number of categories, such as crowdfunding (joint financing of the project by a community), co-creation (joint execution of creative work by a community) and microtasking (small tasks of a larger project are executed by a community).[13]

Figure 2. Urban Geo-Wiki

Source: http://urban.geo-wiki.org
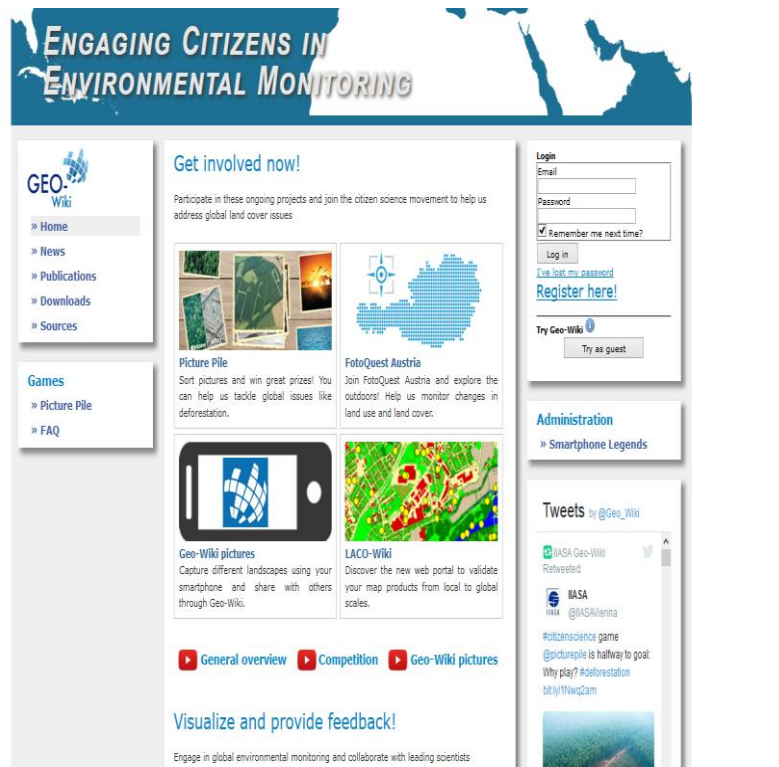
The crowdsourcing idea is applied inter alia in the so-called living labs. They are applied to develop, test and implement innovations by users of cities, including inhabitants, in the real conditions.[14] The process of creating innovative solutions requires creativity of participants in the laboratory. An example of the application of this methodology is the laboratory energy created by and for the people of Energa Living Lab. The crowd knowledge is also applied by wiki platforms,

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process allowing and facilitating the acquisition of knowledge, experience or ability to earn money due to skills: J. Howe, *The rise of crowdsourcing*, Wired, 2006, 14 June, http://www.wired.com/wired/archive/14.06/crowds.html [access: 18.06.2016].

[13] J. Kasprzycki-Rosikoń, J. Piątkowski (ed.), *Crowdsourcing. Jak angażować konsumentów w świat marek*, Wydawnictwo Helion, Gliwice 2013, p. 5.

[14] The European Commission defines the living labs as a public-private-civil partnership for open innovations driven by users.

i.e. the knowledge social bases created by the Internet users. They are applied, inter alia, in verifying the correctness of area coverage maps by inhabitants (e.g. http://urban.geo-wiki.org).

Good crowdsourcing practices at the local level

The Poland's first crowdsourcing solution was implemented in Warsaw, which launched "Open Warsaw" platform available at OtwartaWarszawa.pl in June 2014. The main purpose of the project is to improve the city through the participatory identification of the city, strengthening the social dialogue and motivate its inhabitants to engage in building the city image. The platform allows the inhabitants to report ideas and solutions to change the Warsaw and comment, vote for the ideas of others, review ideas submitted in response to the question or view them on a map. During the first year of operation, over 1000 ideas were submitted, and 50 of them were implemented, including Hammocks and outdoor libraries by the Vistula River, learning sign language in schools.[15]

The platform operation is based on a specific methodology of the crowdsourcing dialogue. The first step is to identify the problems of a city, which involved external experts, officials and inhabitants. The problems and topics discussed on the platform are transformed into a series of questions in the next stage. The questions are formulated so that on the one hand to encourage a constructive response on a given topic, and on the other to be open enough to encourage inhabitants to create innovative solutions. Inhabitants have the opportunity to submit their ideas on the platform in any form (text, image, video, picture) and send them by e-mail or save them on special postcards and throwing to the polls. The ideas are evaluated by a jury of experts who emerge 3 best practices and 10 honourable mentions in this group of questions. The authors of the best ideas receive awards.[16]

An interesting example of a consultation platforms and crowdsourcing platforms are launching within the project: "Good ideas". It was joined by Rzeszow (http://rze.dobrepomysly.erzeszow.pl/), Krosno (http://dobrepomysly.krosno.pl/) and the Lublin Region (http://dobrepomysly.lubelskie.pl/). On the crowdsourcing platform, the inhabitants of these local government units can present their vision, idea or concept related to place of residence, as well as discuss and evaluate the proposals made by other inhabitants. The purpose of the initiative is to reach the largest group of inhabitants who want to participate in local and regional life and really influence on shaping the image and directions of development of the local government. An additional incentive is the possibility of

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[15] http://otwartawarszawa.pl/ [access 20.06.2016]
[16] *Partycypacyjne ustalenie tożsamości miasta Warszawa*, Dokument diagnostyczny opracowany na zamówienie Urzędu m.st. Warszawy przez MillionYou sp. z o.o., Warszawa, lipiec 2015, pp. 22-23.

obtaining awards for active participation in the discussion on the platform. The platform allows to deploy an interesting solution, which was created even by a single inhabitant.

Register on-line to become a user of the platform: "Good ideas". The user can submit ideas (ideas, suggestions, new solutions) within the projects. The projects cover different areas of functioning of a city or region: unit image, investment activities, tourism, innovation, development, entrepreneurship, exports, etc. The submitted users' ideas are accepted by the administrator, and then a certain status is provided to them: implemented if it was implemented, used, or will be implemented and rejected, when it received a negative rating. The administrator distinguishes the users based on their activity on the platform: New, Commentator, Creator, Innovator, Expert. The data contained in Table 2 confirm the citizens' interest in the affairs of their city, and the effectiveness of this tool in creating innovative solutions.

Table 2. Statistics on the platform Good ideas (as of 5 July 2016)

Statistics	Rzeszow	Krosno	Lublin Region
Number of platform users	911.	487.	26.
Number of projects	15.	18.	19.
Number of ideas submitted within projects	673.	355.	32.
Number of implemented ideas	6.	31.	0.
Number of users' comments	1128.	590.	29.

Source: http://rze.dobrepomysly.erzeszow.pl, http://dobrepomysly.krosno.pl, http://dobrepomysly.lubelskie.pl.

Another example worth discussing is the initiative of the Laboratory of Social Innovation and Research "Stocznia", helping to solve problems in the urban space through the portal www.naprawmyto.pl. The portal was created based on the model of the British project FixMyStreet and US portal SeeClickFix. It uses the method of mapping, i.e. marking on a virtual map points in a local space, requiring repairs. This can involve problems of a number of areas, e.g.: damage to roads, uncleaned waste, broken lighting, etc. Faults can be reported through the website and through the application for smartphones. Naprawmyto.pl service acts as a two-way communication channel between the authorities and citizens in matters concerning the state of public space in a community, allowing for more efficient monitoring and responding to the problems affecting the quality of life of inhabitants. This project operates in 10 municipalities in Poland. The users have reported (as of 7 July 2016) more than 40 thousand alerts so far, 16541 of which have been repaired. The portals operators are local non-governmental organisations that participated in "Your Vote Your Choice" action. Their duties include support for web page promotion and establishing partnerships with the local government.

The discussed initiatives to engage citizens in public affairs through the Internet reveal numerous benefits. The essential is to activate citizens, the increased efficiency of communication between citizens and the local government administration is of not less importance. The cited

projects confirmed not only the willingness of inhabitants to participate in such initiatives, but also their constructive contribution to the development and repair of their surroundings. By evaluating the presented initiative in a broader context, one should stress the importance for the strengthening of a civil society. The platforms cooperate with the authorities of the local administration, which means that they act as an agent collecting and providing information to the local government, becoming an important element in the creation of the city development policy and the immediate surrounding.

Summary

The modern information and communication technologies change the face of social participation by offering new opportunities for the involvement of citizens in the issues of their community. As noted by J. Nowak, with the development and dissemination of new media, the increasing process of the democratic debate and participation occurs, which promotes the formation of new public civic space activity.[17] Through the ICT, the social participation expands the scope of a public debate. Moreover, it makes it more pluralistic and accessible to an average citizen.

Such a condition is met by the crowdsourcing platforms presented in the article, the basis of which is deriving knowledge from the crowd. Citizens are regarded as a valuable source of knowledge, but also a creative resource, capable of generating innovative solutions. The second essential component of crowdsourcing is the cooperation of institutions and citizens in the implementation of public tasks. Effective communication allows to identify the real issues that are important from the point of view of cities' users and to develop adequate solutions to specified conditions. An important aspect of this kind of on-line participation is greater transparency of the governance processes and greater openness of local policies. The presented examples of electronic social participation point to a new role of inhabitants in local governance. It becomes a prosumer of cities, therefore, it not only is its user-client, but also an active user-co-founder.

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[17] J. Nowak, *Aktywność obywateli online. Teoria i praktyka*, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 2011, p. 75.

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Izabela Warwas[1] Stimulating of employees' innovation

Abstract:

In the modern world, organisations face a number of challenges, which is related to the expansion of the knowledge-based economy, development of new technologies, shortening life cycle of products and services, global competition. Therefore, it is important to answer the question how modern organisations can systemically deal with permanent stimulation of employees' innovation. The possibility of shaping the pro-innovation attitudes, such as constant searching for better solutions, ability to modify and extend information resources and knowledge, versatility, flexibility of behaviour, openness to changes, ability to cooperate and share knowledge depends largely on the human resources management in all three levels: institutional, functional and instrumental.

The awareness of various benefits of innovation for organisations in the form of increased quality, efficiency, effectiveness or profits for employees such as higher salaries, increased competence and possibility of promotion, can be in favour of such changes. It should be stressed that it seems essential to support the entire system to stimulate innovation on ethical basis, creating shared values, climate of openness to innovation and knowledge management.

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[1] **dr hab. Izabela Warwas**, Faculty of Economics and Sociology, University of Lodz, Department of Labour and Social Policy

Introduction

Contemporary organisations face a number of challenges. In the era of the expansion of knowledge-based economy (KBE), the dynamic development of modern technologies, shortening life cycle of products or services, increased global competition in a changing and unstable environment, it becomes necessary to permanently stimulate employees' innovation. This article attempts to answer the question how current organisations can systematically deal with this challenge and the implementation of which instruments of human resources management is highly recommendable. The organisations are searching for methods of creating innovation, determining overtaking competitors and achieving a sustainable competitive advantage. The innovations understood as a replacement of the existing issues with new[2] ones are created by people, and the innovation generating process is the most often long-term, complicated, with an uncertain end result, and therefore the investments associated with it are burdened with high risk. For this reason, the organisations are trying to find system solutions related to stimulation of employees' innovation. The possibility of shaping the pro-innovation attitudes, such as constant searching for better solutions, ability to modify and extend information resources and knowledge, versatility, flexibility of behaviour, openness to changes, ability to cooperate and share knowledge depends largely on the human resources management[3].

1. Systems stimulating engagement and highly effective work - system solutions

In order to improve efficient[4] organisation operation, not only related to innovation, two concepts of a system character were developed:

- HPWS (*High Performance Work Systems);*
- HIWP (*High Involvement Work Practices/Systems*).

In the HPWS and the HIWP concepts, the key practices usually consist of: recruitment and selection of employees, investing in the development of their knowledge and skills, awarding for effects, developed system of communication and information, employee participation[5]. Such systems constitute an employee involvement as an important component of behavioural levers.

1.1 HIWP

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[2] Kołodziejczyk-Olczak I., *Wspieranie innowacyjności pracowników poprzez wynagrodzenia – wynagradzanie pracowników w świetle badań,* in: Lucyna Lewandowska (red.), *Innowatorzy, innowacje a konkurencyjność regionu łódzkiego*, PTE, Łódź 2011.

[3] S. Borkowska (ed.), *Rola zzl w kreowaniu innowacyjności organizacji*, Wydawnictwo C.H. Beck, Warszawa 2010, p. 39.

[4] Work efficiency can be expressed as the ratio of the achieved results (benefits) of tangible and intangible nature to expenditures incurred by employees to achieve them. The efficiency can consist of: individual and group work effects.

[5] S. Borkowska (ed.), *Rola zzl w kreowaniu innowacyjności organizacji*, Wydawnictwo C.H. Beck, Warszawa 2010, p. 52.

The HIWP are the systems based on the involvement of employees, i.e. highly engagement systems. The engagement is regarded as the basis for the innovation development, thereby increased value of the organisation. This lever, in accordance with D. Guest, by engagement, motivation, cooperation and partnership creates effects, such as: quality, innovation and productivity, and thus economic efficiency of an enterprise. The development and implementation of the HIWP system to the organisation is a long-term activity, because its effects also appear in the long run. The HIWP includes techniques such as coaching, counselling, participation and motivation, both tangible (profit-sharing) and intangible (development, job satisfaction, possibility of reconciling work and private life). In accordance with S. Borkowska, the HIWP system advantage is[6]:

- making employees the main initiators of the organisation development, by increasing their motivation and engagement;
- influence of the knowledge-based economy as a drive of the employees' development, their skills and knowledge;
- promoting creative and innovative behaviours; an employee, by participating in decisions and profits of the organisation, begins to identify with it; the organisation and the employee are consistent, making it easier to meet these purposes;
- improve the quality and efficiency; an involved employee knows its value for an enterprise; if it feels good at work, quality and efficiency of its work increase;
- organisational culture based on changes; an employee easily adapts to changes in the organisation, playing such a greater role in innovation and increasing competitive advantage, providing a company and an employee profit, not only tangible;
- motivating by the engagement causes a greater attachment of employees to a company, and thus, to involve the best employees and reduce the cost of recruiting and training of new ones; employees do not resign from work in favour of competitors;
- creating a friendly working environment through positive contacts of managers with subordinates, as well as labour organisations.

Three management elements are crucial: strategy of a company, its structure and organisational culture. As part of the configuration of these variables, the identification means are widely applied, i.e.: information, communication, coaching, inspiration, advice, consultation, empowerment, participation, flexible working arrangements and various forms of recognition. It is worth noting

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[6] S. Borkowska (red.), *Rola zzl…*, p. 56.

that the highly engagement systems provide very good results for both companies and employees, and other stakeholders[7].

1.2 HPWS

The HPWS assumes that the employees' effects should consist of a number of elements, among them the most important are[8]:

- provision employees with information,
- development of professional knowledge,
- egalitarian,
- translating the work effects into the employees' remuneration.

The increased efficiency of employees determines holding information about established and agreed purposes and tasks to be carried out. Informing employees allows them to be better prepared for the tasks and the ability to cope with changes. The higher the level of their knowledge is, the more efficiently they can carry out tasks and participate in making decisions. Therefore, the organisations need to invest in human capital through continuous training of employees. Connecting the work effects with remuneration proposed to employees increases efficiency. The introduction of the egalitarianism rule aims at reducing the gap between supervisors and their teams, arising from the position in the organisation and held power. Employees of the organisation are a team that collectively striving to achieve results without unnecessary conflict and misunderstanding. Motivating by awarding for the engagement translates into efforts involved in tasks carrying out and their effects.

The HPWS, i.e. the concept of highly efficient work systems is defined in a number of ways. The following terms are applied simultaneously: *High Performance Work System* and *High Involvement Work Systems/Practice,* which means the systems or practices based on a high engagement. However, the meaning areas of these names do not overlap completely. In accordance with the researchers, the HIWS is narrower than the HPWS, because it refers only to practices. Various sources provide the term *High Performance Organisation*, which means a highly effective organisation. The scope of the HRM in a changing environment, constantly expands, and the main purpose of the HRM is not just to improve the employees' efficiency. Such aspects as corporate social responsibility and balance between work and other obligations are stressed more and more often. The key purpose of the HPWS is to stress business results and effectiveness of the implemented strategy, while recognizing that the source of high-efficiency depend on the specific

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[7] I. Kołodziejczyk-Olczak, *Zarządzanie pracownikami w dojrzałym wieku. Wyzwania i problemy*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź 2014.

[8] A. Woźniakowski, *Koncepcja High Performance Work System. Źródła i rozwój*, [w:] S. Borkowska (red.), *Systemy Wysoce Efektywnej Pracy*, IPiSS, Warszawa 2007, s. 20–22.

configuration of the factors, including those not related with the HRM.[9] As it was in the concept of D.A. Nadler, who first began to use the term HPWS, the efficiency of a company associated with employed people and the factors related to the applied technology. The key to the success of a business proved to be the appropriate configuration of these two factors. While the achievement of a positive result after applying the learned guidance was not difficult for American companies in the '70s, it is to maintain this high level was a challenge, with which not all could deal. J. Gharajedaghi tried to find the source of these failures by distinguishing three factors adversely affecting the ability to maintain high efficiency of a company:

 1) imitation,

 2) organisational inertia,

 3) sub-optimisation[10].

Imitation is a negative phenomenon in the corporate world. By applying the increasingly rapid flow of information in a company, in order to succeed, they try to imitate competitors that managed to maintain high efficiency. The managers of these companies do not take into account that the same solutions do not always produce the same benefits. In different circumstances, the results of the same practices can be radically different. The second of these factors, i.e. organisational inertia, i.e. too slow response to changes within a company, as well as in an external environment, it is also a serious obstacle in achieving the results. Sub-optimization, as a quite often committed mistake, involves focusing on only one aspect of a business. In addition, it creates a risk of a far-reaching narrowing of the field of view of managers who, seeing only one strong side of the organisation, ignore other aspects of its business.

Success of the HPWS concept is observed by the researches in the application of appropriate practices and policies included in the HRM. However, the introduction of the same organisational solutions, without their appropriate configuration, may not give the expected results. In accordance with the researchers, the basic rules that underlie the highly effective work systems are:

1) information sharing,

2) development of professional knowledge,

3) connecting the work effects with financial gratification,

4) egalitarianism, understood as the effect of reducing the differences in the status and consequences of the scope of governance in a professional environment[11].

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[9] *Ibidem*, p. 17.
[10] *Ibidem*, p. 19–20.
[11] *Ibidem*, p. 21.

Providing information to all employees, regardless of age or status, is an extremely important practice in companies. Employees with access to relevant information carry out their work more consciously, and they have a reliable substantive basis in the process of making key decisions related to their workstation.

Increasing the level of professional knowledge and increasing the qualifications of employees are currently positive and desirable phenomena. Each organisation can take care of the development of its employees, by applying a number of methods and training techniques, during closed or open trainings.

The relationship between the work effects and remuneration is a very strong mean of motivating employees. If the height of the financial gratification is closely related to the results of a company, its purposes and employees' purposes can begin to overlap. Engaged employees need less managerial control the most often, which in turn is associated with a reduction in costs. This is also strongly related to trust prevailing among employees. The egalitarianism rule is the so much important that it improves the atmosphere in the workplace, enables open dialogue and removes divisions between employees in different positions and at different ages. In addition, it significantly minimizes the possibility of conflict in the organisation.

The most important practice of the HPWS[12] in the organisations can be:

- effects-dependent remuneration,
- understanding teams as a fundamental unit in the organisation,
- programmes to participate in the management for employees,
- formal communication programmes provide employees with information about the company,
- regular application of employees' attitudes research,
- minor differences in the status of managers and "regular" employees (egalitarianism),
- internal recruitment and promotions,
- formal evaluation of achievements,
- development evaluation,
- employment protection policies,
- formal trainings as an indicator of the employees' engagement to invest in human capital,
- formal complaint or complaint resolution systems,
- targeted recruitment and selection,
- substantive grounds for promotion of employees,

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[12] K. Chaudchuri, *A critical view on HPWS and Employee Commitment – form of Commitment matter*, [in:] M. Nejati, A. Shafaei, M. Nejati (eds), *Issues in Global Business and Management Research,* Universal Publishers, Boca Raton, Florida 2008.

- formal work analysis (workstations descriptions, workstations design, occupational health and safety).

2. Portfolio of employee innovation

The tools making the diagnosis of skills and potential of employees more objective are useful in connection with the highly efficient work systems and high engagement. Such methods include quite popular SWOT analysis and personal portfolio.[13]

Traditionally carried out portfolio is based on an analysis of employees in accordance with two criteria: current work effects and development potential. The BCG matrix can be applied *(Boston Consulting Group)*.

Figure 1. Personal portfolio
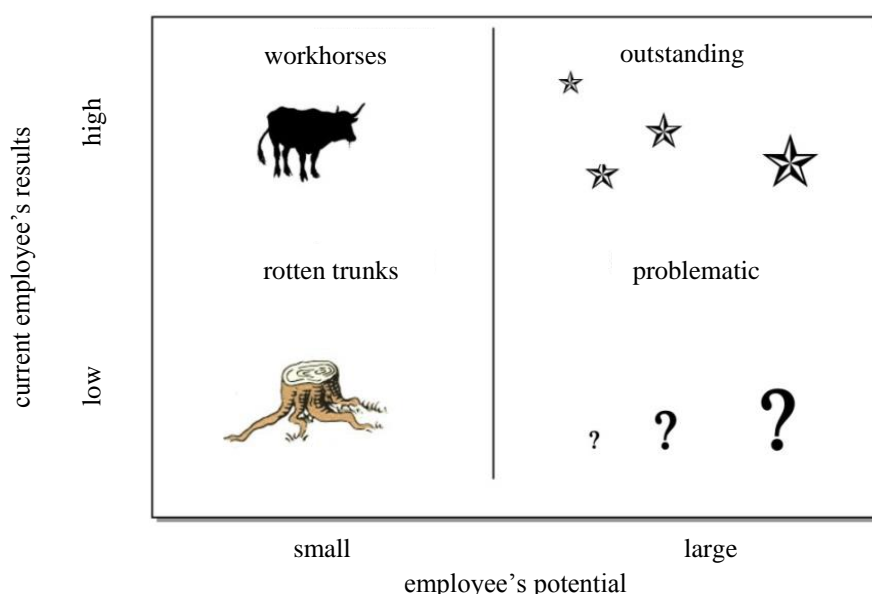
Source: I. Kołodziejczyk-Olczak, *Pakiety wynagrodzeń dla specyficznych grup pracowników*, [in:] S. Borkowska (ed.), *Wynagrodzenia – praktyczne sposoby rozwiązywania problemów*, Oficyna a Wolters Kluwer business, Warszawa 2012, p. 239.

In accordance with the most typical pattern, i.e. question marks ("problematic employees"), after investing in them, would become "stars" ("outstanding") or "cash cows" ("workhorses"). The failure diagram is the movement of all employees to the "question marks" category ("problematic") while the employees previously belonging to this category remain in it.

In general, the portfolio results can be applied in the creation of the employees' development strategy by evaluating the cost-effectiveness of investing in them, selection of training methods and other instruments of motivation, shaping remuneration strategy or employees' relocations.

In addition, the tool can be modified to analyse the current and potential employees' innovation (figure 2).

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[13]Personal portfolio is the employees' evaluation method, presenting opportunities and risks for human resources.

Figure 2. Portfolio of employee innovation

current employee innovations	high	Workhorses	Outstanding
low		Rotten trunks	Problematic
		small	large
		potential for innovation in the future	

Source: own development

The employees belonging to the "workhorses" category, one can apply a high fixed remuneration, bonuses depend on created current innovations, and moderately offer long-term incentives, limited trainings aimed at increasing the current efficiency, taking over the role of coaches or mentors.

Employees included in the "star" category you can be covered with the training programme to update their current work knowledge, but also workshops and training courses aimed at taking care of the company's rationalisers, to lead of the forms of group cooperation in favour of innovation, to accept roles of knowledge management. "Stars" can count on rich remuneration packages, with the participation of short- and long-term measures and diverse privileges. For both groups, it would be advisable to apply the discretionary measures stimulating the engagement. "Problematic" employees should have access to development trainings, possibility to fairly freely time management, participation in the transfer of knowledge and incentives postponed at a moderate number.

The innovation portfolio of employees can be a starting point for designing and modifying the sets of the HRM practices. And perhaps some management methods can be applied to all groups of employees? The starting point to answer this question was the query of web pages of the most innovative companies in the latest ranking of BCG - *The Most Innovative Companies in 2015*. The following organisations were at the top of the ranking:

1. Apple,
2. Google,
3. Tesla Motors,
4. Microsoft Corp.,
5. Samsung Group,

6. Toyota,

7. BMW,

8. Gilead Sciences,

9. Amaizon,

10. Daimler.[14]

The top ten is dominated by the US corporations of modern technology industry. These organisations often employ knowledge workers, more or less closely related to the ICT. This is a specific group, with a specific approach to work and engagement rather in professional role or position, than in a particular company. Such strangely employees require special treatment. Therefore, the author made the query of web pages of all major aforementioned organisations in order to search for practices related to the human resources management supporting employees' innovation. The result of this query is not satisfactory. The companies are reluctant to share their experiences, and do not present the solutions successfully applied. It became necessary to provide an expert analysis of such practices. Its result provided a set of key components and conditions:

- motivation system and its most important element - remuneration system should be monitored with regard to innovation. The organisations can develop and launch the suggestion system as that remuneration tend to create innovations. Employees can submit their suggestions for improvements, and awards can be offered for the implemented improvements, bringing tangible benefits. It would be interesting to make an award a kind of mini cafeteria. Employees then select an award the most suitable and satisfactory for them.

- when connecting the results of regular periodic evaluations of employees with remunerations e.g. with increases or bonuses, it is one of the most important evaluation criteria to provide the sharing of knowledge. As one of the elements, it builds a multi-directional transfer of knowledge between employees to manage this knowledge.

- regular research of employees' satisfaction, taking into account the aspects of creating innovation, context, conditions, barriers and success factors. The research of attitudes, employees' opinions and satisfaction from work should become the imperative of the human resources management, and be a regular practice of the HRM. The application of employees' opinion and their ideas is a manifestation of the partnership approach to management and the application of participation, which are regarded as allies for pro-innovation attitudes shaping.

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[14] https://www.bcgperspectives.com/most-innovative-companies-2015/ (June 2016)

- telling about the success factors (*story telling*) to be implemented to the management agenda. At the industry meetings or the meetings within the company (annual summary meetings, monthly knowledge sharing).

- offer trainings as the comprehensive system, supported by the diagnosis, applying unconventional methods and training techniques. One should stress here first of all workshops, creative thinking trainings, non-standard troubleshooting, modelling with jokes and humour. *Shadowing*, can be useful here, i.e. being a shadow of a person successful in creating innovation. The organisations can be supported with the outdoor trainings, which not only contribute to the improvement of interpersonal communication, cooperation, team-building, but also allow participants to approach the issue from the right distance, and take a different perspective of the activity.

- the participation of an employee in the wider, inter-organisation programme to creation innovation can be the basic criterion to access the talent management programme.

- free atmosphere, autonomous interpersonal communication, direct exchange of ideas based on a complete brainstorming, rather than on the regime of "keeping a line". This element of the organisational culture created regularly, often for many years.

- ability to work on own ideas. The achievement of the objectives of the organisation is of course crucial, but too strict adherence to strategic paths can impede going out beyond the scheme, searching for innovations and ideas abstract at the beginning, which can revolutionize markets or products in time.

- to allow to include employees in a voluntary work. This is useful, and an employer and an employee-volunteer can benefit from this. The activities carried out within the voluntary service, different from the typical professional activities, can build self-esteem, independence and give courage to create news and disclose own ideas.

- creating the right climate for innovation, which can be regarded as specific connection of the factors including beliefs, values, norms and artefacts relating to the organisation, communication style, and establishing relationships between stakeholders, current model of leadership, motivation, etc. [15]The organisational values are of a significant role in the company. First and foremost, they are a key requirement for employees' behaviours and attitudes.[16] They give a rank to phenomena, indicate employees and other stakeholders what is important and what is not a priority in the organisation.

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[15] Lewicka D., Rakowska A., *Wpływ praktyk zzl na zaangażowanie pracowników w innowacyjnych przedsiębiorstwach,* [in:] „*Nauki o zarządzaniu, management sciences*" 2(27) 2016, p.105.
[16] K. Gadomska-Lila, *Zmiany w systemie wartości polskich przedsiębiorstw*, Zarządzanie zasobami ludzkimi, no. 3-4 2010, p. 32.

Summary

The challenge, which is to encourage employee innovation is not an easy task. Being present in the strategy, personnel strategy, and organisational culture as well as finding its place in their structure, it creates the foundations and provides chances to succeed. The awareness of various benefits of innovation for the organisations in the form of increased quality, efficiency, effectiveness or profits for employees can be in favour of such changes. Employees not only work better, are motivated and engaged, but they are also active units on the labour market. An employee with three basic metacompetences[17]: skills to compete with others on the labour market (skills to apply opportunities and chances), maintaining an attitude of constant readiness to take work of creative nature, maintaining a constant attitude of readiness for a pro-development investment in their own professional competence, can think about changing work at any time. Therefore, it should be noted that the employee innovation stimulation system increases the employability of employees of all ages and in every position.

It seems important to support the whole employees' innovation stimulation system on the ethical bases. The organisations, in order to create the code of ethics, in which one records and apply such rules of coexistence and cooperation as: justice, openness to others, trust, security and the right to make mistakes, form a friendly working environment and thus better paving the way for current and future innovations.

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10. https://www.bcgperspectives.com/most-innovative-companies-2015/ (June 2016)

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[17] P. Bohdziewicz, *Współczesne kariery zawodowe: od modelu biurokratycznego do przedsiębiorczego*, Zarządzanie zasobami ludzkimi, no. 3-4 2010, p.52.

Filip Moterski[1] The application of storytelling in the promotion of cultural heritage

Abstract

The storytelling method is increasingly applied on various fields in the social sciences and economics. In this article, storytelling is presented in the context of the method application possibility in the process of the promotion of the cultural heritage, by connecting it with the latest trends related to innovation and technology. One should stress the universalism and the possibility to apply different, innovative tools from the ICT sector, which can increase the crowd of customers, as well as stress a message itself, enrich it by the application of modern forms of visualization, and interact to increase the attractiveness of the object by the application of different, coherent and complementary solutions that apply storytelling. The purpose of the article is to present the main characteristics of the storytelling method with the possibility to apply it in the process of the promotion of the cultural heritage by using innovative tools related to the high technology sector.

Keywords: cultural heritage, intangible heritage, storytelling

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Introduction

The possession of the cultural heritage resources is a challenge for a number of units of the territorial self-government. The questions about finances provided for the objects of the cultural heritage, unclear specification of the legal provisions in terms of care and protection of monuments are asked more and more often. The increasingly appearing demand of the heritage management within a new paradigm of protection are a very serious challenge for everyone involved in the cultural heritage management. The case is complicated even more if one considers the heritage divided into: tangible and intangible elements, hence some authors postulate to not divide the heritage into two separate parts, and regard an intangible part as an integral part of the cultural heritage, co-specifying a tangible part.

The storytelling method is increasingly applied on various fields in the social sciences and economics. Some researchers believe it to be another variation of the qualitative research methods, economists regard storytelling as showing potential, which can be used in various fields: from training, by practical application in the organisations management process by the application of storytelling in marketing. This article shows the last storytelling presentation, and storytelling is presented in the context of the method application possibility in the process of the promotion of the cultural heritage, by connecting it with the latest trends related to innovation and technology.

The purpose of the article is to present the main characteristics of the storytelling method with the possibility to apply it in the process of the promotion of the cultural heritage by using innovative tools related to the high technology sector.

Tangible and intangible dimension of the cultural heritage

In accordance with M. Muszyn, the cultural heritage is understood as a set of tangible and intangible values, resource, interpreted in modern times by different users and stakeholders of a city, ranging from inhabitants by investors to tourists[2]. Zeidler also divides into the tangible and intangible heritage. The first group includes all tangible manifestations of the people cultural creativity, i.e., inter alia monuments. The intangible group of the cultural heritage includes:

- song;
- theatre play;
- film;
- tradition;
- opinions;

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[2] Murzyn M. A., Purchla J., *Dziedzictwo kulturowe w XXI wieku. Szanse i wyzwania*, Wydawnictwo Międzynarodowe Centrum Kultury, Kraków 2007, p. 139.

- as well as other works that are not a thing within the meaning of the civil code, and are protected by law mainly based on the provisions of the copyright law.

One should stress that the intangible value of a monument is the point of contact of the tangible and intangible heritage, especially in relation to the value of the historical tradition, but only in so far as it comes to a living tradition[3]. This is one of the often repeated argument to regard the tangible and intangible heritage as a whole. The question that immediately comes to mind is: what if the object is not of the intangible heritage nature? Based on the research result on the application of existing, identified industrial heritage, it is concluded that the intangible elements can, and sometimes must, be created; based of course on the collected source materials, legends, stories, one can create a strong and consistent element in a form of the intangible heritage, complementing the identified resource as the tangible part of this heritage. Then we can obtain a unique product, firmly involved in the historical space as well as a city identity, through the efforts related to the creation of the intangible part of his heritage.

As noted by A Duniak, the intangible heritage can be described as part of this heritage, which is not present in a materialized form[4]. The author adds that the tangible heritage cannot be considered in total isolation from the intangible heritage[5]. This does not refer here to a specific location, and only indicates the whole approach to the heritage, consisting of all elements of the tangible and intangible elements.

The definition of the intangible heritage should be taken from the UNESCO Convention on the protection of intangible cultural heritage, developed on 17 October 2003 in Paris. The intangible heritage is regarded to involve practices, concepts, drafts, knowledge and skills, as well as related instruments, objects, artefacts and cultural space – that communities, groups and, in some cases, individuals recognize as a part of their own cultural heritage. The intangible heritage passed on from generation to generation, is constantly reproduced by communities and groups in relation to their environment, the effects of nature and their history, and provides them with a sense of identity and continuity, contributing in this way to increase respect for cultural diversity and human creativity[6]. A. Przyborowska-Klimczak cites the definition of the intangible cultural heritage based on article 2 of the *Convention for the protection of intangible cultural heritage* from 2003.

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[3] Zalasińska K., Zeidler K., *Wykład prawa ochrony zabytków*, Wydawnictwo Wolters Kluwer/Wydawnictwo Uniwersytetu Gdańskiego, Warszawa – Gdańsk 2015, p. 77.

[4] Duniak A., *Dziedzictwo niematerialne a wartości w ustawie o ochronie zabytków i opiece nad zabytkami*, [in:] Zeidler K. (red.), *Prawo ochrony zabytków*, Wydawnictwo Wolters Kluwer/Wydawnictwo Uniwersytetu Gdańskiego, Warszawa-Gdańsk 2014, p. 199.

[5] Ibidem.

[6] KONWENCJA UNESCO *w sprawie ochrony niematerialnego dziedzictwa kulturowego*, (Dz.U. z 2003 r., nr 172, poz. 1018), art. 2. [UNESCO CONVENTION *on the protection of intangible cultural heritage* (the Journal of Laws of 2003, no. 172, item 1018) art. 2.

In accordance with this document, the intangible heritage must be regarded as customs, (imagination), expressions, knowledge, skills and instruments, objects, creations of a human and cultural spaces involved with them, which communities, groups and, in some cases, individuals recognize as a part of their cultural heritage. In addition, it is passed on from generation to generation and is transformed by communities and groups in response to their relationships with the environment, contact with nature and their history, providing them with a sense of identity and continuity, thus contributing to respect for cultural diversity and human creativity. This heritage manifests itself in oral traditions and forms of expressions, including a language as a medium of the cultural heritage, performing arts, social customs, ceremonies and celebrations, knowledge and habits concerning nature and universe, skills related to traditional crafts.[7] It is the possibility and sometimes even the need to supplement the tangible elements with a part of the intangible elements that leads to the application of storytelling in the process of promotion, as well as care and protection of the cultural heritage. If we deal with the tangible element that is strongly rooted in the minds of customers, the intangible part will provide a supplement that should be so to make up a coherent and consistent picture of the heritage. In this case, it is important to try to get the real information about the history, traditions, customs applied to this place because they will be the conscious supplement of the communication content in the process of marketing communication between an object manager and customers (tourists). Another approach should relate to the situation in which the tangible object is not strongly rooted in the minds of customers or potential customers. In this case, the existence of the intangible part can be very important as it will directly influence on the attractiveness of the object, calling sustainable loyalty and promotion of a place, also using the snowball method (when some tourists recommend the object to others). It is important to find the history and legends of the place. If it fails, it should be created, by taking into account and adapting the recommendations that were formulated earlier. Conscious inclusion of stories in the process of marketing communication is an attempt to apply storytelling in the promotion of the cultural heritage.

Creating a story based on the cultural heritage

Jacek Szlak points out that people have always told and created stories. They reach for similar, standard narratives, structured plot, typical scenery, expressive characters[8]. The planned process (which is an echo of strategic documents), implementing specific purposes (promotion of places, city, region, culture), indicating the application of tools and resources (as tools of communication,

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[7] Przyborowska-Klimczak A., *Rozwój ochrony dziedzictwa kulturalnego w prawie międzynarodowym na przełomie XX i XXI wieku*, Wydawnictwo UMCS, Lublin 2011, p. 39.

[8] Szlak J., *Opowieści w marketingu*, Wydawnictwo Myśli i Słowa, Lublin 2016, p. 76.

promotion, adaptation and protection of culture), based on the cultural heritage can be defined as a method of the cultural heritage storytelling. J. Trail himself defines storytelling as a combination of three elements: history and facts, aroused emotions and conflict-challenge[9]. In storytelling, it is important not only to propose a good story, but also to associate certain rituals, habits and work habits with it. In addition, the message must be delivered through multiple channels, applied in the media to create a consistent, clear communication and awakening emotions message triggering the need for specific activities[10]. The basis therefore involves an activity within the most accurately identified history of the object, then storytelling tools are designed to stimulate emotions that will result in specific behaviours (implementation of the planned purpose, identical to the provisions of strategic documents). Szlak points out that the essence of storytelling involves some form of conflict or challenge with which a character is struggling, and, due to support, in this case the historical object and its representing elements, overcomes difficulties, receives the award, and the world/environment is re-balanced[11]. In addition, he stresses that storytelling is based on the concept of monomite by Joseph Campbell, which is a story the scheme of which can be found in each myth, and therefore it is important for every human being, making a character's desires the desires of recipients.[12] This means that each tool applied in the method will contain the aforementioned storytelling form. The basic tools of the methods are: myth, legend, urban legend, story. Szlak also points out the fact that the authors of the book "Storytelling. Narration in advertising and business" proposed the idea of creating a story, in which the main axis means a widely considered conflict or challenge faced by a character. Based on it, we can say that the heritage should be the brand, and storytelling should be the method of brand communication with all current and potential customers/users.[13] Well-conceived storytelling is a comprehensive strategy, closely connected with the objectives and results. The idea, appropriately adjusted to the process of brand communicating, is regarded as a skeleton, on which different stories can be created. They can effectively carry out purposes specified earlier. However, they must be consistent with the brand values and suggest the methods of achieving them by the application of different tools. The centre of each brand, and in our case: the object of the cultural heritage, involves a certain set of values represented by it and the one that it would like to represent, followed by specified activities and behaviours. The solution and connection between values and behaviour involve the storytelling

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9 Ibidem, p. 82.

10 Ibidem, p. 200.

11 Ibidem, p. 84.

12 Ibidem, p. 77.

13 Ibidem, p. 78.

tools, which should expose appropriately selected characters and plot, and leave the product in the background, as an element necessary for the action development[14].

Focusing further on the storytelling tools, one of the most distinctive are: story and urban legend. A story is the result of the evolution of one of the most popular genres: legend. Wł. Kopaliński defines a legend as a story from the life of characters, not confirmed in the historical material, usually based on folk stories[15]. One can therefore see that first of all it is rooted in the folk material which, as tradition, is passed on sometimes from generation to generation. The history reference is secondary. This is a crucial point in the context of the tangible objects that do not have a place legend. There are no references to the historical tissue, and therefore it need not be an obstacle preventing from the creation of attractive, interesting, emotional story excitation, applied in the process of marketing communication of the historical object. A story contains relevant facts taken from history, and is told in a context referencing to emotions. The information in this story is not just applied to logically describe the reality. Tension building is more important. The basic elements of all fascinating stories are: challenge, fight and solution[16]. The skilfully built material to carry out the purposes contained in the marketing strategy, can be a very effective tool that builds and strengthens relationships of loyalty at the object-tourist (customer) level. In the opinion of Nick Owen, stories offer us a way to see and understand our world in a new light, from a different view[17]. They are a picture of what customers are looking for. It is therefore important to prepare the tool professionally, i.e. to adjust it to the target customer's expectations, which in the case of some heritage elements, will not be difficult to be specified. Such people have defined motives of arriving at some place, which should be properly specified and developed through various stimuli: on the one hand, they are values of the place, which should be enriched with a story/legend. This message should be integrated in a complete manner to meet customer's needs and maximize its usefulness. N. Owen also stresses that each story creates its own, highly contextual world. Every story connects the internal logic and narrative order expressed by words and manifestations of creativity, cohesion and forming patterns. These factors help to explain the advantages of a story as carriers of meanings, their recall and attractive stories for people of all ages, cultures and styles of information processing[18]. In summary, storytelling is the universal method that can be applied for various purposes, but it is important to skilfully connect the content, resources and purposes. Ch. Oehlmann

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[14] Ibidem, p. 88.

[15] Kopaliński Wł., *Słownik mitów i tradycji kultury*, Wydawnictwo Oficyna Wydawnicza „Rytm", Warszawa 2015, s. 651.

[16] Guber P., *Zwycięskie opowieści. Jak porozumiewać się, przekonywać, wygrywać dzięki ukrytej potędze opowieści*, Wydawnictwo MT Biznes, Warszawa 2014, p. 39.

[17] Owen N., *Magia metafory*, Wydydawnictwo Metamorfoza, Warszawa 2016, p. 21.

[18] Ibidem, p. 25.

points out that a story never takes the form of finished and packaged goods[19]. There is always a possibility of interpretation and reinterpretation, which will approach the content and object to the needs of a listener (customer/tourist). Based on its nature, storytelling is a living process, the beginning of which determines trust, and carries own value, consistent with earlier strategic purposes. It is worth noting that storytelling is the ordered method, conscious and realising earlier adopted purposes. It is therefore controlled storytelling that only in selected places allows to be interpreted by a customer. Emotions, conclusions, thoughts and impressions of a recipient cannot, however, be characterized by randomness and be uncontrollable. These impressions should be predictable, consistent with previous assumptions, therefore, a person providing a legend must be prepared for this, and a story itself should be fixed, in particular its key points. In the case of the application of a story for the promotion of the cultural heritage, one cannot quite agree with Ch. Oehlmann that storytelling is something vital, new and impossible to be predicted in advance. In contrast to the last form of written storytelling, oral communication has all attractive qualities of temporariness and interchangeability[20]. In the case of the intentional application in marketing, randomness should be kept to a minimum by indicating fixed story points (stimuli), which trigger/should induce specific effects (behaviour and memories), which will influence on emotions, impressions and place image. P. Guber provides three main tips on how to build a story:

- First, interest listeners with unexpected challenge or question, it can be embedded in the past, in the history of a place, however, it can a fictional starting point, i.e. a static element (foundation);

- Then wake their emotions, talking about a fight to overcome the difficulties, or to find an answer to the question, a dynamic element adjusted to the needs and possibilities of customer/tourist perception abilities.

- At the end, call a desired response, providing an unexpected solution resulting in activities taken by listeners, a dynamic element with static conclusions (previously developed catalogue of possible senses)[21].

Not every story has to cause shock and shivering, but the consequence of a total lack of surprising elements is the loss of interest of listeners. Therefore, already at the planning stage, one should specify the characteristics of customers/tourists, so that the prepared stories arise specific emotions and curiosity. The planning process should consider the listener perception ability, age, knowledge of places and reasons of arrival at a place. One of the positive effects of storytelling is to surprise a

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[19] Oehlmann Ch., *O sztuce opowiadania*, Wydawnictwo Impuls, Kraków 2012, p. 22.

[20] Ibidem, p. 22-23.

[21] Guber P., *Zwycięskie opowieści. Jak porozumiewać się, przekonywać, wygrywać dzięki ukrytej potędze opowieści*, Wydawnictwo MT Biznes, Warszawa 2014, p. 39-40.

listener, which consists of two elements: expectations and failure to meet expectations[22]. Thus, a recipient can be positively surprised, i.e. storytelling was applied correctly, a story was adjusted to the characteristics and needs of a customer, and if it is negatively surprised: the method was not applied correctly (failure to adjust to the needs of a customer, wrong selection of a story, other factors: influence of external conditions).

P. Guber also mentions that stories contain information, ideas, emotional issues and values that a teller wants to imperceptibly instil in the mind and heart of a listener[23]. The trick, therefore, is to find the right combination, which, within the storytelling method, by applying a specific tool, will present the following characteristics of a place: history of a place, its identity and relationship with a city, creation and/or enhancement of the loyalty effect.

A legend of a place can be partially described and defined as an urban legend. Most researchers of urban legends, i.e. an element often applied in storytelling, assume that we are dealing with a fold prose ignored so far. At the same time, they accept that three classic types of prose folk: myth, tale and legend, were supplemented firstly with biographical narrative, and then with an urban legend[24]. Thus, an urban legend is the result of the evolution of species and the adjustment to the needs of place marketing. The concept of urban legends itself is often called contemporary legends, myths or rumours, and can be defined as a message:

- Short;
- Current;
- Spontaneous;
- "Hot" (involving contemporary problems arising anxiety in a local community);
- Triggering emotions;
- Forcing immediate response;
- Refer to exceptional events.

In the opinion of D. Czubala, urban legends affect cases likely to be true, and although a narrator refers to the authority of a friend or other known persons, they do not belong to the proven and verified facts, they are usually pure inventions. They operate based on the rights of folk works. A recipient usually does not know the authors of these stories, therefore they are anonymous; they enjoy significant popularity and are various (sometimes there are a number of options); they are collective works targeted to be orally passed on[25]. In accordance with D. Czubala, an American

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[22] Ibidem, p. 41.

[23] Ibidem, p. 42.

[24] Czubala D., *Polskie legendy miejskie. Studium i materiały*, Wydawnictwo Thesaurus Silesiae, Katowice 2014, p. 14.

[25] Ibidem, p. 7.

folklorist Alan Dundes significantly contributed to solve an issue of a definition of an urban legend. He believed that a myth and a legend are opposed to each other, there is, inter alia, a quantitative difference, because a number of myths is limited, and a number of legends is unlimited, and in addition, new ones are still created. The concept of an urban legend is connected with a local legend and a migratory legend. The first one is regarded as a true story relating to a specific place, habit or form. A migration legend means stories approved as true, but occurring in more than one time and place, they are often complex, complicated and consist of a number of motives[26].

With regard to the application possibility of the cultural heritage for promotion, it should be stressed that a legend must be consistent with the history as well as other applicable tools. It should call positive emotions and associations so that a customer/visitor can remember the object as worth to spend time and money.

The application of the modern ICT tools in storytelling based on the cultural heritage

The promotion of the post-industrial heritage by applying stories can involve modern tools related to the ICT sector. In terms of the innovation, the application of storytelling itself as the promotion method should be regarded as innovation, due to the unprecedented application in the management process of the cultural heritage. At this point, it should be noted that storytelling can be followed due to and by the application of the modern technology. This includes innovative ideas, software, applications, data transfer (including voice and video at unprecedented speed and unparalleled site), as well as infrastructure that will be prepared for tourists and other users of a place and its legends. One needs to stress that not only the object representing the heritage, but also a told story that can be demonstrated by the application of the modern transfer and communication tools will be a shaped product. The following technologies can be applied in storytelling:

1. Smartphone apps, a direct method to provide information to a target customer. A story can be divided properly to build tension, as well as to generate profits for authors/object managers. A formula can resemble audio-guide, but this can also be a proprietary application based on the generation of customer interaction. An application can also be developed and supplemented by services accompanying the sightseeing process, i.e. hotel bookings, tickets purchasing, insurance, tracking, recording.

2. The creation of interactive personalized points, i.e. each object can be integrated in the network of urban/regional trails of stories that will make available selected stories by creating attractive, coherent message in an innovative form of an interactive legend trail. These points should

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[26] Ibidem, p. 17.

include both a story created for a place, and they can be applied as one of the check-points in urban or geocaching games.

3. The attraction points can be told by a picture. Storytelling is not just the method based on the provision of a content in a form of words, but also in a form of the characters, voice or picture. In this case, the following can be applied: interactive holograms, laser projections, 3D, 5D or 7D presentations.

4. The application of current trends in the ICT world, e.g. the application of PokemonGo to promote historic buildings, in which customers will be able to get to know stories connected with these places.

One can find that currently there is a very wide ability to apply the technological development achievements, both in terms of equipping the object with an appropriate infrastructure, as well as the adaptation of tools to promote the heritage by storytelling. It is important to remember that this type objects should not be promoted in a way inconsistent with the overall evaluation of stakeholders and in a way that conflicts with the local and regional identity. Storytelling should stress and supplement other tools for the heritage promotion and complement the tangible part of the object and others' heritage.

Conclusion

In the context of the changes implemented to the heritage, fake elements, Łukasz Gaweł notes that what is not real at any specified time and is artificially implemented to the heritage resource, becomes real over time[27]. This is the key wording in the context of the application of the storytelling method in the promotion process of the cultural heritage. In fact, this does not preclude creating history of a place, and consequently, in the long term, the intangible heritage of the tangible object. By the application of the storytelling method, we can talk about the possibility to create the intangible heritage, while maintaining the underlying assumptions such as: extensive historical authenticity, consistency, generating excitement, specification of purposes and effects to create the intangible heritage. Gaweł mentions that continuous adaptation, interpretation, deconstructing of own heritage is a natural process and, at the same time, an important stream of powering its resource, with which we have to agree. The heritage evolution mostly takes place outside any control, which significantly hinders the actual management[28]. One can only argue with the idea that the intervention in the heritage is possible as an activity trough cooperation, but it is

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[27] Jagielska-Burduk A., *Mechanizmy prawne zarządzania dziedzictwem kultury*, Wydawnictwo Wolters Kluwer/Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk-Warszawa 2016, p. 33.
[28] Ibidem, p. 33.

not proven as an order mode under the authority[29]. This sentence applies to the tangible objects, aware of its brand and image. Considering the objects, the process of creating a brand of which is in early stages or the heritage is incomplete, this means there is the strong tangible part, unsupported by the intangible part, and it seems to be reasonable to create the intangible part of this heritage by the application of storytelling and authoritarian activities, especially in the early stage of the identification and creation of tools for storytelling. The primary purpose of these activities is to care traditions, protection and care of the cultural heritage, as rightly noted by E. Mistewicz, when a community forgets its stories, it becomes a community without identity[30]. Its consequence would involve continuous degradation of the cultural heritage, which would have serious both social and economic repercussions. Therefore, the preservation of the cultural heritage through the protection, care and its promotion is one of the basic tasks of the local government units, which, through an active function in the environment, can encourage the application of the innovative methods of promotion, care and protection in a form of, inter alia, storytelling. One should stress the universalism and the possibility to apply different, innovative tools from the ICT sector, which can increase the crowd of customers, as well as stress a message itself, enrich it by the application of modern forms of visualization, and interact to increase the attractiveness of the object by the application of different, coherent and complementary solutions that apply storytelling.

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4. Jagielska-Burduk A., *Mechanizmy prawne zarządzania dziedzictwem kultury*, Wydawnictwo Wolters Kluwer/ Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk-Warszawa 2016.
5. KONWENCJA UNESCO *w sprawie ochrony niematerialnego dziedzictwa kulturowego*, (Dz.U. z 2003 r., nr 172, poz. 1018). [UNESCO CONVENTION *on the protection of intangible cultural heritage* (the Journal of Laws of 2003, no. 172, item 1018).
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7. Mistewicz E., *Marketing narracyjny*, Wydawnictwo Helion, Gliwice 2011.
8. Murzyn M. A., Purchla J., *Dziedzictwo kulturowe w XXI wieku. Szanse i wyzwania*, Wydawnictwo Międzynarodowe Centrum Kultury, Kraków 2007.
9. Oehlmann Ch., *O sztuce opowiadania*, Wydawnictwo Impuls, Kraków 2012.
10. Owen N., *Magia metafory*, Wydawnictwo Metamorfoza, Warszawa 2016.
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[29] Ibidem, p. 33-34.
[30] Mistewicz E., *Marketing narracyjny*, Wydawnictwo Helion, Gliwice 2011, p. 47.

14. Zeidler K. (ed.), *Prawo ochrony zabytków*, Wydawnictwo Wolters Kluwer/Wydawnictwo Uniwersytetu Gdańskiego, Warszawa-Gdańsk 2014.

Dorota Sikora-Fernandez[1] Advanced technologies in the management of public security in the city

Abstract:

The activities of local authorities in terms of ensuring public safety require the creation of an appropriate security system, which includes inter alia the infrastructure that will maintain safety standards, prevention and management of crisis events. In addition to the immediate response time, a challenge of urban services involves the prediction of and prevention from various types of threats. The advanced technologies are a chance for significant elimination of unforeseen situations. The aim of the article is to present the best practices in the application of the advanced technologies in the management of public security in a city in Poland and in the world.

Keywords: public safety, smart city, advanced technologies, city management

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Introduction

A sense of personal security belongs to the basic needs of a human in accordance with Maslow's theory of needs hierarchy. Based on this theory, the security needs apply to job security, an adequate level of health care, availability of pension programmes and overall feeling of stability in a society. A personal safety directly translates into a collective security for all citizens. If there are no legitimate opportunities to achieve key factors for success in life, such as access to education, opportunity to work or a house, external effects will occur in a form of poverty, social exclusion and social pathology. When local authorities do not have corresponding policies against this type of effects, marginalised social groups are forced to apply a state aid on the long run or to apply illegal measures to guarantee their survival, which influence on the generally described public safety in a city or its part.

The local government authorities are responsible for ensuring wider public order in a city and its sense of security, in both the situations of normal functioning of a local society, as well as in the conditions due to serious threats. In addition to the appropriate organizational structure associated with the safety management system, the institutions responsible for ensuring this safety have an appropriate infrastructure to maintain the desired safety standards, prevention and recovering from emergencies. The aim of the article is to identify good practices in the application of the advanced technologies in the management of public security in Poland and in the world. Due to the fact that the safety issue in a city concerns a wider situation, for the purposes of this article, the topic was limited to the aspects relating to public policy and transport security[2].

Public safety in a city

Security can be defined in two ways, either by stressing the lack of threats or by stressing positive conditions, such as the certainty of community peace[3]. In the first case, the security will be an objective condition, meaning no threat to existence, survival, development and natural functioning of a human, felt both subjectively by individuals and entire communities[4], and in the second one, it will be the ability of survival, independence, identity, or development

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[2]The public security management in a city refers to the execution of the statutory tasks of the local government bodies and concerns civil, community, social, economic, transport, food, educational or spatial securities. Each security dimension corresponds to the assigned tasks of the local government (ed. D. Sikora-Fernandez).

[3] Lisiecki M., *Zarządzanie bezpieczeństwem publicznym*, Wydawnictwo Naukowe Łośgraf, Warszawa 2011, p. 21.

[4] Leszczyński M., *Bezpieczeństwo społeczne Polaków wobec wyzwań XXI wieku. Zarządzanie bezpieczeństwem*, Wydawnictwo Difin, Warszawa 2011, p. 18-19.

confidence[5]. A condition with no threat in a city is, however, impossible to achieve. Any organization (including a city) functions in the risk space[6], a separate issue is the risk occurrence level acceptable by a community.

There are three dimensions of a risk specified in the safety study:

1. Personal, indicating confidence of existence and survival of a social life participant.
2. Subject, indicating assurance of its ownership status and development freedom.
3. Processual, indicating variability of subjective and objective aspects of safety in time, i.e. variability of certainty of functioning and development of each entity[7].

The axiological approach to security takes into account the demographic, economic, political and social, and cultural and civilisational dimension. A pillar of the demographic dimension is the procreation and education, relating to the survival and development of an individual. These attributes (survival and development) also apply to the economic dimension of security, in which abundance and prosperity are the basic pillars. The social and political dimension is based on a specific regime and widely applicable national and local law, and justice and development are its attributes. The cultural and civilisational dimension is reduced to ensure that each entity has opportunities for improvement and raising the quality of its functioning in a society based on freedom and civic responsibility[8].

With regard to the urban policy, one can talk about the local safety being a part of the public safety, i.e. general conditions and social devices, designed to protect citizens from phenomena dangerous to life and health, bringing economic losses or generating social costs. Therefore, the task of the local government policy in this area is to select a variety of the city development management instruments and methods to counteract the negative phenomena in the socio-economic and environmental fields. This includes mainly poverty, social exclusion, crime and natural disasters. The task of the local authorities in this regard is also to organise the security system at the local level and respond to locally occurring problems resulting from poor access to education, labour market or low standard of living. In particular, this includes the analysis of dependencies between those problems and the crime rate in a city and efforts

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[5] Mika J., Wiśniewski B., *Rola i znaczenie historii bezpieczeństwa państwa w andragogice – edukacja dla bezpieczeństwa*, [in:] Czerwiński K., Fiodora M., Węc K., (ed.), *Komunikowanie społeczne w wielokulturowych społeczeństwach. Wielowymiarowe zagrożenia bezpieczeństwa*, Wydawnictwo Adam Marszałek, Toruń 2011, p. 45.

[6] Rogulski E.*, Elementy lokalnej polityki i strategii bezpieczeństwa*, [in:] „*Bezpieczeństwo i Technika Pożarnicza*", No. 2/4, Centrum Naukowo-Badawcze Ochrony Przeciwpożarowej im. Józefa Tuliszkowskiego - Państwowy Instytut Badawczy, Warszawa 2006, p. 16-17.

[7] Paździor M., Szmulik B., *Instytucje bezpieczeństwa narodowego*, Wydawnictwo C.H. Beck, Warszawa 2012, p. 2-3.

[8] Leszczyński M., op.cit., p. 24.

to reduce this rate. It should be noted that the expenditure to reduce the crime level in a city generate positive and negative external effects. The positive effects occur in the case of the elimination of crime by taking criminals to prisons, and the negative effects resulting from activities that cause crime limitation in one area (e.g. a city centre), but lead to transfer to another area of pathology.

The local authorities involve the policy in respect of other risks when ensuring public safety. These risks can affect both the specific areas of social, economic life e.g. social, religious, ethnic or sector threats, and the environment and natural disasters, with the social, economic and ecological consequences. A city, as a self-governing territorial unit, should be self-sustaining, at least in the initial period of crisis, in terms of ensuring local safety. This self-sufficiency is built by the organisation of the security system, based on the creation of effective structures and organisations, implemented the best activities practices, logistics potential and held resources[9]. It should also have a strategic document in the field of the security management, with the records relating to the issue of monitoring the security situation, identify potential and existing threats, prevention from and temporary deal with crisis.

The urban resistance concept is involved with security in a city. This concept is applied in a number of sciences. In the biological terms, immunity is the ability of an organism or ecosystem to defend against any complications or interferences, and to repair itself after subsiding. The network immunity is the ability to provide and maintain a satisfactory level of services in the case of errors and other challenges. Including this concept into the organisation, such as a city, can be defined as the ability of the organisation to adapt to the consequences of crisis events of different origins. It can therefore be dealt with at the level of the different systems used in or in relation to the whole territorial unit.

The effectiveness of activities taken to ensure safety in a city is based on the identification of threats and their causes, and then elimination or minimization and control[10]. The risk management is crucial as well. It is distinguished by the following activities stages:

1. Specification of risks and periods of risks occurrence.

2. Measurement of risk and scope of potential damage.

3. Specification of risks and probability of risks occurrence.

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[9] Ficoń K., *Logistyka kryzysowa. Procedury. Potrzeby. Potencjał.*, Wydawnictwo Bel Studio, Warszawa 2011, p. 148.

[10] Sienkiewicz-Małyjurek K., *Zarządzanie bezpieczeństwem publicznym w samorządzie lokalnym*, [in:] „*Organizacja i Zarządzanie*", Nr 1, 2006, p. 136.

4. Control of the effectiveness of taken preventive activities.

The safety ensurance in a city consists of the overall organisational and legal as well as technical devices holding by the public authorities to ensure the normal functioning and development of a city and a local community.

The smart city idea and advanced technologies in a city

The concept of the *smart city* is complex and explains the essence and importance of a number of the city development aspects. The smart city applies the advanced technologies, inter alia, to create more efficient transport and communication, heating, lighting systems to ensure safety in public places, water consumption, waste management, transport and exchange of information between users of on urban space, etc. A city managed in accordance with the guidelines of the smart city involved minded and creative people able to absorb the technical and technological news and commonly apply the ICT techniques in their activities. The application digital telecommunications networks in the smart cities is common. In the smart city concept, digital networks are compare to the nervous system of a whole city, and the brain role is played by devices controlling the system by means of information collected through a sensors network (sensory organs)[11].

Initially, the smart city paradigm concerned the information technology that can be applied in the city development planning. It is assumed that the first publication on this issue in the urban studies was a book by Ishida and Isbistera[12] concerning the methods to create a virtual space of a city applying the Internet and IT infrastructure by the information society. The following publications evolved towards the city management, abilities to attract high-quality professionals or capabilities to produce and absorb innovations. Currently, the smart city definitions stress different aspects of the functioning of a city, particularly the role of infrastructure and telecommunications infrastructures, ICT, digital media, creative industries and cultural initiatives in order to improve the economic, social and political efficiency[13], the ability of cities to attract and maintain high-quality professionals[14], educated society applying new communication channels with the public administration[15] and the capacity to innovate and adapt to

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[11] Mitchell W. J., *Intelligent cities, e-Journal on the Knowledge Society*, Issue 5, 2007, s. 1886.

[12] Ishida T., Isbister K. (ed.), *Digital Cities: Technologies, experiences, and future perpectives*, Wydawnictwo Springer-Verlag, Berlin 2000.

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[15] Lombardi P., Giordano S. and Farouh H. and Wael Y., *Modelling the smart city performance*, [in:] "*Innovation: The European Journal of Social Science Research*", Vol. 25, No. 2, 2012, pp. 137-149.

changes. A wide definition is proposed by Komninos[16], who characterises the smart city a territory with a high learning ability and innovation, creative, having research and development institutions, higher education, digital infrastructure, ICT and a high level of management efficiency.

In all definitions, the common feature, however, involve the advanced technologies to influence on the wider city effectiveness. The technologies increase the infrastructure efficiency while reducing the cost of its operation and lead to an increase in the public services quality. The smart city development requires the efficient management, stimulating innovation and developing cooperation with various entities in order to promote smart and sustainable growth[17].

With regard to the public security management in a city, the advanced technologies are a tool of prevention and solving potential problems, conflicts or threats. The smart, based on advanced technologies security assurance system consists of, inter alia:

– efficient system of video-monitoring, applying the programs to recognize potential threats,

– efficient communication with city inhabitants,

– crimes maps,

– database about crimes, accidents, and other threats,

– city sensors system,

– fast transfer of information between city services,

– Smart Transport System,

– correct distribution and coordination of local disaster management centres.

Examples of the application of the advanced technologies in the public security management in the world

In addition to the immediate response time, a challenge of urban services involves the prediction of and prevention from various types of threats. The American police was equipped with a supporting system developed by IBM, to create preventive maps with the aggregate data about a number of committed crimes. Due to it, a number of committed crimes in Memphis decreased by 40%, and in New York by 27%[18]. In addition, the application of the Intelligent Operations Center, developed by the company, due to an in-depth analysis of the

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[16] Komninos N., *The Age of Intelligent Cities. Smart environments and innovation-for-all strategies*, Wydawnictwo Routledge, New York, 2015.

[17] Wiśniewska J., Janasz K., *Innowacyjność organizacji w strategii inteligentnego i zrównoważonego rozwoju*, Wydawnictwo Difin, Warszawa 2012, p. 12.

[18] http://www.ibm.com/smarterplanet/us/en/smarter_cities/overview/ (15.07.2016 r.)

environment and urban resources, created opportunities to optimise the development and maintenance of an adequate security level. This is possible because of the monitoring of resources and urban events and fast response to any crisis. The geographical analysis of the crime risk and the integration of data from various institutions on a common platform allow to efficiently manage the city security level.

The monitoring of urban resources, events and incidents in the real time allows to efficiently response by services responsible for the crisis management and coordination of activities of these services in case of problems.

In Barcelona, in the context of the increasing city immunity to any unforeseen event, the CITY OS platform was developed as a tool processing and analysing data, and as a result, allowing to simulate and anticipate any problems that can occur in a city. The platform is designed to integrate and correlate city data coming from the measuring devices, databases and social networks, as well as make analysis, simulation, forecasts based on the collected data. The data management within the platform is executed at the same time in the horizontal organisation, so as to provide information between specific applications and in the vertical organisation, between different city monitoring centres and crisis management centres.

Another useful solution, implemented in all Spanish cities, is AlertCops project, associated with the city security alerts, offered by security services (the police and municipal guards) in Spain. A mobile application was implemented within the project, available for all inhabitants, in which every citizen, regardless of the limitations of language, hearing, voice, can report a crime, of which it was a victim or a witness. Such a person, applying the installed on smartphone special application, can simply and intuitively inform security authorities about an incident.

Using the application, one can inform the relevant departments, calling or selecting an icon the most characteristic for an incident. A citizen has a choice of icons such as: robbery, vandalism, fight, sexual abuse, violence, bullying of children and young people, acts of radicalism, missing and test alert[19]. The information procedure takes place in the real time, and the services response is immediate.

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[19] Test alert is implemented via chat or a phone call to ensure the functioning of services in the nearest location (ed. D. Sikora-Fernandez).

Figure 1. AlertCops application is available on smartphones.
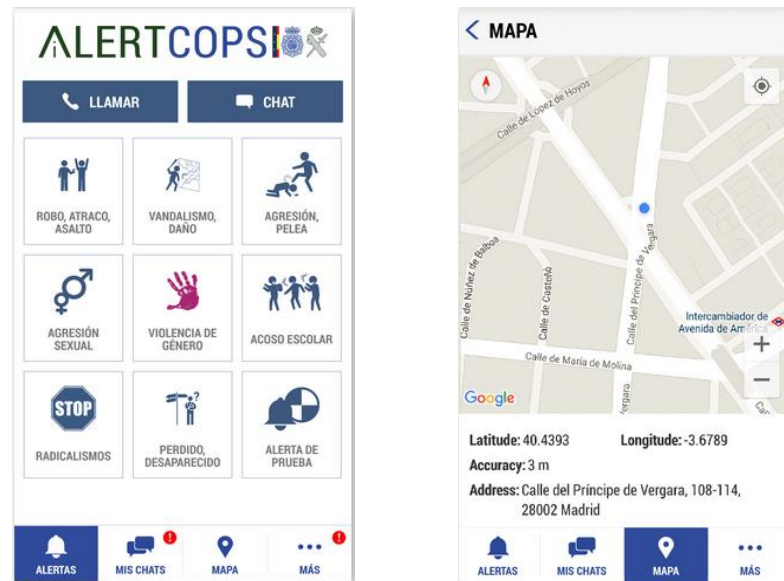
Source: https://alertcops.ses.mir.es (access: 30 August 2016)

Threats maps implemented in a number of European and American cities are a tool to coordinate the activities in the field of wide crime prevention. They allow to obtain complete information on the number, nature and place of committed crimes. The maps are useful for both a local community and municipal services responsible for ensuring public security. In Poland in 2016, the National Security Threat Map was launched, based on the information from the police systems and collected from citizens by the information exchange platform.

Figure 2 The National Security Threats Map
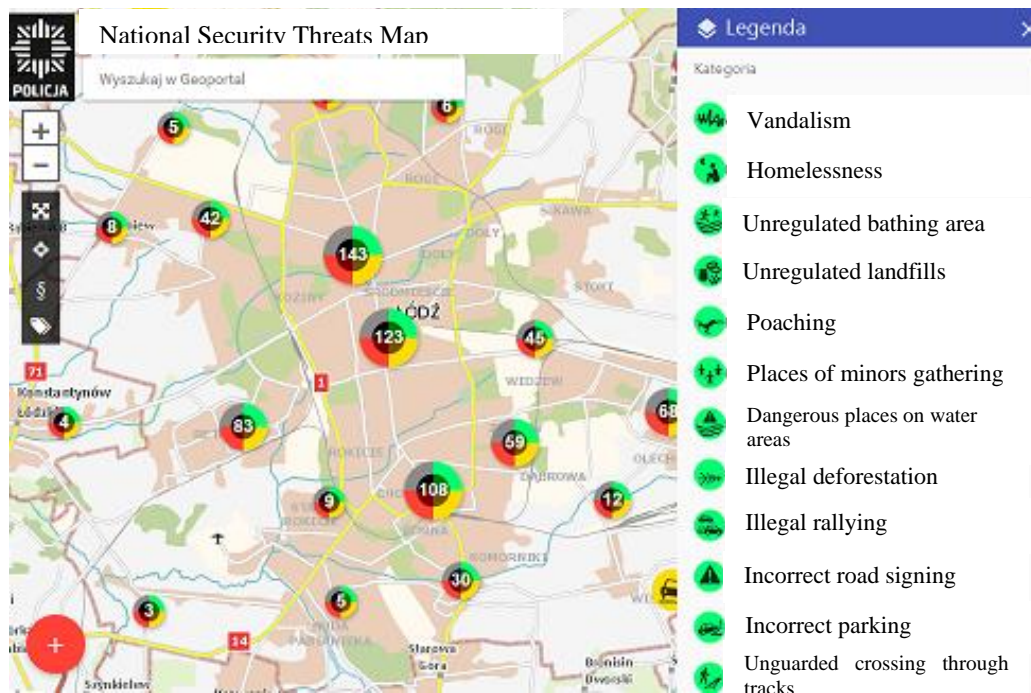
Source: https://mapy.geoportal.gov.pl/iMapLite/KMZBPublic.html (access: 09.09.2016)

The information presented on the maps take into account different crimes and threats categories, which negatively affect a security sense subjectively perceived by inhabitants. Every citizen can put on the map an event, specifying its type (selecting from the available list), date and location of occurrence

Ensuring efficient and secure local transport is one of the key elements of the city security. Edinburgh is a city that implemented most solutions in the field of the smart transport. Throughout the city, the computer systems to control traffic on roads and intersections monitoring systems that apply SCOOT traffic control system[20] (applied at intersections in the city centre and selected intersections outside the city centre) are implemented. Traffic control at intersections is executed smartly, using sensors to change the lights based on traffic and the preference transport vehicles (SCOOT system allows to identify vehicles approaching an intersection, allowing to drive through an intersection)[21].

In Lodz, the area traffic control system was established, providing passing priority to city transport vehicles, covering a total of more than 240 intersections. A substantial part of them involves cameras, both for viewing and recognize license plates. This allows to specify the busiest roads in the city and potential traffic management in crisis situations (e.g. road works, unforeseen events).

Summary

Predicting dangers in a city is not easy. For many years, urban communities have been struggling with the security problem, the guarantee of which is the basis for the city development in the long run. Local authorities should, therefore, apply different instruments to limit the scale of dangerous events. The advanced technologies in a city are a chance for significant elimination of unforeseen situations. The technology development, including ICT, allows to expand the preventive activities range, taken by the relevant services. The human resources, organizational, financial possibilities, services and municipal guard equipment, inspections of security are limited, and therefore inhabitants should be active to increase the city security level. The technical technologies and instruments for improving the city safety management quality is not the only solution to all problems. Cooperation of all entities acting

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[20] More information about the SCOOT system can be found on Siemens web page: http://www.siemens.co.uk/traffic/en/index/productssolutionsservices/systems/pcscoot.htm, (ed. D. Sikora-Fernandez).

[21] Turała M., *Miasta europejskie wobec koncepcji smart city. Edynburg*, [w:] Stawasz D., Sikora-Fernandez D., *Zarządzanie w polskich miastach zgodnie z koncepcją smart city*, Wydawnictwo Placet, Warszawa, 2015.

to improve the public security is important, including the activity of inhabitants functioning in the public security management system.

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16. http://www.ibm.com/smarterplanet/us/en/smarter_cities/overview/ (access 15 July 2016)

Ewelina Kiełek-Więcławska[1] Measure 4.3 IE OP Technological credit in the Lodzkie Region - a case study

Abstract

This article aims at analysing the instrument for companies support from the Operational Programme Innovative Economy, i.e. Measure 4.3 Technological credit that was available within the financial perspective 2007-2013. The analysis involved the implementation of this Measure in the Lodzkie Region. The influence of the technological investment on company's activities was presented by a case study.

Keywords: Measure 4.3 Technological credit OPIE, technology investment in the Lodzkie Region.

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Introduction

Knowledge and innovation are the key to growth in Europe. The European Union (EU), through the taken activities, strives to build the most competitive knowledge-based economy. In 2010, the European Council approved a new development plan, i.e. "Europe 2020 Strategy", the purpose of which was inter alia to achieve economic growth through more efficient investments in education, research and innovation. One of its three foundations, "smart growth" is particularly important from the point of view of the innovation policy. It stresses the need to develop an economy based on knowledge and innovation[2]. In the 2014-2020 financial perspective within the EU programmes for the development of research, innovation and competitiveness in Europe, approx. 80 billion Euro will be allocated. As a part of the reformed cohesion policy for 2014-2020, the funds in the amount of 351.8 billion Euro will be available for investments in European regions and cities, as well as investments in the real economy. The innovation stimulating requires taking actions related to the improvement of the access system to financial support. Limited access to external finance is the most important problem in the development of innovative small and medium-sized enterprises in Poland and the European Union, and the state aid can be an important source of funding for innovation processes in SMEs[3]. The financial engineering instruments are designed to contribute to improving the capital availability for small and medium-sized enterprises[4].

1. **Measure 4.3 Technological credit in the Lodzkie Region.**

The Measures to implement and commercialize new technologies were available for companies Within the Operational Programme Innovative Economy 2007-2013.
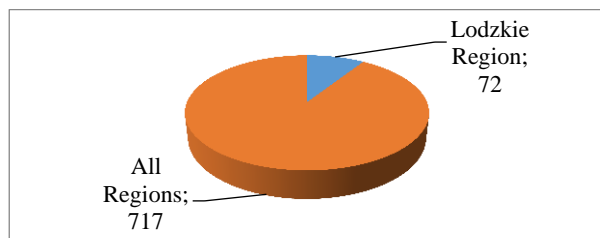

Chart 1. Technology investments implemented in the Lodzkie Region under Measure 4.3 of the OPIE

Source: own development based on http://www.mapadotacji.gov.pl

Measure 4.3 Technological credit allowed to entrepreneurs to implement the technological investment partly repaid from the Technological Credit Fund in a form of a technological premium.

Applications to grant the technological premium were submitted to the BGK [Bank Gospodarstwa Krajowego] since July 2009. Totally 1 528 applications submitted to the BGK during all calls. Since the beginning of the implementation of Measure 4.3 Technological credit, 717

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[2] Komisja Europejska, *Europa 2020. Strategia na rzecz inteligentnego i zrównoważonego rozwoju sprzyjającego włączeniu społecznemu*, Bruksela, 2010, p. 5-6

[3] M., Meuleman, W., De Maesenerie, *Do R&D subsidies affect SMEs' access to external financing*?. Research Policy, vol. 41, No. 3, 2012, s.580-591

[4] IBnGR, *Mechanizmy inżynierii finansowej w podnoszeniu efektywności absorpcji środków UE i ich znaczenie w polityce spójności po 2013 roku*. Gdańsk, Instytut Badań nad Gospodarką Rynkową, 2010

agreements have been signed for a total amount of 1 872 million PLN[5]. In the Lodzkie Region, 72 technology investments were implemented[6] (charts 1 and 2).

Chart 2. Projects implemented in various regions under Measure 4.3 Technological credit

Source: own development based on http://www.mapadotacji.gov.pl
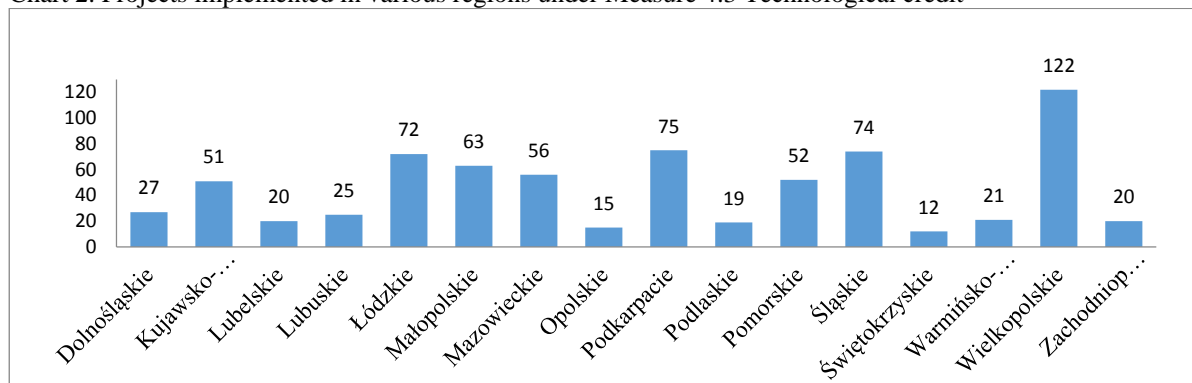
The analysis of enterprises[7] shows that mainly small and medium-sized enterprises benefited from Measure 4.3 of the OPIE (chart 3).
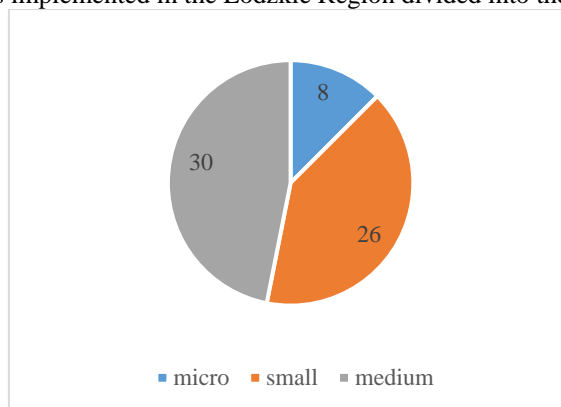
Chart 3. Technology investments implemented in the Lodzkie Region divided into the MSEs categories.

Source: own development based on the beneficiaries list of the OPIE as of 31 December 2015.

In micro-enterprises, 8 technology investments were implemented. In terms of the organisational and legal, the enterprises mostly operate as a natural person engaged in business activities, partnerships and limited liability companies (chart 4). In these organisational and legal forms, 56 technology investments were implemented.

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[5] E. Kiełek-Więcławska, *Rozwój innowacyjności przedsiębiorstw poprzez wykorzystanie środków unijnych dostępnych w latach 2007-2013* in: P., A., Nowak, *Innowacje 2015. Rozwój społeczeństwa informacyjnego w nowej perspektywie finansowe*, Urząd Marszałkowski Województwa Łódzkiego, Łódź, 2015, p.70
[6] http://www.mapadotacji.gov.pl. However, in accordance with the beneficiaries list as of 31 December 2015, 64 technology investments were implemented in the Lodzkie Region.
[7]Beneficiaries list of the OPIE as of 31 December 2015

Chart 4. Technology investments implemented by enterprises in terms of their organizational and legal forms.

Source: own development based on the beneficiaries list of the OPIE as of 31 December 2015.

The area of the investment process affects almost the whole Lodzkie Region (chart 5). The most implementations of new technologies under Measure 4.3 of the OPIE were in Lodz, Pabianice and Zgierz districts. No company benefiting from Measure 24 was in 5 out of 24 Lodz districts (Skierniewice, Piotrkow Trybunalski, Poddebice, Wielun, Leczyca).

Chart 5. The number of the technology investments implemented in the Lodzkie Region districts.

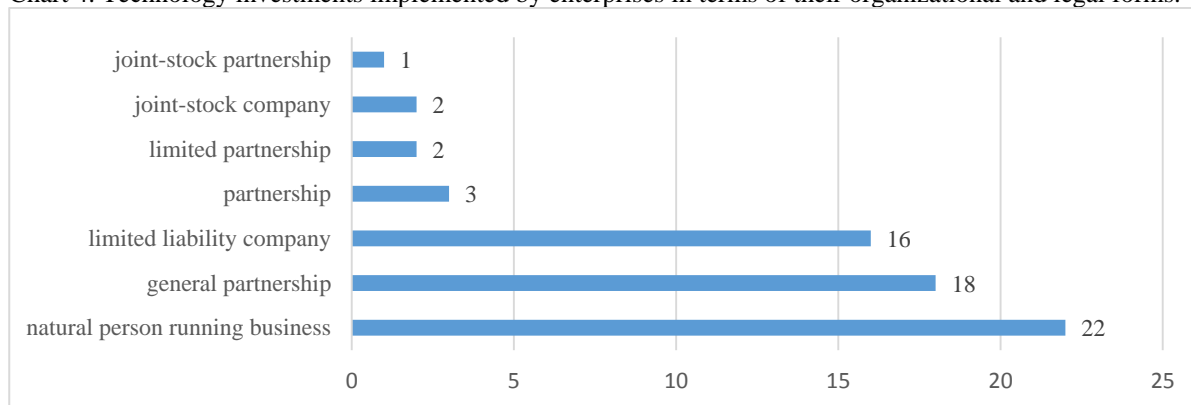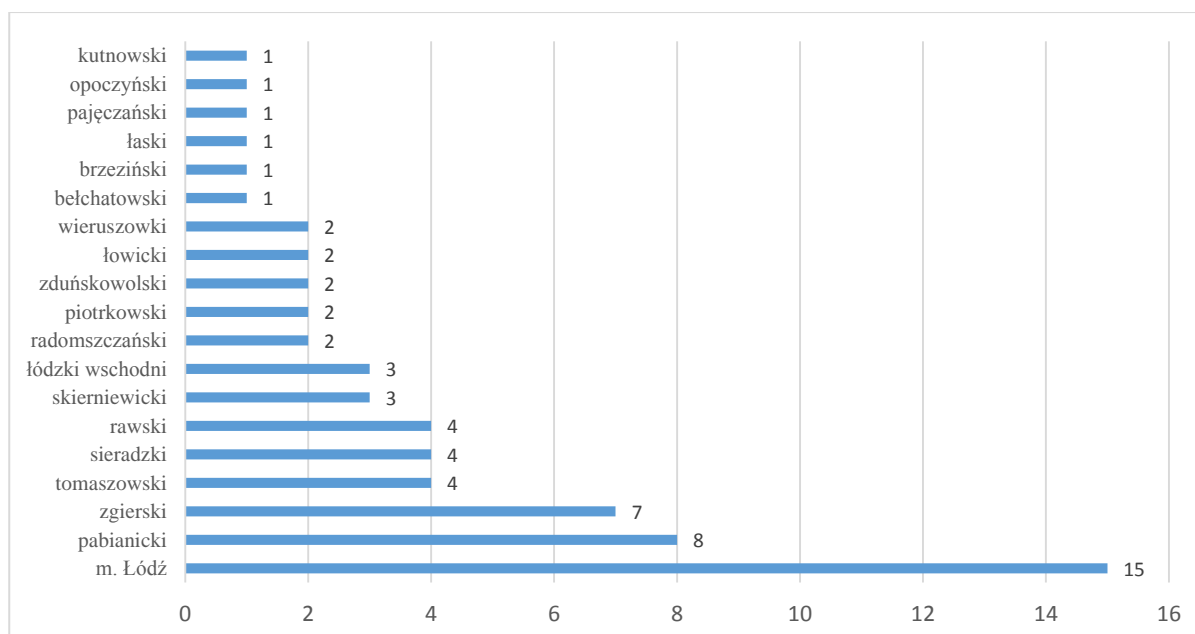Source: own development based on the beneficiaries list of the OPIE as of 31 December 2015.

In the majority, the total value of the investments (30 investments) was in the range from 3 million PLN to 6 million PLN (chart 6). There were 17 investments of a larger value than 6 million PLN. The same number of the investments related to the amount less than 3 million PLN. (chart 7) The funding of the European Union in 21 investments ranged from 3 million PLN to 3.5 million PLN. 18 investments were supported at the level of 2-3 million PLN. The technology premium was less than 2 million PLN in 25 investments. The research results from the Lodzkie Region are confirmed in relation to those implemented in the whole country. The key beneficiaries

under Measure 4.3 Technological credit were medium and small enterprises, which accounted for 60% and 31.2% of signed credit agreements. The average value of the project amounted to 4.86 million PLN.

Chart 6. The total value of the implemented technology investments in the Lodzkie Region (million PLN)
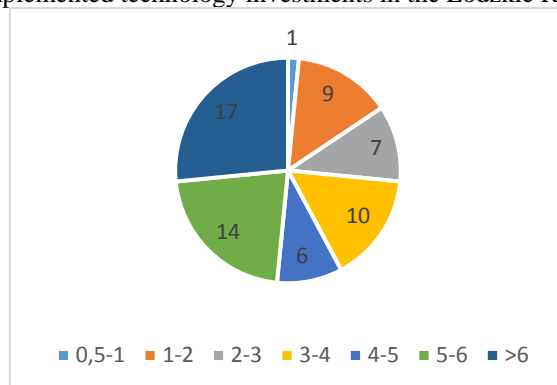
Source: own development based on the beneficiaries list of the OPIE as of 31 December 2015.

The regional distribution shows that most of the projects were located in the Wielkopolska, Silesia and Lodzkie Regions. These three regions together accounted for 42.8% of the projects.

Chart 7. The value of EU funding in the implemented investments in the Lodzkie Region (million PLN)
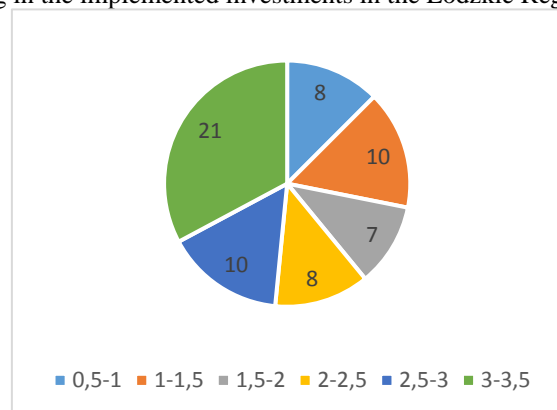
Source: own development based on the beneficiaries list of the OPIE as of 31 December 2015.

The analysis of the enterprises age indicates that the technological credit was applied enterprises operating on the market for many years. The average age of the 95 randomly selected enterprises (out of 166 beneficiaries) was 14 years (median - 16 years); the shortest period of market operation was 2 years[8].

2. Measure 4.3 Technological credit - case study.[9]

"X" enterprise was established in the Lodzkie Region in 1989 and has been operated as a family business specializing in machining. The whole production is directed for export mainly to European countries, but also to the USA and Australia. It provides customers with finished

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[8] J., Szucki, i inni, Ocena *realizacji instrumentów inżynierii finansowej w ramach NSRO 2007-2013*, Warszawa, 2013, p.33-34

[9] Direct interview with the enterprise owner was carried out in April 2016.

products, offering help and support at all stages of production from design through to production tooling, CNC machining, surface treatment, comprehensive thermo-chemical assembly of components to packaging and transportation. The enterprise offers multi-axis machining of workpieces of different dimensions. The enterprise attaches great important to the operation based on new technologies, because it is an important source of revenue. A widely defined quality is an aspect on which the enterprise puts special emphasis. It is achieved at every stage of production: from purchase of high-quality, certified materials from reliable suppliers, by machining conducted strictly in accordance with the certified quality procedures of ISO 9001, statistical control applying a measuring machine up to thermo-chemical treatment with certified subcontractors as well as maintenance, packaging and transport to a customer's warehouse. Maintaining a high quality is guaranteed to the enterprise by:

- Quality procedures proven in a number of years of practice;
- Experienced and reliable employees of the Quality Department;
- Modern, air-conditioned Measuring Chamber;
- Modern and precise machinery park;
- Own implementation department with modern CAD/CAM software supporting production.

"X" is the innovation and implementation enterprise, dynamically developing its production capacity and expanding range of customers. It constantly invests in modern machinery, and since 2005, it has actively applied the assistance programs offered by the European Union.

Figure 1. EU funds available in 2004-2020 applied by "X"
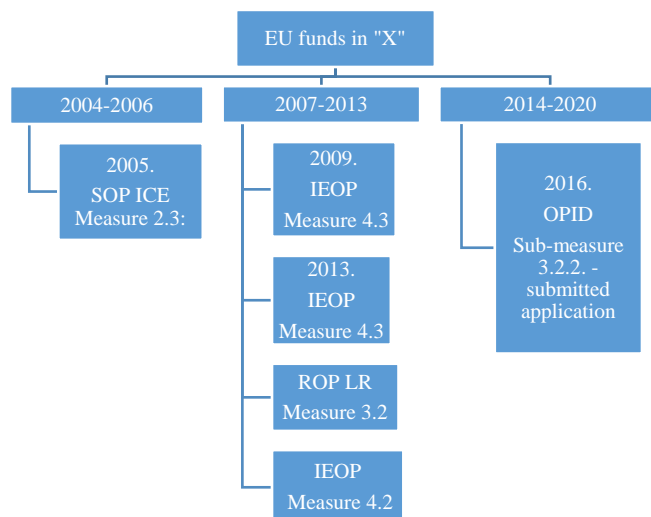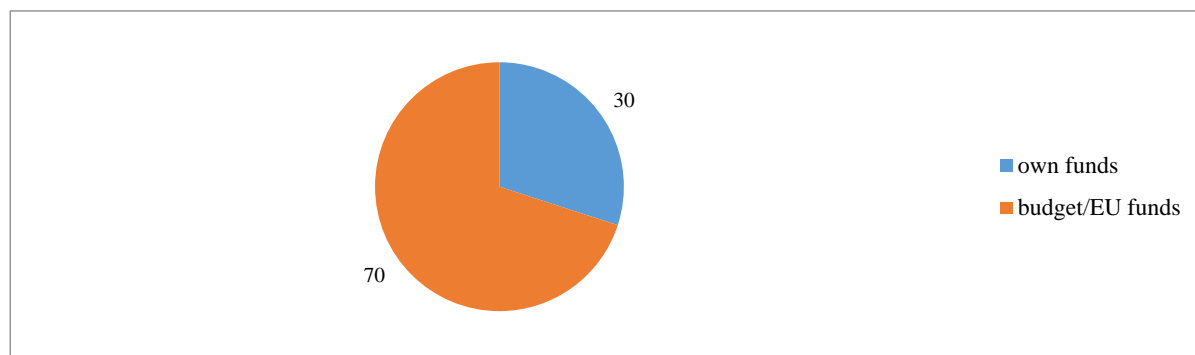

Source: own development

The EU funds are very significant, because they allowed for the development and growth of the enterprise. It was a significant financial contribution to the innovation implementation. Applying the innovative solutions allowed, inter alia, to cooperate with new customers. The enterprise applies

the available EU programmes to develop its business so as to implement the previously scheduled investments and technology implementation the most effectively. "In a market economy, where competition is the main economic phenomenon, companies are forced to develop its own production capacity to act quickly, flexibly and effectively. These requirements development and adaptation to the requirements of the environment make it necessary to implement innovations in different areas of the enterprise"[10].

2.1 Innovation activity in "X"

Innovation activities have been executed since the enterprise was established. The main reason to support the production of new technologies was the desire to improve the quality of the production process and the quality of the service provided. The external causes were associated with observing the market needs and the growing demand for innovative products. Currently, the innovation benefits concern better quality products and services. In addition, the improved competitiveness on the market and greater productivity. The source of the introduced changes are primarily the R&D works. The enterprise has the research and development departments financed by own resources. Innovative activities are financed by own resources and budgetary/EU funds (chart 8). In the structure of expenditures on innovation, the capital expenditures dominate (90%). Other 10% is for the research and development activities.

Chart 8. Sources of funding of the innovation activity in "X"

Source: own development

In the years 2012-2015, the turnover share for the innovation activity development was annually at the level of 10%. (table 1) As a result of the executed works, new products occur every year. In the analysed years, revenues form the sale of these products reach a level of 20%.

Table 1. The turnover share for the innovation development, a number of new products and revenue from the sale of new products in the years 2012-2015

	2012.	2013.	2014.	2015.
Turnover share (%) for the innovation development	10.	10.	10.	10.

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[10] H. Brdulak, T. Gołębiowski (red.), „*Wspólna Europa. Innowacyjność w działalności przedsiębiorstw*", Difin, Warszawa, 2003, p.145

Number of new products	20.	20.	20.	20.
Revenues from the sales of new products (%)	20.	20.	20.	20.

Source: own development

For the next three years, the enterprise plans further innovative development by conducting its own research and development activities. The innovation plans in the enterprise relate to product, technology and innovation resources development on an international scale. "X" development is limited mainly by missing skilled human resources, high cost of the innovation implementation, but also the tax system.

2.2 Technological credit in "X"

Funding the enterprise innovative development by the technological credit was applied twice, in 2010 and 2013. The information about this credit was obtained in the implementation of other projects, also executed with the EU funds. The result of the technological investment implementation in 2010 was the product development. The production of accessories was commenced then. In 2013, the enterprise developed the deep drilling technology, and commenced production in the medical industry based on this technology. The technology investment improved economic indicators of the enterprise. (table 2) In both investments, sale was established as a result of the technological investment in the total sales target achieved by the enterprise at the level of 20%. In addition, net profit increased from 12-15% at the beginning of the investment implementation, reaching the target increase by 20%. In 2015, the enterprise employed 48 people. As a result of the technological investment, new workplaces were created. In total, 8 employees were employed for two investments.

Figure 2. The effects of the implemented technological investments in "X"

technological credit 2010
- product development - a section
- commencing of the production of accessories, including sections in a form magazine
- new work places - 4
- 20% increase in sales revenue of the technological investment in the total sales
- 20% increase in net profit

technological credit 2013
- development of the deep drilling technology, and commenced production in the medical industry based on this technology.
- new work places - 4
- 20% increase in sales revenue of the technological investment in the total sales
- 20% increase in net profit

Source: own development

The enterprise cooperates with research institutions/universities in solving technological problems. In the technological investment implementation, the scope of this cooperation was extended to prepare an opinion on the new technology, required to obtain the technological credit. The enterprise cooperates with the Technical University of Lodz and the Polish Federation of

Engineering Associations (NOT). In the case of failure to obtain support under Measure 4.3 Technological credit, the investment execution would be limited way, both materially and financially. These limits would affect the number of purchased machines. "X", due to well-evaluating experiences with Measure 4.3 of the IEOP, applied for Sub-measure 3.2.2. Credit for the technological innovations in the OPDI 2014-2020. This is a continuation of the technological credit from the years 2007-2013. The first competition for Sub-measure 3.2.2 of the OPDI was held in January 2016, and analysed enterprise was not included on the list of projects selected for funding.

Table 2. Influence of the technological credit on economic indicators of "X"

	Measure 4.3 Technological credit
RESULTS	1. **For products and technology**
	* new products/services
	* new technology
	* modern devices
	2. **For market**
	* increases sales revenues of new products/services
	3. **For economy and finances**
	* new work places
	* increased turnover
	* increased net profit

Source: own development

"X" benefits from the state support when taking other development activities. The main obstacles in obtaining the government/EU aid (financial) indicate high cost of measures acquisition, complex administrative and legal procedures and incompetent officials. In the enterprise evaluation, the existing financial support are poorly adjusted to the needs of the highly innovative enterprise in its innovation development. The enterprise plans to apply the available EU programmes by 2020. The basic expectations of "X" in terms of the innovation policy relate to activities to create financial incentives to conduct research for the SMEs and the creation of a reimbursement system for costs implemented in the SMEs. It seems important to develop the capital market for financing implementation of new technologies.

Summary

The credit technology in "X" allowed for the efficient investment implementation and entered in a number of other activities and instruments applied to build its innovation potential. In the enterprise, as the research showed, the specified economic parameters and employment growth

improved. As shown in other research[11], this instrument is a proven and very effective mechanism for the provision of public funds for innovative projects. This instrument proved to be efficient in the innovations implementation in enterprises, and therefore it was incorporated into the new financial perspective for the period of 2014-2020. Measure 3.2.2 of the OPDI in a proposed shape has a chance to increase the investment demand of entrepreneurs in the area of innovation and R&D. The implementation of the market mechanisms to support instruments can improve the efficiency of public funds offered for small and medium-sized enterprises from the point of view of resources allocation[12]. The research executed by Kalvet, Vanags, Maniokas show increased interest in the feedback instruments[13].

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Jakub Mielczarek[1] Analysis of the instruments financing the infrastructure investments ICT - a case study of the Lodzkie Region

ABSTRACT

We are accustomed by the modern world that IT or the ICT[2] is continually present in our lives. Currently, one does not need to stay at home or office to be on-line, smartphones and other mobile devices accompany us during walking, in public transport (e.g. ticket machines ubiquitous in large agglomerations), or during holidays. The information society (IS) has been born, and the process can no longer be stopped.

Construction and development of the IS has been one of the priority tasks of the European Union (EU) in recent years. This can be seen clearly in the strategy papers and the aid funds structure. Thus, this task is crucial for the development of Poland, including the Lodzkie Region. The purpose of the article is to present the main differences in financing the development of the information society with the application of EU aid funds between the previous financial perspective (2007-2013), and the current one (2014-2020) and the resulting threats for the IS development in Poland.

Keywords: ICT, financing the development of the information society, aid measures of the EU

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[2] IT/ICT Information Technology/Information and Communication Technology - a field of science and business, combining information technology with telecommunications, dedicated to creating, acquiring, processing, management, transfer, preserving and presenting information, based on: Sejmik Województwa Łódzkiego, *Strategia Rozwoju Województwa 202*0 , Wydawnictwo Województwo Łódzkie, Łódź 2006, p.126.

1. Introduction

Last years were the time of a deep discussion on the financing model for the information society development. The term defines a society in which information is a commodity, in which one assumes the development of services related to transmission, processing and storage of information. A society holding the necessary tools, which are generally called the information society infrastructure[3]. However, one must remember that the IS is not just the infrastructure and tools, but also digital competence of users, i.e. harmonious set of knowledge, skills and attitudes that allow for "effective application of the ICT in different areas of life, i.e. work, science, entertainment, or dealing with administrative issues, and in the long term - achieving personal fulfilment, professional and social activity[4].

In the previous financial perspective, one can indicate three major programmes to support the SI development on the national level, consisting of: The Regional Operational Programmes (ROP), the Operational Programme Innovative Economy (OPIG) and the Operational Programme Development of Eastern Poland. The past five years was the time of intensified activities of the public administration for the digital economy development. The time for the territorial intervention has come, because most of the available resources are accumulated in 16 ROP. The sub-regional and national interventions was included in the Operating Programme Digital Poland (OPDP); it is complementary with the strategy direction implemented from the national level.

The support analysis of the funding instruments shows the change of the investments financing model in the ICT infrastructure at the turn of the two perspectives of the EU taking into account the coordination of the activities at the government level, while respecting the autonomy of the regional governments, thus stressing local interventions. This model became horizontal to most purposes of public intervention in Poland. Therefore, while planning the projects in the ICT, it is worth to draw patterns from good practices provided by foreign projects. One should consider their system capabilities, but also flexibility and adaptation to the needs of selected groups of stakeholders, as well as taking into account the regional or even local context of their application in life.

The OPDP aims at delivering three key areas of support: complete infrastructure, strengthening digital literacy of citizens and provision of public services for regional governments, society and business. In this regard, it is worth to learn from the best, even from Estonia. "Estonia is the former Eastern bloc, we joined the EU together, and 20 years ago it was a low level of development. Now it is like "European Tiger" targeted to the application of modern technology, particularly

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[3] *Szczegółowy Opis Osi Priorytetowych Regionalnego Programu Operacyjnego Województwa Łódzkiego na lata 2007-2013*, p.116.

[4] Warszawski Instytut Studiów Ekonomicznych, *Analiza doświadczeń oraz identyfikacja dobrych praktyk w obszarze wspierania rozwoju kompetencji cyfrowych w kontekście przygotowania szczegółowych zasad wdrażania programu Polska Cyfrowa na lata 2014-2020 oraz koordynacji celu tematycznego, raport końcowy*, Warszawa 2015, p.4.

information technology. And not just in business, banking, but also in administration, and it is ahead of other countries in this area. It is digitalisation of economy and society that assists Estonia to achieve much better development. It becomes a model for more developed societies and countries"[5]. Although, the investments in the IS infrastructure seem obvious, it is worth to ask the question: why is it necessary to increase competences in the digitisation field? The answer can be found inter alia in the report *How to digitise Poland, monitoring of positions and programmes in terms of the digitisation policy*. The report analysis shows the overall tendency to regard the digital skills development as a secondary for the IS development. Disregarding this activity area by the public administration in so surprising that, in contrast to other areas, this one requires public intervention, the market deals with the users' competency deficits in a narrow range, not to mention digital exclusion of most Poles.

The quoted report interestingly presents the distribution of responses to the question about the "hard infrastructure", important in the process of the information society building. Intervention with the use of external financial resources is the easiest, the respondents evaluated it quite well, the responses analysis shows that the organisations of individual sectors, including: administration, non-governmental organisations (NGOs) and entrepreneurs have a good understanding of the barriers in the digital technologies application. More frequent pointing of competence barriers (soft) supports the above statement. This awareness seems to be greater in the third sector, while the public and economic organisations are more likely to involve problems in the digital technologies application with hard barriers. It is so disturbing that for obvious reasons, it is administration and business that largely determine the interventions directions in the digital technologies area, with incomparably more powerful legislative and financial than the non-governmental sector institutions. The respondents pointed hard barrier as those of particular importance for the application of the ICT much less frequently[6].

The research shows that all interested groups indicate a deep need for interventions to improve digital skills by identifying the importance of digital education for a number of social groups: children and young people of school age, students, economically active persons, seniors and people of retirement age, persons with disabilities, inactive persons, civil servants, teachers and employees of cultural institutions and private entrepreneurs. It is worth to stress the fact that more interventions are required in a group of young people or in matured people than investing in e-integration of

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[5]   Kwieciński J., w audycji *Fundusze unijne 2014-2020: nadchodzi rewolucja cyfrowa*, source: http://www.polskieradio.pl/42/4264/Artykul/1350228,Fundusze-unijne-20142020-nadchodzi-rewolucja-cyfrowa, Polskie Radio, (12.08.2016).
[6] Jasiewicz J., Tarkowski A., Szymborska M., *Raport „Jak cyfryzować Polskę. Monitoring stanowisk i programów w zakresie polityki cyfryzacyjnej*, Wydawnictwo Instytut Sobieskiego, Warszawa 2015, p.7.

people digitally excluded. The remaining part of the article presents the response the questions crucial in this context: how much structural funds are run as a source of funding for the ICT investments and are they sufficient in the context of national and regional component?

2. Financial perspective 2007-2013 of the structural funds implementation in Poland

In accordance with the provisions of the National Strategic Reference Frames 2007-2013 supporting of economic growth and employment (National Cohesion Strategy - NSRF), adopted by the Council of Ministers on 29 November 2006 and accepted by the European Commission in May 2011, the regional self-governments manage the regional operational programmes. This means the implementation of the decentralisation idea of the regions development programming for the period of 2007-2013, i.e. transfer competences to the regions to prepare and implement the regional operational programmes[7].

Direct financing of the digital technologies development could be found even in the Regional Operational Programme of the Lodzkie Region 2007-2013 (ROP LR 2007-2013), which was prepared based on the Council Regulation (EC) No. 1083/2006 of 11 July 2006, specifying the general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund, and repealing the Regulation (EC) No. 1260/1999, Regulation (EC) No. 1080/2006 of the European Parliament and of the Council of 5 July 2006 on the European Regional Development Fund, and repealing the Regulation (EC) No. 1783/1999, and based on the Act of 6 December 2006 on the policy development rules.

The ROP LR 2007-2013 is the programme document, primarily of an operational nature, specifying the main region development directions, intended to inter alia the economy competitiveness of Lodzkie Region, promote sustainable development of the region and ensure greater social, economic and spatial cohesion of the region.

The strategic objective of ROP 2007-2013 was the integration of the region with the European and global social and economic space as a central European development, in favour of residing and economy, while striving to build internal cohesion by maintaining the diversity of its places[8].

In accordance with the financial tables included in the NSRF, in 2007-2013, the Lodzkie Region held the supporting funds granted from European Regional Development Fund in the amount of 1 046.02 million Euro, which in conjunction with the beneficiaries' own contribution amounted to 1 334.46 million Euro[9].

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[7] *Regionalny Program Operacyjny na lata 2007-2013*, Wydawnictwo Województwo Łódzkie, Łódź 2011, p.4.
[8] *Szczegółowy Opis Osi Priorytetowych Regionalnego Programu Operacyjnego Województwa Łódzkiego na lata 2007-2013*, Wydawnictwo Województwo Łódzkie, Łódź 2011, p.5.
[9] Ibidem.

The available financing mechanisms of Axis 4 Information society 78.1 million Euro contributed to the increase of the ICT availability, prevented from digital exclusion and improved skills in applying the ICT tools in the society. The catalogue of the executed operations can also involve the activities in the field of information society infrastructure, supporting e-public services, and e-technology for enterprises. Among the projects executed under this axis, one can indicate: construction or expansion of regional transmission systems and electronic data processing, investments in services or applications for citizens (e-health, e-administration, e-learning).

The granted support resulted in the dissemination of the ICT infrastructure, investment purchases for the provision of on-line services by the SMEs by applying modern ICT tools so as to align the inter-regional disparities, disparities between the Lodzkie Region, the country and Europe, and result in the information society development in order to achieve the programme strategic purpose.

2.1 National Component in the perspective of the EU for the period 2007-2013

At the national level, in the previous financial perspective, the Operational Programme Innovative Economy (OPIE) adopted by the Council of Ministers on 30 October 2007 was crucial for the investment in the ICT The Operational Programme Innovative Economy is one of the six national programmes of the NSRF financed with European funds. The programme is mainly aimed at entrepreneurs intended to implement the innovative projects related to research and development, modern technologies, investments of great importance for the economy or the implementation and application of information and communication technologies. The amount provided for this programme is 10 billion Euro[10]. However, the demarcation line between the programmes clearly indicates that, in the context of the OPIE, local or regional innovation was not supported, as in the case of the ROP or the Operational Programme Development of Eastern Poland. Within the OPIE, the innovative projects were supported at the national or international level for the product, process, marketing and organizational innovations, which directly or indirectly contributed to the formation and development of innovative enterprises.

The OPIE structure stand two axes supporting the ICT:

- Priority Axis 2. "*The infrastructure of R+D sphere*", the primary purpose of which was to support the investment in research and scientific equipment and buildings with high research potential, providing the scientific environment, access to advanced information technology, secure data transmission in Poland and to allow to execute modern research applying the information society technologies.

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[10] http://www.poig.2007-2013.gov.pl/WstepDoFunduszyEuropejskich/Strony/o_poig.aspx, (03.09.2016).

- Priority Axis 8. "*Information society - improving innovation economy*". The purpose of the eighth priority axis was primarily to promote activities in the field of creation of electronic services and to provide electronic communication between enterprises, as well as preventing from the digital exclusion[11]. The projects implemented under this measure consisted mainly of the delivery of electronic equipment for households, public institutions from areas threatened by the digital exclusion.

Table 1 - *Financial Plan for the OPIE for the period of 2007-2013 in axis 2 and 8*

Programme number and name	Community contribution	National contribution	Total	Indicator of co-financing
Axis 2 Infrastructure of R+D sphere	1 225 899 305	216 335 172	1 442 234 477	85%
Axis 8 Information Society increased innovation economy	1 018 215 895	448 685 158	1 466 901 053	69.41%

Own development, source: the Operational Programme Innovative Economy, Financial Plan.

The Management Department of Competitiveness and Innovation Programmes was the managing institution, the Ministry of Regional Development, and the National Centre for Research and Development was the intermediary institution for axis 2, the Department of the Structural Funds in the Ministry of Administration and Digitisation was the intermediary institution for axis 8.

3. Financial perspective 2016-2020 of the structural funds implementation in Poland

The current financial perspective (2014-2020) especially stresses the desirability and effectiveness of funds spending. The assistance funds were provided primarily at the regional level for the most effective interventions in the areas resulting from the programmes documents at the regional level. In the central macro-regions, to which the Lodzkie Region belongs, 68.2% households have access to the broadband Internet. The percentage of people who never used a computer decreased over the years 2007-2010 by 22% and is 33% in the central macro-region[12]. These data were applied by the update of *the Regional Innovation Strategy of Lodzkie Region,* and as a result of the evaluation, the IT and telecommunications industries were chosen as one of the sectors with the largest development potential in the Lodzkie Region[13]. As a result, the entities operating in the region specialisation areas can apply for support from the EU funds under the Regional Operational Programme for the Lodzkie Region for the years 2014-2020 (ROP LR 2014-

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[11] *Program Operacyjny Innowacyjna Gospodarka*, przyjęty przez Radę Ministrów 19.12.2006.

[12] *Wykorzystanie technologii informacyjno-(tele)komunikacyjnych w przedsiębiorstwach i gospodarstwach domowych w 2012 r.*, Wydawnictwo GUS, Warszawa 2012.

[13] *Regionalna Strategia Innowacji dla Województwa Łódzkiego*, uchwała sejmiku łódzkiego nr XXXV/680/13 Łódź 2013.04.26, p. 106

2020), in particular for the projects relating to the issues included in both the industry and the technology[14].

The ROP LR 2014-2020 responds to the key development challenges of the region, contributing to the execution of the purposes of the Partnership Agreement, and including the purposes of the *Strategy for smart, sustainable development for the social inclusion Europe 2020*. The ROP LR 2014-2020 consists of twelve single-fund priority axes, the axis responsible for the project to develop and increase the availability of e-services in the public sector, the priority axis *VII Infrastructure for social services*. The purpose of measure VII.1 is to increase the application of e-public services, including information in the public sector, by the inhabitants of the Lodzkie Region. Measure VII.1 is to support provided for the on-line public services development (in particular the services with a high level of maturity), in the field of e-administration (including geographical information systems), e-security, e-health. The investments in this area will help to increase the availability of on-line services and influence on the improvement of application degree by the inhabitants of the Lodzkie Region. For the aforementioned axis, the region management board supported by the Department on the Regional Operational Programme is the managing institution for the ROP.

Table 2 - *Financing Plan of the Regional Operational Programme of the Lodzkie Region for axis 7*

Programme number and name	Community contribution	National contribution	Total	Co-financing indicator
Axis 7 Infrastructure for social services	127 736 610	22 541 756	150 276 366	85%

Own development, source: *Regional Operational Programme for the Lodzkie Region for the years 2014-2020.*

3.1 National Component in the perspective of the EU for the years 2014-2020

"By 2020, every Pole will have had access to the Internet with a capacity of at least 30 Mb/s. It is new, the programme devoted only to informatisation has not been available so far"[15] - this sentence says about the genesis and advisability of the creation of the OPDP. Digitization of Poland and building e-administration are one of the priority areas of support in the new financial perspectives 2014-2020. There are also areas, where one can apply for grants in the first place. The OPDP was prepared based on the regulation of the European Parliament and of the Council (EU) No. 1303/2013 of 17 December 2013 specifying the common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund

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[14] Ibidem

[15] Wasiak M. in an interview for the Polish Radio, source:
http://www.polskieradio.pl/42/4264/Artykul/1350228,Fundusze-unijne-20142020-nadchodzi-rewolucja-cyfrowa (24.07.2016).

for the Rural Development and the European Maritime and Fisheries Fund[16]. The design of the OPDP was adopted by the Council of Ministers on 8 January 2014, and then approved by the European Commission (EC) by the decision of 5 December 2014[17].

Both at the national level (OPDP) and the regional level (ROP), the ability to support the creation of new and the development of existing public e-services is provided. The difference between the programmes relates mainly to the type of applicants. Within the OPDP these are government administration units and the subordinates, courts and public prosecutor and their partnerships. In the case of the ROP, the applicants can be first of all regional government units and all types of (depending on the region) public regional of a regional range. The projects evaluation will take into account, first and foremost, the maturity of the public services. The projects involving e-services at least at the 3rd maturity level, respecting bilateral interaction, i.e. the ability to search for information, download data and send forms via the Internet will be preferred.

The institutionally responsible unit for the applications service in the OPDP will be the Projects Centre Digital Poland, originally called the Authority Implementing the Cross-border Cooperation Programme, which was established in 1994 under the Financial Agreement concluded by the Government of Poland and the European Commission. Since 27 December 2011, the Authority Implementing the European Programmes has been the national budgetary unit subordinate to the Minister of Digitization, called the Projects Centre Digital Poland. On behalf of the Government of the RP, it executes the tasks involved with the resources of the structural funds of the European Union, from a non-refundable foreign aid and other programmes entrusted to it for implementation, including:

The Operational Programme Digital Poland - 1, 2, and 3 priority axis.

The Operational Programme Innovative Economy – in terms of 7 priority axis the "Information society – the electronic administration building" and 8 priority axis the "Information society - increased economy innovation" – Measure 8.3 "Preventing from digital exclusion" and Measure 8.4 "Provision of access to the Internet at the stage of "the last mile" (Intermediate Institution of the 2nd degree/Implementing Institution).

Within the execution of the assigned tasks, the Implementing Institution, in particular:

• supervises over the implementation of the entrusted programmes financed under the structural funds, European initiatives and other European funds, including the pre-accession assistance programmes;

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[16] The Executive Committee Decision of 5 December 2014 adopting some elements of the operational program "*Digital Poland for 2014-2020*" to support from the European Regional Development Fund under the "*Investing for growth and employment* " Poland CCI2014PL16RFOP002] (ed. J. Mielczarek).
[17] https://cppc.gov.pl/wp-content/uploads/POPC_SZOOP_26072016.pdf, (15.07.2016).

- plans, settles and controls payments and management of financial resources within the programmes to the extent not transferred to third parties;

- monitors financial and physical progress of the projects implementation;

- issue certificates of eligibility of expenditures within the programmes implemented by it[18].

The OPDP will execute the following investment priorities assigned to Subject Purpose 2:

2.a expanding the availability of broadband and the introduction of high-speed internet networks and supporting the introduction of new technologies and networks for the digital economy, and

2.c strengthening of the ICT applications for e-administration, e-learning, e-social inclusion, e-culture and e-health;

In accordance with the above, the following priority axes were specified in the OPDP:

Axis 1 Common access to high speed Internet The support will cover by the projects for broadband networks in areas where no public support would prevent from the independent investments of the telecommunications companies. The specific idea of the support is to maximise the country coverage with modern access networks NGA, allowing to provide services and access to the Internet with the parameters at least of 30 Mb/s.

Axis 2 E-administration and open government: The purpose of the support is to widen the scope of issues that citizens and entrepreneurs can do on-line. It will be directly executed due to the computerisation of new public services and the improvement of functionality and e-maturity of existing services, and indirectly due to the improvement of inter-administration services (A2A), necessary for the provision of the public services.

In addition, support will be focused on improving the work of offices through the digitisation processes and procedures, as well as on the provision of the public sector information, such as data from administrative sources, culture and scientific resources.

Axis III Digital competence of the society addressed to groups with different levels of digital skills, with a focus on digital inclusion activities. The targeted support will be provided to the development of competences of people in a group at the risk of digital exclusion, and users who want to develop their digital competences. In addition, the activities aimed at strengthening and potential application will recognize their skills to the needs of a social or economic nature, and at the same time will promote the benefits that the ICT can bring to their holder and the general society, which shall also be planned with the axes of information and educational campaigns[19].

The first calls of applications under the Programme Digital Poland have already started.

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[18] *Regulamin Organizacyjny Centrum Projektów Polska Cyfrowa* załącznik do Zarządzenia 7/26, Dyrektora Centrum Projektów Polska Cyfrowa of 28.07.2016

[19] *Szczegółowy Opis Osi Priorytetowych Programu Operacyjnego Polska Cyfrowa na lata 2014-2020*, Wydawnictwo Ministerstwo Rozwoju, Warszawa 2016.

It is worth noting that in the current financial perspective, the grants in digitisation can also be obtained when applying for funds within the activities related to transport, environment and cultural heritage. In terms of the projects concerning road infrastructure and transport development, it will be possible to apply the tools to organise and manage traffic, such as electronic passenger handling system or information boards.

When applying for grants from the protection and development of natural and cultural heritage, one of the design elements can be digitizing the cultural resources. However, within the activities related to the environmental protection, it will be possible to apply the modern alert systems and threats forecasting systems.

4. Conclusion

As far as the infrastructure investments and launching e-services should not cause major problems to the public administrations, NGO and commercial operators, this challenge can involve the increasing of digital skills. One of the major issues related to their development and motivation of citizens to the application of new technologies is no coherent policy and coordination in the country, primarily at the level of the activities of various entities. This situation results in a fragmented initiatives of activation, no uniform approach, unlearnt lessons from past experience, ineffective spending financial resources (e.g. by the lack of exchange of emerging resources). Meanwhile, there is no doubt that an efficient state, so as to effectively fulfil its functions, should provide high-quality services of the public administration, which can be achieved due to the digitalisation not only as investments in the ICT infrastructure. Building and sharing public e-services will contribute to the creation of a consistent and efficient information system of a state[20]. Therefore, the main recommendation in the area of the provision of digital skills is to ensure better coordination between the entities of public administration and local government administration and entities executing projects for the development of digital skills[21].

Additionally, one must commit regional self-governments to supplement the strategic documents with digital strategies taking into account local specificities of the application of new technologies synchronised with the local market needs and specificities of the region. Among the activities necessary to change at a stage of the preparation of the programming documents can be seen in the change from a purely intervention in infrastructure (equipment, research laboratories applying

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[20] *Program Zintegrowanej Informatyzacji Państwa*, Ministerstwo Administracji i Cyfryzacji, Warszawa 2013, p. 85.
[21] Warszawski Instytut Studiów Ekonomicznych, *Analiza doświadczeń oraz identyfikacja dobrych praktyk w obszarze wspierania rozwoju kompetencji cyfrowych w kontekście przygotowania szczegółowych zasad wdrażania programu Polska Cyfrowa na lata 2014-2020 oraz koordynacji celu tematycznego, raport końcowy*, Warszawa 2015, p.92.

modern technological equipment), complementary activities that take into account the expertise and skills as well as connecting business sphere with education at an academic level.

The current financial perspective 2014-2020 responds based on its assumptions to these needs, especially at the regional level by connecting the intervention of two funds of the European Social Fund, the European Regional Development Fund, which allows to positively implement and apply the ICT projects financed from the EU funds.

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5. *Regionalna Strategia Innowacji dla Województwa Łódzkiego*, uchwała sejmiku łódzkiego nr XXXV/680/13 Łódź 2013.

6. *Regionalny Program Operacyjny na lata 2007-2013*, Wydawnictwo Województwo Łódzkie, Łódź 2011.

7. Sejmik Województwa Łódzkiego, *Strategia Rozwoju Województwa 202*0 , Wydawnictwo Województwo Łódzkie, Łódź 2006.

8. *Szczegółowy Opis Osi Priorytetowych Programu Operacyjnego Polska Cyfrowa na lata 2014-2020*, Wydawnictwo Ministerstwo Rozwoju, source: https://cppc.gov.pl/wp-content/uploads/POPC_SZOOP_26072016.pdf

9. *Szczegółowy Opis Osi Priorytetowych Regionalnego Programu Operacyjnego Województwa Łódzkiego na lata 2007-2013*, Wydawnictwo Województwo Łódzkie, Łódź 2011.

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11. Wasiak M. w wywiadzie dla Polskiego Radia, source: http://www.polskieradio.pl/42/4264/Artykul/1350228,Fundusze-unijne-20142020-nadchodzi-rewolucja-cyfrowa (24.07.2016).

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Marta Borowska-Stefańska[1], Dariusz Mikołajczyk[2], Application of TOD and OPENSTREETMAP to manage flood risk

Abstract:

In the article, one assumes the evaluation to apply the databases of TOD and OSM to manage the flood risk. Currently, one abandons the assumption that there is an effective method of protection against flood, in favour of the philosophy based on which total protection is not possible, so flood damages and loss can only be limited. This approach was formed in the Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on flood risk evaluation and management, so-called Flood Directive[3]. In order to meet the assumptions of the Floods Directive by Poland, and the development of risk maps and flood risk maps, the IT State Protection Project was developed against exceptional threats (ITSPP). Within this project, GUiK develops inter alia the Topographic Object Database (TOD) that is crucial for the implementation of flood activities[4]. OpenStreetMap (OSM) is a social project, due to which everyone has access to an editable map of the world, without restrictions[5]. These data can be applied in one of the stages of crisis management, and more specifically during evacuation of: people from a flood-affected area, livestock and properties. Both TOD and OSM are tools that can be applied to restrict, anticipate and mitigate flood results.

Keywords: flood risk management, OSM, TOD, CSI

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[3] Dyrektywa 2007/60/WE Parlamentu Europejskiego i Rady z dnia 23 października 2007 r. w sprawie oceny ryzyka i zarządzania nim (Dyrektywa Powodziowa). [The Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on flood risks evaluation and management (Flood Directive)].

[4] Z. Kurczyński, *Mapy zagrożenia i mapy ryzyka powodziowego a Dyrektywa Powodziowa*, Archiwum Fotogrametrii, Kartografii i Teledetekcji, Vol. 23, 2012, p. 213-214.

[5] P. Cichociński, *Ocena przydatności OPENSTREETMAP jako źródła danych do analiz sieciowych*, Roczniki Geomatyki 2012, vol. 10, z.7 (57), p.16.

1. Introduction

Every year, floods generate enormous damage and pose a threat to humans[6]. In Poland, flood risk covers an area of over two million hectares. These are both the floodplains of rivers and seaside areas (totally approx. 7% of the country)[7]. In accordance with the Water Law Act of 18 July 2001 "the flood is such water rising in natural water courses, water tanks, channels or at sea, during which water, after crossing the edge, floods river valleys or depression areas and causes a threat to the population and property".*[8]* Not every water raising is flood, but any flood is caused by water raising. The degree of flood risk is determined by population density, use of valleys and floodplains, technical infrastructure etc. The flood has also the economic aspect associated with the problem of the proper management of the areas at risk of flooding and water rising on the one hand, and the rising height, on the other hand. If, on a flooded valley, there is a property of significant value, one can talk about a large or even catastrophic flooding. The most often, the damage amount is assumed as the scale of flooding, which include: threat of human health and life, destruction of homes, roads, crops, monuments, pollution of land and water harmful substances, loss of jobs, etc[9].

Due to the origin of flood, the causes of the formation and its progress, Lambor (1954) distinguished four basic types of it: rain, snowmelt, storm, winter[10].

Currently, the causes of water raising also includes dams' crashes caused by technical defects and excessive power, phenomena such as earthquakes, landslides, ice jams, tides and storm increase flood risks[11].

Rain in summer is the most common cause of flooding in Poland. In 1941-2010, approx. 59% of flood was caused just due to rainfall[12]. Flooding is natural and economic nature phenomenon, difficult to predict. Its share in the total loss of the world caused by extreme events is estimated to be approx. 30%[13]. That is why it is so important to conduct a suitable policy for flood protection.[14]

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[6] S.N. Jonkman, J.K. Vrijling, A.C.W.M Vrouwenvelder, *Methods for the estimation of loss of life due to floods: a literature review and a proposal for a new method*, Natural Hazards 2008, p. 354.

[7] M. Kunicka, W. Galor, M. Habel, *Ocena zagrożenia powodziowego w dolinie dolnej Wisły w rejonie Bobrownik*, Journal of Health Sciences, 2014, p. 197.

[8] Ustawa z dnia 18 lipca 2001 r. Prawo wodne (Dz.U. 2001 nr 115 poz. 1229). [The Act of 18 July2001, Water Law (the Journal of Laws 2001, no. 115, item 1229)].

[9] L. Radczuk, R. Szymkiewicz, J. Jełowicki, W. Żyszkowska, J-F. Brun, *Wyznaczanie stref zagrożenia powodziowego*, Biuro Koordynacji Banku Światowego, Wrocław 2001, p. 20-21.

[10] J. Lambor, *Klasyfikacja typów powodzi i ich przewidywanie*, Gospodarka Wodna, 1954, z. 4, p. 129.

[11] J. Stachy, B. Fal, I. Dobrzyńska, J. Hołdakowska, *Wezbrania rzek polskich w latach 1951-1990*, IMGW, Warszawa 1996, p. 6.

[12] M. Kunicka, W. Galor, M. Habel, *Ocena zagrożenia powodziowego w dolinie dolnej Wisły w rejonie Bobrownik*, Journal of Health Sciences, 2014, p. 197.

[13] Z. Kowalewski, *Powodzie w Polsce – rodzaje, występowanie oraz system ochrony przed ich skutkami*, Woda-Środowisko-Obszary Wiejskie, t.6, z.1, 2006, p. 207 (207-220), based on: W. Majewski, Światowy Dzień Wody 2004. [In:] *Woda i kataklizmy. Materiały z posiedzenia Komitetu Gospodarki Wodnej PAN, Warszawa 29 III 2004*, Wydawnictwo KDW PAN Gdańsk: 2004, p. 10-18.

In the article, one assumes the evaluation to apply the databases of TOD and OSM to manage the flood risk.

2. Flood risk management

Damage caused by floods resulting from the conflict between the nature and the application of a land by a human. The type of, and the extent of damage varies continuously with the development of a society[15]. The development of areas threatened by floods related to the concept of the flood risk, which means "a combination of the probability of flooding and the associated potential adverse consequences for human health, the environment, cultural heritage and economic activity"[16].

In the so far flood protection, the main purposes have involved people protection and flood losses reduction. For this reason, mainly technical activities were taken[17]. It was thought that too weak hydrotechnical management of river valleys did not effectively reduce larger, or even catastrophic water rising, and protect against the loss of properties[18]. As shown by a number of years of observations, these devices often fail, and faith in their reliability causes life-threatening escalation (due to the concentration of settlement types in river valleys and security delusions)[19]. The environmental aspect was not involved in the activities, as well. Therefore, an important task is to develop flood risk maps and the establishment of area application planning in relation to the affected areas[20]. Currently, one abandons the assumption that there is an effective method of protection against flood, in favour of the philosophy based on which total protection is not possible, so flood damages and loss can only be limited. This approach was formed in the Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on flood risk evaluation and management, so-called Flood Directive[21]. The issues of flood risk and flood risk management are very important from the point of view of flood protection. The main purpose of this development is to reduce flood risk and flood consequences. It applies to all types of floods.

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[14] M. Borowska-Stefańska, *Zagospodarowanie terenów zagrożonych powodziami w wybranych miastach województwa łódzkiego*, Prace Geograficzne 2015, z.140, p. 75.

[15] ICPR, International commission for the protection of the Rhine, *Non-structural flood plain management: Measures and their effectiveness*, Koblenz, 2002, http://www.iksr.org/index.php (access: 20.09.2014).

[16] Dyrektywa 2007/60/WE Parlamentu Europejskiego i Rady z dnia 23 października 2007 r. w sprawie oceny ryzyka i zarządzania nim (Dyrektywa Powodziowa art. 2, pkt. 2. [The Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on flood risks evaluation and management (Flood Directive, article 2 (2))].

[17] E. Bobiński, J. Żelaziński, *Czy można przerwać błędne koło ochrony przeciwpowodziowej?*, Gospodarka Wodna 1996, No. 4, p. 104.

[18] J. Grochulski, *Hydrologiczno-ekonomiczne kryteria oceny wezbrań dla potrzeb ochrony przeciwpowodziowej*, Gospodarka Wodna 1975, No. 1, p. 14.

[19] E. Bobiński, J. Żelaziński, *Czy można przerwać błędne koło ochrony przeciwpowodziowej?*, Gospodarka Wodna 1996, No. 4, p. 104.

[20] E. Bobiński, J. Żelaziński, *Czy można przerwać błędne koło ochrony przeciwpowodziowej?*, Gospodarka Wodna 1996, No. 4, p. 104-106.

[21] Dyrektywa 2007/60/WE Parlamentu Europejskiego i Rady z dnia 23 października 2007 r. w sprawie oceny ryzyka i zarządzania nim (Dyrektywa Powodziowa). [The Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on flood risks evaluation and management (Flood Directive)].

The obligations imposed on the Member States consist of three main stages and rely on the need to develop a preliminary flood risk assessment (phase 1, 2011), flood threat maps, flood risk maps (stage 2, 2013) and flood risk management plans[22]. This required the unification of methodology for this type of map on a national scale, as well as the coordination of activities in international river basins. The Polish response to the challenge was the regulation of the Minister of environment, Minister of infrastructure and Minister of Internal Affairs and Administration on developing flood threat maps and flood risk maps of 21 December 2012[23]. It is an implementing act to the Water Law Act of 18 July 2001, which implements the provisions of the Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on flood evaluation and management.[24]

The flood risk maps present:

1. Areas with low probability of flooding, i.e. once every 500 years or such, for which there is a probability of occurrence of extreme events,

2. Areas of special flood risks,

3. Areas covering lands at risk of flooding in the case of:

- water overflowing through flood embankment crown;

- destruction or damage to flood embankment crown;

- destruction of or damage to towering buildings;

- destruction or damage to technical strip protective building.

For these areas, the following was presented on flood risk maps: flood range, water depth or water surface level, water flow speed or water flow intensity – in justified cases[25].

The discussed maps were prepared in two subject sets:

- flood risk map with water depth;

- flood risk map with water flow speeds and directions.

The depth ranges were defined due to the threat of people and the need for possible development of evacuation plans. The criteria specified for the flood risk maps are widely used in the EU countries - the Netherlands, France, Germany and Switzerland[26].

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[22] G. Tsakiris, I. Nalbantis, A. Pistrika, *Critical Technical Issues on the EU Flood Directive*, European Water 2009, 25/26, p. 40-41.

[23] Rozporządzenie Ministra Środowiska, Ministra Transportu, Budownictwa i Gospodarki Morskiej, Ministra Administracji i Cyfryzacji oraz Ministra Spraw Wewnętrznych z dnia 21 grudnia 2012 r. w sprawie opracowywania map zagrożenia powodziowego oraz map ryzyka powodziowego, (Dz. U. 2013 poz. 104). [The Regulation of the Minister of the Environment, the Minister of Transport, Construction and Maritime Economy, the Minister of Administration and Digitization and the Minister of Internal Affairs of 21 December 2012 on the development of flood threat maps and flood risk maps, (the Journal of Laws of 2014, item 104)].

[24] Z. Kurczyński, *Mapy zagrożenia powodziowego i mapy ryzyka powodziowego a Dyrektywa Powodziowa*, Archiwum Fotogrametrii, Kartografii i Teledetekcji 2012, Vol. 23, p. 210.

[25] Ustawa z dnia 18 lipca 2001 r. Prawo wodne (Dz.U. 2001 nr 115 poz. 1229). [The Act of 18 July 2001, The Water Law (the Journal of Laws of 2001, no. 115, item 1229)]

The flood risk maps are prepared for the areas at risk of flooding[27]. They present the potential negative effects associated with floods. They included (at the end of December 2013) the division into two subject sets, presenting: threat to the population and potential flood losses, as well as the application of the area and objects of special cultural, natural, economic importance.

The flood risk is expressed by the term of the social and economic variables, i.e.: the estimated number of inhabitants potentially affected by floods, residential buildings, values of potential flood losses, objects of special social importance, areas and objects of special cultural, natural and economic importance, classes of area application[28].

In addition, flood risk maps show flood loss values set for 8 classes of area application: housing, industrial areas, communication areas, forests, leisure and recreation areas, agricultural land, water, and other.

In addition, these maps include residential buildings and buildings of social importance, for which the average water depth was specified. This allows to estimate the population risk degree in accordance with the following classes:

- water depth < 2 m (low and medium risk for humans);
- water depth > 2 m (high and very high risk for humans).

The regulation on the development of flood threat maps and flood risk maps[29] clearly specifies how to calculate the value of potential flood losses, in particular area application classes. It includes the losses function depending on water depth and area application class.

Flood risk maps are an extremely valuable source of information about the condition of areas at risk of flooding. This is the only development that comprehensively captures this subject. They contain data on the estimated losses, as well as the endangered objects in the form of a spatial

[26] Z. Kurczyński, *Mapy zagrożenia powodziowego i mapy ryzyka powodziowego a Dyrektywa Powodziowa*, Archiwum Fotogrametrii, Kartografii i Teledetekcji 2012, Vol. 23, p. 211.

[27] Ustawa z dnia 18 lipca 2001 r. Prawo wodne, art. 88d ust.2 (Dz.U. 2001 nr 115 poz. 1229). [The Act of 18 July 2001, The Water Law, art. 88D (2) (the Journal of Laws of 2001, no. 115, item 1229)].

[28] Rozporządzenie Ministra Środowiska, Ministra Transportu, Budownictwa i Gospodarki Morskiej, Ministra Administracji i Cyfryzacji oraz Ministra Spraw Wewnętrznych z dnia 21 grudnia 2012 r. w sprawie opracowywania map zagrożenia powodziowego oraz map ryzyka powodziowego, (Dz. U. 2013 poz. 104). [The Regulation of the Minister of Environment, the Minister of Transport, Construction and Maritime Affairs, the Minister of Administration and Digitization and the Minister of Internal Affairs of 21 December 2012 on developing flood threat maps and flood risk maps (the Journal of Laws of 2013, item 104)]

[29] Rozporządzenie Ministra Środowiska, Ministra Transportu, Budownictwa i Gospodarki Morskiej, Ministra Administracji i Cyfryzacji oraz Ministra Spraw Wewnętrznych z dnia 21 grudnia 2012 r. w sprawie opracowywania map zagrożenia powodziowego oraz map ryzyka powodziowego, (Dz. U. 2013 poz. 104). [The Regulation of the Minister of Environment, the Minister of Transport, Construction and Maritime Affairs, the Minister of Administration and Digitization and the Minister of Internal Affairs of 21 December 2012 on developing flood threat maps and flood risk maps (the Journal of Laws of 2013, item 104)]

database of GIS. The only missing issue is the risk diversification level, so that it is comparable between the different sections of rivers[30].

This information was however included in the flood risk management plans[31]. They were prepared for two reference levels – river basin districts and water regions. The purpose of these documents is to reduce the potential adverse effects of floods, through the implementation of selected measures to minimise identified threats[32]. The development basis involved flood threat maps and flood risk maps. These maps were developed at the end of 2013, and the flood risk management plans were published in December 2015[33].

The flood protection should be seen therefore as complex activities, involving both technical and non-technical protection methods[34]. The best situation would be to exclude any areas at risk of flooding from the construction, and later to adjust a flood wave through technical measures, including embankments and water tanks[35]. However, due to the fact that it is not possible on a number of areas, the activities in the flood risk management should include:

- preventing from flood threat, i.e. prevention from damages caused by floods by resigning from the construction of residential buildings, industrial facilities, now and in the future, on floodplains. In addition, it is extremely important to adjust the objects that will be constructed to the flood risk degree, and to promote appropriate area development, agricultural and forestry practices. The European policy, and thus the national one, assumes harmonisation of the activities based on two directives: The Frame Water Directive[36] and the Flood Directive[37] (the area development plan will play an important role here);

- protection as a result of taking structural and non-structural measures, in order to reduce the probability of flood or/and its influence on specific locations;

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[30] M. Borowska-Stefańska, *Zagospodarowanie terenów zagrożonych powodziami w województwie łódzkim*, Wydawnictwo Uniwersytetu Łódzkiego 2015, p. 22.

[31] M. Borowska-Stefańska, Metodologia oceny ryzyka powodziowego gmin województwa łódzkiego, Prace Geograficzne 2016, z. 147 (in print).

[32] http://www.powodz.gov.pl/pl/plany (access: 07.07.2015).

[33] M. Borowska-Stefańska, *Ocena ryzyka powodziowego jako element wdrażania Dyrektywy Powodziowej – przykład Uniejowa*, Problemy Rozwoju Miast. Kwartalnik Naukowy Instytutu Rozwoju Miast 2014, Rok XI, z. III, p. 6.

[34] M. Maciejewski, T. Walczykiewicz , *Powódź – nasze niekonsekwencje*, w: *Forum Naukowo-Techniczne Powódź 2010*, Warszawa 2010, p. 168.

[35] L. Starkel, *Funkcja powodzi w środowisku przyrodniczym dorzecza górnej Wisły*, [in:] *Powódź w dorzeczu górnej Wisły w lipcu 1997 roku,* L. Starkel, J. Grela (ed.), Wyd. Oddziału PAN, Kraków 1998, p. 19.

[36] Dyrektywa 2000/60/WE Parlamentu Europejskiego i Rady z dnia 23 października 2000 r. ustanawiająca ramy wspólnotowego działania w dziedzinie polityki wodnej (Dyrektywa Wodna). [The Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2000 specifying the common activities of the water policy (Water Directive)].

[37] Dyrektywa 2007/60/WE Parlamentu Europejskiego i Rady z dnia 23 października 2007 r. w sprawie oceny ryzyka i zarządzania nim (Dyrektywa Powodziowa). [The Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on flood risks evaluation and management (Flood Directive)].

- readiness, including informing and warning the population about flood risk and the rules of conduct in the event of its occurrence (evacuation);

- emergency procedure in a crisis situation, in accordance with the plans of emergency management in the event of flooding;

 - restoration of normal conditions and draw conclusions, consisting of returning as soon as possible to such conditions and mitigating the social and economic effects for affected people[38].

As noted by K. Kitowski, "modern and effective flood protection requires consistent further, long-term and multi-directional activities in the whole river basin. This involves the need to break a number of schemes and a comprehensive look at how to apply rivers and river valleys. In order to solve the problems occurring in successive floods, a close cooperation of specialists if different fields is needed"[39].

3. Application of TOD to evaluate flood risk

In order to meet the assumptions of the Floods Directive by Poland, and the development of risk maps and flood risk maps, the IT State Protection Project was developed against exceptional threats (ITSPP). It is implemented within the 7th Priority axis Information society – building of e-administration Operational Programme Innovative Economy 2007-2013. This project is run by the Institute of Meteorology and Water Management (Polish: IMGW) – the leader of the consortium, to which the following belong: The National Water Management Authority (KZGW), the Main Office of Geodesy and Cartography (GUGiK), the Institute of Communications and the Government Security Centre (RCB) as a supporting body. Within this project, GUiK develops inter alia the Topographic Object Database (TOD) that is crucial for the implementation of flood activities[40].

This database is "the national system for the collection and sharing of topographic data, which, apart from data, includes an appropriate system of financing, organization, software tools and legal acts". The Regulation of the Minister of Internal Affairs and Administration of 17 November 2011 on the database of the topographical objects and the database of the general geographical objects, as well as standard cartographic developments are the normative act specifying the standards of the

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[38] E. Nachlik, *Gospodarka wodna w kontekście przestrzeni kraju – rekomendacje dla KPZK,* Kraków 2008, p.4-5.

[39] K. Kitowski, *Dyrektywa Powodziowa a prewencyjne planowanie przestrzenne*, Przegląd Komunalny 2010, Nr 7, p. 48.

[40] Z. Kurczyński, *Mapy zagrożenia i mapy ryzyka powodziowego a Dyrektywa Powodziowa*, Archiwum Fotogrametrii, Kartografii i Teledetekcji, Vol. 23, 2012, p. 213-214.

database[41]. The TOD collects the following information: spatial location of objects in the current national spatial reference system; characteristics of objects; cartographic codes; objects metadata[42].

In order to develop flood risk maps, the following topographical data are crucial: application and development of area; business; objects and areas of special social, cultural, economic importance; potential sources of pollution[43]. The correct analysis of the area development within the areas specified on flood risk maps must include both the data from the area surface and application complex[44][45]. The area surface complexes in the TOD include the most important, surface elements of a terrain situation, distinguishable based on their physiognomic features. The objects of this class describe an area completely. The area application complexes are homogeneous surfaces due to its function. This group included first of all economic and social infrastructure of objects. They do not describe the area on a continuous basis, but provide very important information about the area application[46]. In the TOD10k, there are 12 major area surface complexes: surface water, construction areas, woodlands or wooded areas, shrubby vegetation areas, areas with permanent crops, areas of grass vegetation and agricultural crops, areas under roads, rail and airports, unused grounds, squares, landfills, excavation and dumping ground, remaining undeveloped area. However, in the context of the area application, 11 main complexes were distinguished: housing, commerce and industry, commerce and services, communication, sports and recreation, hotel services, educational, health and social welfare, monumental and historical, sacred and cemetery, another area application complex[47].

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[41] http://geoportal.infoteren.pl/Resources/Docs/BDOT10k.pdf (access: 04.02.2016).

[42] Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 17 listopada 2011r. w sprawie bazy danych obiektów topograficznych oraz bazy danych obiektów ogólnogeograficznych, a także standardowych opracowań kartograficznych (Dz. U. Nr 279, poz. 1642). [The Regulation of the Minister of Internal Affairs and Administration of 17 November 2011 on the database of the topographical objects and the database of the general geographical objects, as well as standard cartographic developments (the Journal of Laws no. 279, item 1642)]

[43] Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 17 listopada 2011r. w sprawie bazy danych obiektów topograficznych oraz bazy danych obiektów ogólnogeograficznych, a także standardowych opracowań kartograficznych (Dz. U. Nr 279, poz. 1642). [The Regulation of the Minister of Internal Affairs and Administration of 17 November 2011 on the database of the topographical objects and the database of the general geographical objects, as well as standard cartographic developments (the Journal of Laws no. 279, item 1642)]

[44] M. Borowska-Stefańska, *Zagospodarowanie terenów zagrożonych powodziami w gminach województwa łódzkiego*, Przegląd Geograficzny 2015, 87, 3, p. 536-537.

[45] M. Borowska-Stefańska, *Zagospodarowanie terenów zagrożonych powodziami w Uniejowie*, Biuletyn Uniejowski 2015, vol. 4, p. 132.

[46] *Wytyczne techniczne Baza Danych Topograficznych (TBD)*, 2008, Główny Geodeta Kraju, p. 10-11.

[47] Załącznik nr 1 do rozporządzenia Ministra Spraw Wewnętrznych i Administracji z dnia 17 listopada 2011r. w sprawie bazy danych obiektów topograficznych oraz bazy danych obiektów ogólnogeograficznych, a także standardowych opracowań kartograficznych (Dz. U. Nr 279, poz. 1642). [Annex 1 to the Regulation of the Minister of Internal Affairs and Administration of 17 November 2011 on the database of the topographical objects and the database of the general geographical objects, as well as standard cartographic developments (the Journal of Laws no. 279, item 1642)].

A detailed view of the area application on lands at risk of flooding is the result of the overlapping two layers[48].Then, one can assign distinct forms of the area application and surface for 8 classes of the land application, in accordance with the methodology described in the Regulation of the Minister of the Environment, the Minister of Transport, Construction and Maritime Economy, the Minister of Administration and Digitization and the Minister of Internal Affairs of 21 December 2012 on the development of flood threat maps and flood risk maps[49] in order to evaluate potential material losses[50] (Fig. 1).

Figure 1. Classes of the land application distinguished in order to evaluate potential material losses
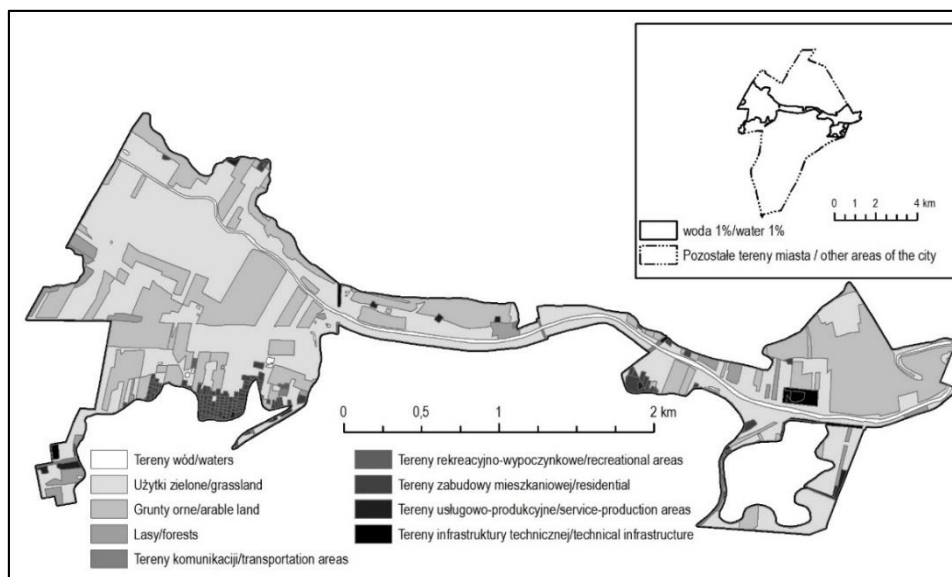
Source: M. Borowska-Stefańska, *Zagospodarowanie terenów zagrożonych powodziami w wybranych miastach województwa łódzkiego*, Prace Geograficzne, z. 140 2015, p. 73.

Furthermore, this database is used to identify potential sources of pollution in the area (cemeteries, building industrial waste landfills), places where permanently or temporarily may remain a large number of people, objects of cultural heritage and valuable natural areas [51][52]. The TOD is important in evaluating flood risk, the efficiency of which depends precisely on the

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[48] M. Borowska-Stefańska*, Zagospodarowanie terenów zagrożonych powodziami w gminach województwa łódzkiego, dorzecza Odry*, Zeszyty Naukowe Ostrołęckiego Towarzystwa Naukowego 2015, XXIX, Ostrołęka, p. 116-118.

[49] Rozporządzenie Ministra Środowiska, Ministra Transportu, Budownictwa i Gospodarki Morskiej, Ministra Administracji i Cyfryzacji oraz Ministra Spraw Wewnętrznych z dnia 21 grudnia 2012 r. w sprawie opracowywania map zagrożenia powodziowego oraz map ryzyka powodziowego, (Dz. U. 2013 poz. 104). [The Regulation of the Minister of Environment, the Minister of Transport, Construction and Maritime Affairs, the Minister of Administration and Digitization and the Minister of Internal Affairs of 21 December 2012 on developing flood threat maps and flood risk maps (the Journal of Laws of 2013, item 104)]

[50] M. Borowska-Stefańska, *Ocena potencjalnych strat materialnych na terenach zalewowych, wyznaczonych dwoma metodami, w wybranych miastach województwa łódzkiego*, Problemy Rozwoju Miast, Kwartalnik Naukowy Instytutu Rozwoju Miast 2015, Rok XII, z. IV, s. 9.

[51] http://www.spotkania-inspire.krakow.pl/materialy2011/3/5-Nachlik_Buczek_BDOT-powodz.pdf (access: 04.02.2015).

[52] M. Borowska-Stefańska, *Flood risk assessment of Łódź province communes*, Humanities and Social Sciences 2015, vol. XX, 22, p. 14.

available topographic database.[53]   The analysed database contains much information essential for the evaluation of flood risk, but due to the fact that it does not have all the details, it cannot be the sole source of information[54].

4.   OPENSTREETMAP base

OpenStreetMap (OSM) is a social project, due to which everyone has access to an editable map of the world, without restrictions[55]. It was established in 2004 by Steve Coast[56]. These data are available on *www.openstreetmap.org*. Since the beginning of the project, special emphasis has been put on the road network. Roads are entered into the database as linear[57]. Their basic classification in the OSM is presented in Table 1.

Table 1. Classification of roads in OpenStreetMaps

No.	Classification of roads in OSM
1.	Motorway – motorway
2.	Trunk - expressway
3.	Primary - national road (in Poland)
4.	Secondary - provincial road (in Poland)
5.	Tertiary - district road (in Poland)
6.	Unclassified - municipal road (in Poland)
7.	Residential - estate road
8.	Living street - a road in a residential zone
9.	Track – dirt road
10.	Pedestrian - paved for pedestrians only
11.	Cycleway - paved for bicycles only
12.	Service - a road to the internal needs of a company or a farm
13.	Footway - pavement
14.	Path – path

Source: own development based on Drop et al. 2013.

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[53]   http://www.spotkania-inspire.krakow.pl/materialy2011/3/5-Nachlik_Buczek_BDOT-powodz.pdf   (access: 04.02.2016).

[54] Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 17 listopada 2011r. w sprawie bazy danych obiektów topograficznych oraz bazy danych obiektów ogólnogeograficznych, a także standardowych opracowań kartograficznych (Dz. U. Nr 279, poz. 1642). [Annex 1 to the Regulation of the Minister of Internal Affairs and Administration of 17 November 2011 on the database of the topographical objects and the database of the general geographical objects, as well as standard cartographic developments (the Journal of Laws no. 279, item 1642)].

[55] P. Cichociński, *Ocena przydatności OPENSTREETMAP jako źródła danych do analiz sieciowych*, Roczniki Geomatyki 2012, vol. 10, z.7 (57), p.16.

[56] M. Haklay, P. Weber, *OpenStreetMap: user-generated Street Maps*, IEEE Pervasive Computing 2008, 7 (4), p.12-18.

[57] P. Drop, P. Gajewski, M. Mackiewicz, *Zastosowanie danych OpenStreetMap oraz wolnego oprgramowania do badań dostępności komunikacyjnej w skali lokalnej*, Acta Universitatis Lodziensis Folia Geographica Socio-Oeconomica 2013, 14, p. 159.

The suitable roads categories can include, in the form of successive tags, additional information, i.e. surface, surface quality, number of lanes, speed limit, entry into service of a variety of vehicles[58].

These data can be applied in one of the stages of crisis management, and more specifically during evacuation of: people from a flood-affected area, livestock and properties. The fire brigade is the leading service provider in terms of flood activities[59]. Travel time of the fire brigades to a place of event directly influence on saving a human life and health, as well as the effectiveness of executed rescue activities[60]. It is therefore important to specify the escape routes and define the activities for the individual units of the fire brigades. In order to execute these analyses, it is necessary to use data that are in the resource of the OSM and tools for network analyses in GIS[61].

In order to specify the escape routes, firstly, the buildings within the areas at risk of flooding must be identified, in particular those with a large number of people residing permanently or temporarily. Then, one must select the location of the NFB units and the VFB units on the researched area, as well as refuge areas. This requires a knowledge of flood threat maps and flood risk maps as well as the Municipal Plans for flood risk management. In addition, in order to execute these tasks, the Topographic Objects Database can be applied. Based on it, the quickest evacuate roads for people from endangered places must be specified. For this reason, one exports from the OSM resource the data concerning roads for the researched area, then checks the database completeness (in particular, information regarding the maximum speed). Unfortunately, some data do not have all the tags, so it is necessary to supplement the base, before calculation of travel time on the assigned road part.[62] Then, such supplemented base, with recalculated travel time, is applied to calculate with the tools for the network analyses in GIS. Based on the information about roads, one must build a network consisting of nodes and segments (Fig. 2).

[58] P. Drop, P. Gajewski, M. Mackiewicz, *Zastosowanie danych OpenStreetMap oraz wolnego oprgramowania do badań dostępności komunikacyjnej w skali lokalnej*, Acta Universitatis Lodziensis Folia Geographica Socio-Oeconomica 2013, 14, s. 159.

[59] *Plan operacyjny ochrony przed powodzią dla województwa łódzkiego*, Oddział Zarządzania Kryzysowego Wydział Bezpieczeństwa i Zarządzania Kryzysowego, Łódzki Urząd Wojewódzki, Łódź 2013, p. 20.

[60] T. Drzymała, S. Krawczyńska, J. Galaj, 2014, Badanie wpływu różnych czynników na czas dojazdu samochodów ratowniczo-gaśniczych z siedziby jednostki PSP na miejsce akcji, Logistyka, Nr 4, p. 232.

[61] M. Borowska-Stefańska, *Dostępność transportowa od straży pożarnych do obiektów społecznych zlokalizowanych na terenach zagrożonych powodziami w województwie łódzkim z wykorzystaniem analiz sieciowych*, Transport Miejski i Regionalny 2016, No. 3, p. 30.

[62] P. Drop, P. Gajewski, M. Mackiewicz, *Zastosowanie danych OpenStreetMap oraz wolnego oprgramowania do badań dostępności komunikacyjnej w skali lokalnej*, Acta Universitatis Lodziensis Folia Geographica Socio-Oeconomica 2013, 14, p. 159.
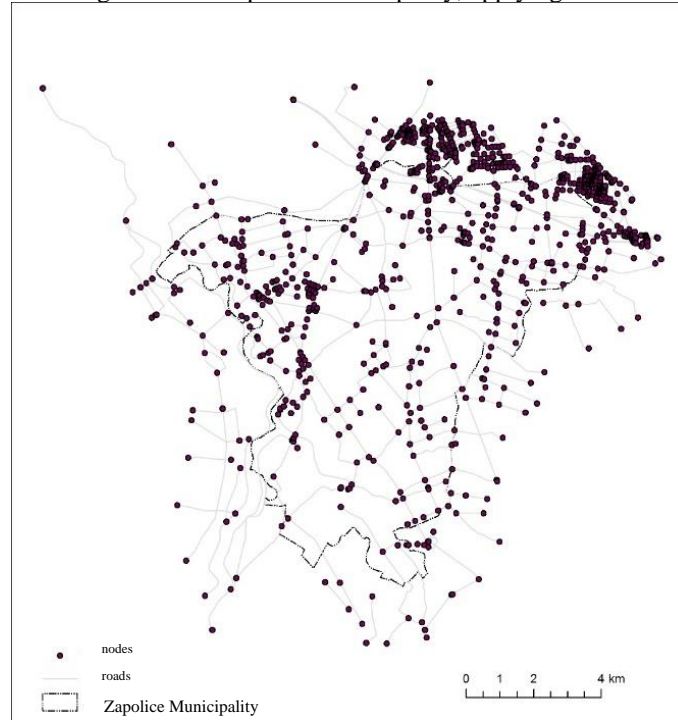
Figure 2. A network of nodes and segments for Zapolice Municipality, applying the OSM database

Source: own development, 2016

In addition to indicating the escape routes for the population, when applying the data from the OSM resources, one can determine the activities range of the NFB and the VFB (Fig. 3).

Figure 3. Activities range of the VFB units in Zapolice Minicipality.
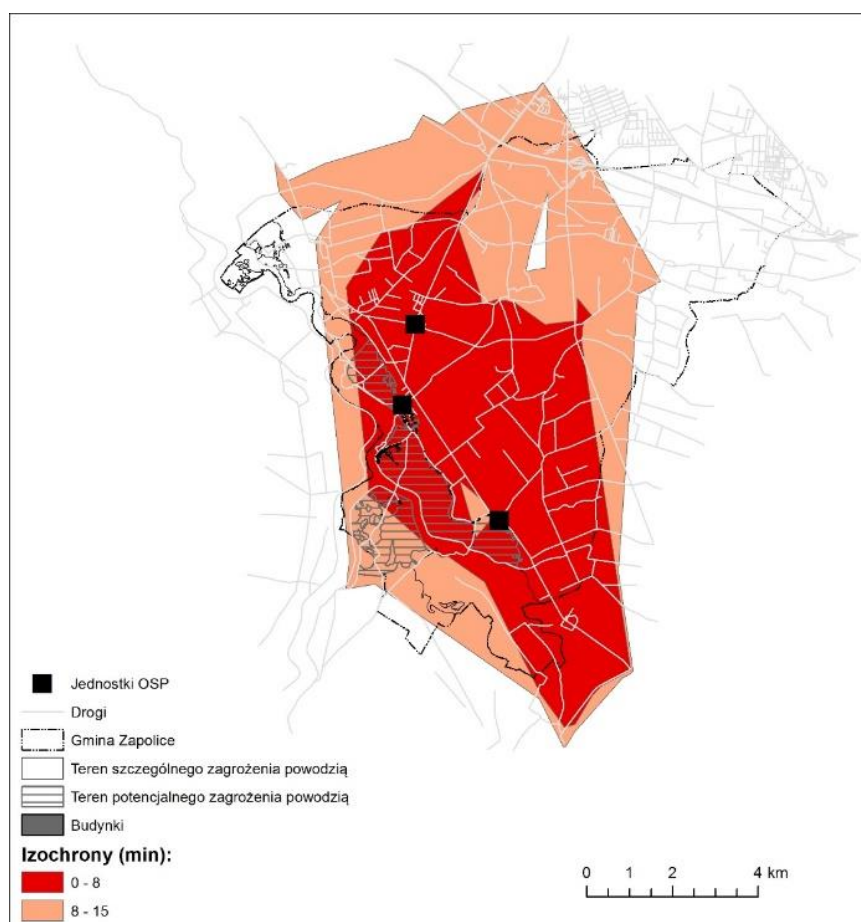
Source: own development, 2016

5. CONCLUSIONS

Due to the frequent floods, generating enormous damage, the communities (and in particular the authorities) are looking for tools that could, if not reduces, anticipate and minimise their consequences. Such tools are both the TDO (Topographic Database Objects) and OpenStreetMap. Despite the different financing sources, the TOD is financed from the EU funds and the national funds, the OpenStreetMap is a social project, they can be applied effectively in order to minimise damages caused by flood. It is understood that the introduction of the possibility of the budgetary resources participation in the development of the OpenStreetMap database. For this reason, the decision-making process will be improved within the crisis management. The simultaneous application of the TOD and OpenStreetMap results in increased efficiency of activities. This results inter alia from the fact of the development of escape routes and the specification of activities area for individual rescue units (taking into account travel time to reach a place at risk). These tools can also be applied when designing the development of areas at risk of flooding. The application of such innovative solutions to the flood risk management in the service of a society would guarantee a significant reduction of economic losses caused by flooding. However, it is connected with the need to train officials in the possibility of their application.

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Ewa Cisowska-Sakrajda[1], Joanna Wyporska-Frankiewicz[2], Anonymous, electronic application for public information, a complaint to the regional administrative court about the failure of the body[3]

Abstract:

The article presents a part of the issue related to access to public information, i.e. the possibility and effectiveness of the submission of a complaint for failure to act of the entity obliged to provide public information - consisting in no response to the submitted electronically anonymous access application - to the regional administrative court. The authors, recognizing the importance and meaning of access to public information, presented the legal difficulties are associated with far-reaching informalisation of the proceedings, which in practice can also take the form of anonymous access application. It was noted that the practical difficulties associated with the submission of anonymous application, and it was attempted to formulate demands *de lege ferenda* on minimum elements of such an application.

Keywords: access to public information, electronic application for public information, anonymous application for public information, failure to act in terms of the application for public information, complaint to the regional administrative court for failure to act by a body.

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[3] The text was co-authored (in equal parts), and the concept, methods and assumptions of the article are the joint work of the authors.

1. Introduction

The value of the right to public information, which is one of the pillars of the democratic state of law concept, and at the same time a part of the wider right to transparency of public life, is difficult to overestimate today[4]. This law, set out in art. 61 (1) of the Constitution[5], despite the term "citizen" applied by the legislator, which can suggest that it is only for Polish citizens, is also provided for persons without the citizenship. As it is indicated in the literature, the international human rights standards, which Constitutional Court stressed already in the 90s of 20th century, require from the state to guarantee the rights and personal liberty for all, not only to its citizens"[6]. The right to public information has the attribute of the constitutional rules and plays an important role in a society. It is an essential element in the control of public opinion on the actions taken by the public authorities[7]. It includes, in accordance with art. 61 (2) of the Constitution "*access to documents and entry to sittings of collective organs of the public authority formed by universal elections, with the possibility of sound or image registration*". The constitutional legislator foresees the possibility of limiting this right. However, these limitations are few and always based on the need to protect essential good. They are therefore only possible due to the specific laws protecting the rights and freedoms of other persons and economic entities, public order, security or important economic interests of the state (art. 61 (3) of the Constitution).

The issue of the right to public information pursuant to art. 61 (4) of the Constitution[8] was regulated in detail by the rules of the act PIA[9]. The provisions of the act allow for wide access to

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[4] See T. Górzyńska, *Prawo do informacji i zasada jawności administracyjnej*, Kraków 1999 r., s. 32; czy J. Trzciński, *Sądownictwo administracyjne gwarantem konstytucyjnego prawa dostępu do informacji publicznej* [in:] *Dostęp do informacji publicznej – rozwój czy stagnacja?*, Warszawa 2008 r., p. 22 - 25.

[5] Ustawa z dnia 2 kwietnia 1997 r. Konstytucja Rzeczypospolitej Polskiej, Dz. U. Nr 78, poz. 483 ze zm. [The Act of 2 April 1997 the Constitution of Poland, the Journal of Laws, no.78, item 483, as amended]. - appointed as referred to as the constitution or the basic law. In accordance with art. 61 (1) states that "*the citizen has the right to obtain information about the activities of public authorities and persons performing public functions. This right also includes receipt of information on the activities of self-governing and professional units, as well as other persons or organizational units in the field in which they perform the duties of public authorities and manage communal assets or property of the State Treasury*".

[6] I. Kamińska, M. Rozbicka-Ostrowska, *Komentarz do art. 2 ustawy o dostępie do informacji publicznej*, Lex el 2015 r. oraz wskazany tam wyrok TK z dnia 20 października 1992 r., K 1/92, OTK 1992 r., nr 2, poz. 23. [*Commentary to art. 2 of the act on access to public information,* Lex el 2015 and the judgement of the Constitutional Court of 20 October 1992. K 1/92, OTK 1992, no. 2, item 23]. Cf. M. Domagala, *Gloss to the judgment of the Administrative Court of 13 November 2014. II SA/Gd 591/14,* TSO 2015/12/114, Lex el - which stated that "the constitutional right of access to obtain information about the activities of public authorities and persons performing public functions is directly limited to citizens (...). Those not falling within the category of a citizen will therefore not be able to apply the right to information as the constitutional law, which will result in, inter alia, inadmissibility of raising their alleged violation of this right by way of a constitutional complaint". This view is also presented by P. Szustakiewicz, *Gloss to the decision of the Supreme Administrative Court of 28 October 2009. I OSK 508/09* , Ius Novum 2010/2/189-197, Lex el.

[7] Cf. the Judgment of the Administrative Court in Krakow of 6 March 2014, II SA/Kr 132/14, Lex no. 1443475.

[8] In accordance with this provision "*the procedure for providing information referred to in paragraph 1 and 2, are defined by the acts, and with regard to Sejm and Senate - by their regulations*".

public information, one of the purposes of this act is to ensure transparency of the activities of public entities. Already in art. 1 (1) of the act of PIA, it was claimed that "*any information about public affairs is public information within the meaning of the act and available subject to the terms and procedures set forth in this Act*", and in art. 1 (2) of the act PIA that "*provisions of the act do not breach the provisions of other laws defining the different rules and mode of access to information regarded as public information, provided that they do not limit the reporting obligations of public information to a central repository of public information (...)*". The fact that the will of the legislature was to provide wide access to public information is also provided in art. 2 (1) of the act PIA[10], granting anyone access to public information, and art. 2 (2) of the act PIA[11], implementing a prohibition on requiring the applicant to prove legal interest. Different views are formed against the background of the term "anyone" both in the doctrine and in the jurisprudence. There is, however, doubt that this formula shows it was about to ensure access to public information to a number of people. The literature stresses that the term "anyone" must take into account not only natural and legal persons of the private law, but also legal persons or organizational entities without legal personality, e.g. social organizations". Therefore, since the term "anyone" applied in art. 2 (1) of the act PIA commonly refers to any entity, without any exclusions, and the term "person" included in art. 2 (2) of the Act PIA does not limit this context, it indicates an entity through which it executes its powers, it should be assumed that a literal interpretation militates against limiting the extent of the subjective scope of the act"[12]. However, there are views and opinions, in accordance with which "the interpretation of art. 2 (1) of the act PIA indicates that in a case of public information contribution by the administrative body, a complaint to the administrative court is inadmissible, because it does not have locus standi to submit a complaint"[13]. One stresses the fact that "in no way, the term "anyone" can be associated with art. 2 (1) of the act PIA. The term "any" means any person or entity of the private law" and the provisions of the act PIA "are not a legal tool, which is to serve to public authorities to mutual exchange of information. The provisions applied here are constitutional and administrative provisions of the political system. However, the act of Access to Public Information is for social control of public authority by a society"[14].

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[9] Ustawa z dnia 6 września 2016 r. o dostępie do informacji publicznej, tekst jedn. Dz. U. z 2015r., poz. 2058 ze zm. [The Act of 6 September 2016 on access to public information, the consolidated text, the Journal of Laws of 2015, item 2058, as amended]. - hereinafter referred to as the act of PIA

[10]In accordance with this provision "*anyone is entitled, subject to art. 5, to the right to access to public information (...)*".

[11]Under this provision "*any person exercising the right to access to public information shall not be required to demonstrate legal or actual interest*".

[12] M. Jaśkowska, *Gloss to the decision of the RAC of 18 February 2010, II SAB/Wa 197/09*, OPS 2011/9/94, Lex el.

[13] P. Szustakiewicz, *Gloss to the decision of the SAC of 28 October 2009, I OSK 508/09*, Ius Novum 2010/2/189-197, Lex el.

[14]Ibidem.

In addition, the jurisprudence indicates that "any" applied in art. 2 (1) of the act PIA cannot refer to public authorities, since the purpose of the act is to provide access to information about public affairs, and not to allow authorities to obtain information from other public bodies"[15]. Moreover, it is stressed that in the interpretation of the applied in art. 61 (1) of the Constitution concept of a citizen, and applied in art. 2 (1) of the act PIA concept of "anyone" - one should consider first and foremost the purpose of the provisions on access to public information, which is "to provide a kind of "social control" of public authorities, transparency of the operation of these bodies", and thus "taking into consideration the purpose and meaning of the act PIA adopted for the realisation of the transparency of public authority, to formulate any means of any person or entity of the private law"[16]. Undoubtedly, art. 2 (1) of the act PIA indicates that the legislator extended, in relation to art. 61 of the Constitution, the range of those entitled to public information[17]. The literature indicates even that the act PIA - determining the right to public information more widely than the basic law, admits it also to foreigners and statelessness ones, thus "any (...) adult and non-incapacitated has the right to demand from public authorities to have access to public information. The entity does not have to have a place of residence in Poland"[18]. The content of art. 61 of the basic law and art. 2 of the act PIA state jointly that anyone has the public subjective right to public information. Furthermore, the jurisprudence indicates that the right of access to public information is regarded as the public subjective right, it corresponds to "an obligation to provide citizens with public information by the entities specified in the act"[19]. It is worth to stress that art. 2 (2) of the act PIA leaves no doubt as to the fact that one does not need to show a legal interest or actual interest, there is no obligation to indicate a reason for which an applicant requests for specific information.

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[15]The judgement of the RAC in Gdańsk of 24 September 2014, II SAB/Gd 100/14, Lex No. 1,534,416; see. also, e.g. the judgement of the RAC in Kraków of 6 March 2014, II SA/Kr 132/14, Lex No. 1443475, which indicated that "the administrative body is not entitled to request public information from another administrative body under the act on access to public information". On the other hand, the judgement of the RAC in Warsaw of 24 February 2014, II SAB/Wa 450/13, Lex No. 1504697 pointed out that "the provisions of act PIA shall not be applied when the entity performing public functions sends information to another public entity, and this is to apply it for its assigned public functions".

[16] The judgement of the RAC in Kraków of 6 March 2014, II SA/Kr 132/14, Lex No. 1443475, the Court also indicates that "it is not about narrowing the access to public information exclusively to natural persons holding the Polish citizenship".

[17] J. Czerw, *Dostęp do informacji publicznej w Polsce*, PPP 2013/11/7-24, Lex el; and D. Fleszer, *Zasada powszechności prawa do informacji publicznej*, Czas Informacji 2011/1/30-39, Lex el; I. Kamińska, M. Rozbicka-Ostrowska, *Komentarz do art. 2 ustawy o dostępie do informacji publicznej*, Lex el 2015.

[18] A. Błaszczyńska, *Zakres podmiotowy prawa do informacji publicznej*, PPP 2010/6/50-61, Lex el.; and I. Kamińska, M. Rozbicka-Ostrowska, *Komentarz do art. 2 ustawy o dostępie do informacji publicznej*, Lex el 2015, indicate that the access to public information can be required by any individual, regardless of nationality, if only it holds full civil rights, i.e. is an adult, and has not been incapacitated". In addition, it is specified that the application submitted by a minor or incapacitated should remain unconsidered. See M. Bidziński, M. Chmaj, P. Szustakiewicz, *Ustawa o dostępie do informacji publicznej. Komentarz*, Warszawa 2015 r., p. 23 – 24.

[19] Wyrok WSA w Warszawie z dnia 13 marca 2014 r., II SAB/Wa 6/14, Lex nr 1468055. [The Judgement of the Regional Administrative Court in Krakow of 13 March 2014, II SAB/Wa 6/14, Lex no. 1468055].

Implemented in art. 3 (1) (1) of the act PIA exception to the prohibition of specifying an interest in obtaining public information is dependent by the legislature on obtaining public information processed based on its significance to the public interest.

Considering such a certain status and importance of the access to public information, it is advisable first of all to show the legal difficulties posed by far-reaching informalisation of the proceedings, taking in practice a form of anonymous access application and formulate demands *de lege ferenda* on minimum elements of such an application.

2. Methods of access to public information

The methods of access to public information are specified by the legislator in art. 7 of the act PIA. Under this provision, the availability is based on: firstly, the publication of public information (including official documents) in the Public Information Bulletin[20]; secondly, the availability based on an application and by putting forward or posting[21]; thirdly, taking part at meetings of the bodies referred to in art. 3 (1) (3) of the act of PIA, i.e. collective organs of public authority formed by universal elections, and sharing materials (including audiovisual and telecommunications) documenting these meetings; and fourthly, the availability in the central repository. In accordance with art. 11 of the act PIA, public information can also be available by putting forward and posting in public accessible places, and by a device installed in these places, allowing to learn it. In addition, one must note that an entity providing access to public information in this way is required to ensure the possibility to copy, print, send or transfer it to the appropriate, commonly applied information carrier (art. 12 (2) of the act PIA). There is no doubt, however, that not all public information is widely available, and thus it is necessary to apply for access to learn it. The legislator made it clear that public information that was not available in the PIB or the central repository, can be available on request (art. 10 (1) of the act PIA).

From the point of view of access to public information, the PIB is on the first plan for an anonymous recipient, because public information announced there allows to be learnt by a number of and, above all, anonymous recipients. Furthermore, familiarising with the information published in the PIB does not require the involvement of an entity holding the information, one is able to reach it by oneself. This problem, however, remains outside the subject of further considerations[22],

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[20] Further PIB. The BIP issues were normalized by the legislator in art. 8 of the act PIA.

[21] The mode of access to public information on request was specified by the legislature in art. 10 of the act PIA, and the availability based on putting forward or posting based on art. 11 of the act PIA.

[22] However, one should be aware that obliged entities do not always provide relevant information in the PIB, and such information is not always complete. See e.g. Cz. Martysz, *Synteza* [in:] *Jawność i jej ograniczenia*, ed. G. Szpor, vol. VII, *Postępowanie administracyjne*, ed. Cz. Martsza, Warszawa 2015, p. 179 – 180. Finally, our system does not have a specialized body for access to public information, which could exercise direct control not only over the timeliness and content of the PIB. The subject of a specialized body for access to public information, see. e.g. A. Piskorz-Ryń, *Ochrona administracyjna prawa do informacji o charakterze publicznym, RPEiS of 2007, no. 4, passim; B. Fischer,*

which focus on access to public information on request. Considering this aspect of the right to public information, one should indicate art. 10 (2) of the act PIA. It shows that the information to be made available immediately, is available in oral or written form, even without a written application (art. 10 (2) of the act PIA). Consequently, an application for access to public information does not always take a written form. However, public information should be made available in a manner and form in accordance with an application unless the technical means available to an entity obliged to provide access do not prevent it from making information available in a manner and form requested (art. 14 (1) of the act PIA). In this case, however, when information cannot be made available in a manner or form requested, an entity obliged to provide access is obliged to inform an applicant in writing about any reasons for the impossibility of making it available as requested, indicating at the same time how or in what form information can be made available immediately. However, if within 14 days from that notification, an applicant does not submit an application for information in a manner or form indicated in the notification, the procedure to provide information shall be cancelled (art. 14 (2) *in fine* the act of PIA).

3. Elements of the application for access too public information

A written application submitted under the act PIA does not necessarily correspond to any particular formal requirements, nor, undoubtedly, constitutes an application within the meaning of art. 63 of the APC[23], because at this stage of the provision of public information, the provisions of the Administrative Procedures Code are not applied[24]. An application access to public information does not need to be justified, because art. 2 (2) of the act PIA relieve a person exercising the right to public information from the obligation to show a legal or actual interest. One should agree, therefore, with the view that the minimum requirements for such an application include clear wording clearly indicating which is the subject of an application to access to information public, it

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A. Piskorz-Ryń, Wyspecjalizowany organ do spraw dostępu do informacji o charakterze publicznym w wybranych krajach UE [in:] Główne problemy prawa do informacji w świetle prawa i standardów międzynarodowych, europejskich i wybranych państw Unii Europejskiej, ed. G. Sibigi, Warszawa 2013 r., *passim*; B. Fischer, A. Piskorz-Ryń, *Powołanie wyspecjalizowanego organu w sprawie dostępu do informacji publicznej w Rzeczypospolitej Polskiej – uwagi de lege ferenda* [in:] *Główne problemy prawa do informacji w świetle prawa i standardów międzynarodowych, europejskich i wybranych państw Unii Europejskiej*, ed. G. Sibigi, Warsaw 2013, *passim*; and legal expertise of 19 July 2013, developed by a team composed of: P. Fajgielski, A. Młynarska-Sobaczewska, A. Piskorz-Ryń, G. Sibiga, pt. „*Rozwiązania mogące stanowić podstawę do zmiany przepisów regulujących zasady dostępu do informacji publicznej i jej ponownego wykorzystania*", https://mac.gov.pl/files/wp-content/uploads/2013/09/IPN_ekspertyza.pdf. See also J. Wyporska-Frankiewicz, *Samorządowe Kolegia Odwoławcze jako alternatywa dla wyspecjalizowanego organu do spraw dostępu do informacji publicznej* [in:] *Jawność i jej ograniczenia*, ed. G. Szpor, vol. IX, *Zadania i kompetencje*, ed. B. Szmulika, Warszawa 2015, p. 287 – 316.

[23] Ustawa z dnia 14 czerwca 1960 r. Kodeks postępowania administracyjnego, tekst jedn. Dz. U. z 2016 r., poz. 23 – powoływanej dalej jako k.p.a. [The act of 14 June 1960, the Administrative Procedures Code, the consolidated text, the Journal of Laws of 2016, item 23 - hereinafter referred to as the APC].

[24] The provisions of the Administrative Procedures Code are applied to the decision referred to in article 16 (1) of the act PIA - but with some, specified the legislature, distinctnesses (art. 16 (2) of the act PIA).

is necessary to demonstrate the fact that the requested information is public information[25]. Therefore, one cannot consider an application as correct without specifically indicated information, and thus sufficient general request. Each application, "regardless of what type of procedure is to initiate must contain at least the data and be sufficiently precise to enable it to settle in accordance with the law"[26]. An analysis should be executed in terms of whether the minimum elements of the application for public information should include, in addition to the precise indication of the scope of the requested information, the definition of an entity submitting this application, and therefore whether such an application can be anonymous. Consequently, it is necessary to determine whether an entity should be obliged to answer it, thus providing an anonymous applicant the access to public information. It is also important whether an anonymous entity applying for public information can effectively lead to making it available by an obligated entity and how.

Considering the guaranteed and informalised access to public information, the thesis seems to be justified that it is possible to submit an application orally, by telephone, and through electronic means of communication[27]. An application for public information can be regarded as a request sent by email even when its authorization was not made by an electronic signature. One should stress the fact that "the proceedings on access to public information is of simplified and informalised nature, and a person asking that question does not need to fully identified, there must not be a legal or actual interest"[28]. Therefore, an application for public information can take any form, as long as it clearly shows the subject. Therefore, to provide simple public information, full identification of an applicant is not needed[29]. This promotes "hiding" of an author of an application, or provision of untrue data by it. The key, therefore, is to determine whether the purpose of the act PIA, expressing a wide access to public information, also means the possibility of obtaining information by an anonymous applicant. Although, one can argue, as it is executed by the jurisprudence[30] that, since in

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[25] Wyrok WSA w Gdańsku z dnia 18 czerwca 2014 r., II SAB/Gd 50/14, Lex nr 1486035.[The Judgement of the RAC in Gdańsk 18 June 2014, II SAB/Gd 50/14, Lex no. 1468035].

[26] Wyrok WSA w Warszawie z dnia 2 kwietnia 2014 r., VIII SAB/Wa 69/13, Lex nr 1466202. [The Judgement of the RAC in Warsaw of 2 April 2014, VIII SAB/Wa 69/13, Lex no. 1466202].

[27] One has to note that during the administrative procedure, such method of communication with an administration body will not be effective Address of a usual electronic mail is not an electronic address within the meaning of article 2 (1) of the act of 18 July 2002 on the provision of services by electronic means (the consolidated text. the Journal of Laws of 2013, item 1422, as amended) in connection with the article 20A of act of 17 February 2005 on the informatisation of businesses of entities performing public functions, the consolidated text, the Journal of Laws of 2014, item 1114, as amended.

[28] The judgement of the RAC in Lodz of 10 may 2012, SAB II/Łd 46/12, Lex no. 1166260; whether the judgement of the RAC in Olsztyn of 5 March 2015, II SAB/Ol 3/15, Lex no. 1657552, in which the court held that a written application should be considered also as an application sent by e-mail, even if it is not authorised with an electronic signature.

[29] Wyrok WSA w Olsztynie z dnia 5 marca 2015 r., II SAB/Ol 3/15, Lex nr 1657552.[The Judgement of the RAC in Olsztyn of 5 March 2015, II SAB/Ol 3/15, Lex no. 1657552].

[30] Wyrok WSA w Białymstoku z dnia 10 listopada 2015 r., II SAB/Bk 62/15, Lex nr 1941007; podobnie wyrok WSA w Krakowie z dnia 6 lipca 2015 r., II SAB/Kr 82/15, Lex nr 1782613; a także wyrok WSA w Warszawie z dnia 10

the case of information published in the PIB, its recipient remains anonymous, one should also, as a rule, allow to submit an anonymous application for public information by e-mail[31]. Since none signature authorization is required, in fact one can sign any name and surname, however, this can cause some practical problems at a later stage of the proceedings. Such a position allows for the possibility to an anonymous access application, it is not widely accepted. Different opinions are also presented, based on which the concept of "anyone" is not the same as the determination of anonymous, and therefore an entity applying for specific public information should provide its name and surname (the name in the case of non-natural persons)[32]. Furthermore, in accordance with the judicature, "the fact that the right to access to public information is entitled to "any" (...) does not mean that an applicant can be "anonymous". (…) the indication by an applicant of data allowing to identify it, or a submission of documents to specify its subjectivity, legal status, rules representation (for an entity other than a natural person), is the minimum requirement. An obliged entity has the full right to require such data, which will allow it to properly specify an entity, to which steps related to the implementation of the application will be taken"[33]. If the term "anyone" is understood as a natural person, legal entity or an organizational unit without legal personality, and the indication by an applicant of data to identify it is the minimum requirement, the authority required to provide public information has every right to demand data, which will allow for the proper specification of an entity, to which steps related to the implementation of the application will be taken. This permission is not excluded by the fact that the provision of public information is not dependent on an applicant legal or actual interest, the concept of public interest is the category of the substantive law, while the designation of an applicant remains in the field of the procedural law[34]. On also observed that such a wide meaning of the term "any", "practical problems can occur when applications are submitted by phone or by e-mail, which prevents from the individualisation of an applicant, and

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listopada 2010 r., II SAB/Wa 259/10, Lex nr 756216. [The judgement of the RAC in Białystok of 10 November 2015, II SAB/Bk 62/15, Lex no. 1941007; similarly the judgement of the RAC in Kraków of 6 July 2015, II SAB/Kr 82/15, Lex no. 1782613; as well as the judgement the RAC in Warszawa of 10 November 2010, II SAB/Wa 259/10, Lex no. 756216. The courts point out that an application for access to public information can take any form, and a person requesting does not have to be fully identified, the more that it does not need to exhibit a legal or actual interest. Therefore, no authorized signature on an application for access does not constitute a formal lack, so a written application sent by e-mail should also be considered, even if it is not authorised with an electronic signature.

[31] This will be the simplest form allowing to obtain a response by an anonymous applicant, though of course not the only one. It should be noted that sending an anonymous application by mail, with an indication that an applicant expects a written reply to the address of a mail box, it is also possible, and will allow to quite effectively hide an applicant.

[32] M. Kłaczyński [in:] M. Kłaczyński, S. Szuster, *Komentarz do art. 2 ustawy o dostępie do informacji publicznej*, Lex el 2003 r.; a także przywoływany tam W. Rygiel, *Ty nam zgodę, my ci informację. Wzór wniosku z MSWiA: przed wypełnieniem spalić!*, Rzeczpospolita z dnia 24 lipca 2003, no. 168. One stated that due to the nature of the methods to provide public information specified in art. 7 of the act PIA, in practice, this requirement is primarily concerned with public information provided on request.

[33] Wyrok WSA w Krakowie z dnia 13 listopada 2007 r., II SAB/Kr 58/07. [The Judgment of the RAC in Kraków of 13 November 2007, II SAB/Kr 58/07].

[34] Wyrok WSA w Olsztynie z dnia 5 marca 2015 r., II SAB/Ol 33/12, Lex nr 1145979.[The Judgement of the RAC in Olsztyn of 12 April 2012, II SAB/Ol 3/15, Lex no. 1657552].

thus a recipient of provided public information"[35]. However, "if requested information is not processed information, and the provision of it does not expose any secrets protected by the law, an obliged entity will immediately provide it, not trying to determine for whom it is intended. This includes information that can circulate without any restrictions and is commonly available. However, if information is processed and there is a need to deny availability or burden an applicant with the costs of persist, an obliged entity should request from an applicant make its application of a form corresponding to the requirements of a pleading, i.e. specifying the data identifying an applicant (...). In these cases, it can be necessary to issue an administrative decision, and this must be addressed to a specific recipient, who is a party to the proceedings"[36]. This proposal deserves full acceptance. Due to the fact that the legislature will was to ensure wide access to public information, and to include information in the PIB, which causes access to it to an anonymous recipient, one should assume that this information should be, as a rule, provided based on an anonymous application. However, the above is reserved by the fact that this applies only to simple information, unprocessed in any case, the provision of which does not disclose secrets protected by the law.

4. Obligations of an obliged entity associated with an anonymous application for access to public information sent by e-mail

An application or public information sent by e-mail to address specially created for this purpose is the simplest method acceptable and at the same time guaranteeing anonymity, as well as providing the opportunity to response. In this case, if an application is for the provision of simple information, an obliged entity should consider it, and thus an anonymous applicant should receive requested public information or information referred to in article 14 (2) of the act PIA to provided e-mail address[37]. The problem arises if an anonymous application for public information is submitted by e-mail by an entity obliged to provide, is ignored due to the fact that it was not signed, and feedback from an entity does not include requested information, but is such as: "we do not response to anonymous application", or there is no response to such an application. When considering this issue, it should be firstly noted that, at this stage, the provisions of the administrative procedures code are not applied, and therefore it will not be acceptable to issue a call to an as referred to in article 64 § 2 of the APC, in conjunction with article 63 § 3 of the APC, and if

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[35] I. Kamińska, M. Rozbicka-Ostrowska, *Komentarz do art. 2 ustawy o dostępie do informacji publicznej*, Lex el 2015.
[36] Ibidem.
[37] This provision states that "*if information cannot be made available in a manner or form requested, an entity obliged to provide access is obliged to inform an applicant in writing about any reasons for the impossibility of making it available as requested, indicating at the same time how or in what form information can be made available immediately. In this case, if within 14 days from that notification, an applicant does not submit an application for information in a manner or form indicated in the notification, the procedure to provide information shall be cancelled*".

is not satisfied leaving an application without consideration, as referred to in article 64 § 2 of the APC. It will also not be allowed to provide information: "we do not response to anonymous information". Applicant's data will be needed for an obliged entity to provide public information if it is necessary to issue a decision to refuse to provide public information (article 16 (1) of the act PIA) or does not continue the procedures to provide it (article 14 (2) of the act PIA). The provision of art. 16 (2) of the act PIA states that the decision referred to in article 16 (1) is based on the APC. Therefore, far-reaching informalisation of access to public information finishes when the authority must issue an administrative decision, and is based on the necessity of the application of the provisions of the APC. An administrative decision must be addressed to a specific, well-specified with a name, surname a recipient, it is in fact one of its structural elements[38]. Furthermore, in order to enter it into legal transactions, it must be effectively delivered to an addressee, and so delivered in accordance with the requirements specified in the provisions of the APC. The delivery of a scan of that decision to the e-mail address cannot be, without any doubts, recognized as valid. Thereby, if an application for access to public information was submitted in informalised way, and e-mail correspondence was carried out with the authority, which is acceptable and in line with the idea of informalised and wide access to such information, but the authority decided that the issue must be finished with issuance of an administrative decision, it is obliged to apply the provisions of the APC, including concerning the deliveries. In the administrative proceedings, the rules of official services are applied, the source of which is the content of article 39 of the APC. This rules are expressed in the fact that the administrative body delivers letters against a signed and dated receipt by a postal operator within the meaning of the Postal Law[39], by its employees or by other authorised persons or bodies. The legislature allowed to deliver letters electronically, pointing in article 39^1 § 1 of the APC[40], for such delivery at the request of or with the consent of a recipient of an official letter. Furthermore, in accordance with article 39^1 § 1a of the APC, it entitled the administrative body to turn to a party or another participant in the proceedings to be provided with a consent to deliver letters in an electronic form in other, referred to by the terms of the individual issues handled

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[38] See the judgement of the SAC of 20 July 1981, SA 1163/81, OSPiKA, 1982, no. 9-10, item. 169, in which the Court indicated that the minimum elements necessary to qualify a letter as an administrative decision include: "the designation of the administrative body (...) issuing the act, indication of the act addressee, settlement of the case nature and signature of a person representing the administration body."

[39] Ustawa z dnia 23 listopada 2012 r., Dz. U. z 2012 r., poz. 1529 ze zm. [The Act of 23 November 2012, the Journal of Laws of 2012, item 1529, as amended].

[40] In accordance with this provision "*delivery of letters takes place by means of electronic communication within the meaning of art. 2 (5) of the act of 18 July 2002 on the provision of electronic services (...) if a party or other participant in the proceedings meets one of the following conditions: 1) submits an application in a form of an electronic document by an electronic provision box of the administrative body; 2) applies to the administration body for such delivery and indicates an e-mail address; 3) consents to deliver letters in proceedings by such measures and indicates e-mail address*".

digitally by that authority, and as is in article 39[1] § 1b of the APC. - to apply for consent to deliver letters in an electronic form and send with it this instance by means of electronic communication to e-mail address of a party or another participant in the proceedings. By entering this mode of letters deliveries, the legislature has specified, in article 46 § 4 of the APC[41] the obligations of the authority delivering letters in an electronic form, to be a kind of guarantees of protection of a recipient of a letter and, at the same time, the conditions for the effectiveness of the delivery. In article 46 § 5 and § 6 of the APC[42], it included the advising mode of electronic letters in a form of electronic notices, while in article 46 § 7 of the APC, the admissibility of creating and submitting these notices by electronic system of the public administration body, without confirmation. Article 46 § 8 of the APC is also crucial for electronic deliveries[43], it establishes the obligation of the body allow a recipient to access the content of an electronic letter, and provide it with information about the circumstances of delivery. Detailed technical and organizational conditions of letters deliveries in a form of electronic document in accordance with article 46 § 9 of the APC are specified by the regulations of the act of 17 February 2005 on the informatisation of operations of entities performing public functions. One should also note that in accordance with the definition included in article 2 (1) of the act on provision of services by electronic mode[44], the term "*electronic address*" is "*an indication of the electronic system to allow communication using electronic means of communication, in particular electronic mail*". The e-mail address provided by the a to deliver letter in the administrative procedure should, however, allow to deliver a document in a form of an electronic document keeping the requirements referred to in the provisions of the APC, in particular, in article 46 § 4 of the APC,[45] as well as in the

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[41]In accordance with this provision "*to deliver a letter in a form of an electronic document, the administrative body sends to e-mail address of an addressee a notice containing: 1) an indication that a recipient can receive a letter in a form of an electronic document; 2) indicating an e-mail address from which a recipient can download a letter and to which it confirm delivery of a letter; 3) instruction on how to receive a letter, and in particular how to identify e-mail address indicated in the ICT system of the public administration, and information on the requirement to sign an official receipt as specified in art. 20a of the act of 17 February 2005 on informatisation of entities performing public tasks*".

[42]"*If a letter is not downloaded in a form of an electronic document in the manner referred to in § 4 (3), the administrative body, after 7 days from the date of sending of a notice, sends re-notice about a possibility to download a letter*" (art. 46 § 5 of the APC), whereby "*in the case of failure to download a letter, delivery is considered as effective after the expiration of fourteen days from the date of sending the first notice*" (art. 46 § 6 of the APC).

[43]Under this provision "*in the case of recognition a letter in a form of an electronic document to be delivered pursuant to § 6, the administrative body allows a letter addressee to access to the contents of a letter as an electronic document for at least 3 months from the date of considering a letter in a form of an electronic document as delivered and to information about the date of considering a letter as delivered and the date of sending of notices referred to in § 4 and 5, in its ICT system*".

[44] Ustawa z dnia 18 lipca 2002 r., tekst jedn. Dz. U. z 2013 r., poz. 1422 ze zm. [The Act of 18 July 2002, the consolidated text, the Journal of Laws of 2013, item 1422, as amended].

[45]In accordance with this provision "*to deliver a letter in a form of an electronic document, the administrative body sends to e-mail address of an addressee a notice containing: 1) an indication that a recipient can receive a letter in a form of an electronic document; 2) indicating an e-mail address from which a recipient can download a letter and to which it confirm delivery of a letter; 3) instruction on how to receive a letter, and in particular how to identify e-mail address indicated in the ICT system of the public administration, and information on the requirement to sign an official receipt as specified in art. 20a of the act of 17 February 2005 on informatisation of entities performing public tasks*".

provisions of the act on informatisation of activities of bodies performing public functions,[46] in particular in article 20a.[47] A prerequisite for effective delivery of a letter in a form of an electronic document is to confirm a receipt of such a letter with a signature, in the manner specified in art. 20a of the act PIA,[48] i.e., a secure electronic signature by the application of a qualified certificate keeping the rules provided for in the act of 18 September 2001 on electronic signatures or a signature confirmed with a trusted profile ePUAP on an official receipt confirmation.[49] What is also important, the administrative body is obliged to apply a dedicated for this purpose computerised system, meeting the technical and functional requirements specified by the law. If, therefore, the provisions of the act provide the delivery of letters by means of electronic communication, this delivery is by electronic means to a mail box of the public body.[50] The aforementioned provisions show, therefore, that the identification of computerised systems user provided by the entities referred to in article 2 of the act PIA is effected by the application of a qualified certificate keeping the rules specified in the law on electronic signature or profile of trusted ePUAP. It is that the body had an official confirmation of receipt of a letter, because this fact is associated with putting it into legal transactions.[51] In the light

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[46] Ustawa z dnia 17 lutego 2005 r., tekst jedn. Dz. U. z 2014 r. poz. 1114 ze zm. [The Act of 17 July 2005, the consolidated text, the Journal of Laws of 2014, item 1114, as amended]. - hereinafter referred to as the act of PIA

[47] It should be noted that art. 20a (3) of the act PIA contains a delegation to issue a regulation, it states that "*The minister responsible for informatisation specifies, by the regulation: 1) detailed organizational and technical conditions to be met by a computer system applied to issue a certificate and the application of technology referred to in paragraph 1 and 2, 2) rules of confirmation, renewal, utilization and cancellation of a trusted profile of ePUAP, including: (...) b) the validity of a trusted profile of ePUAP, c) content of a profile trusted of ePUAP, d) cases in which there is no confirmation of a trusted profile of ePUAP, e) cases in which a trusted profile of ePUAP becomes invalid, f) conditions for signing a confirmed trusted profile of ePUAP, g) conditions of storage and archiving of documents and data directly related to the confirmation of a trusted profile of ePUAP, h) forms of applications for confirmation, extension and cancellation of a trusted profile of ePUAP, i) conditions to be met, included in a point confirming a trusted profile of ePUAP - considering the need to ensure safety and security in the identification process and the confidentiality of the key elementary steps*". See the Regulation of the Minister of Administration and Digitization of 5 June 2014 on rules of confirmation, renewal, revocation, and the application of a trusted profile of the platform of the public administration services, the Journal of Laws of 2014, item 778.

[48] The provision of article 20a (1) of the act PIA states that "*identification of computerisation systems user provided by the entities referred to in art. 2 by applying the qualified certificate with the rules specified in the act of 18 September 2001 on electronic signature (...), or a trusted profile of ePUAP* " (par. 1); in paragraph 2 of the act PIA that "*the public entity applying the computerised system to execute public tasks can allow users to identify in this system by applying other technologies, unless separate regulations provide for the obligation to make operations at the headquarters of the public entity*".

[49] The term "*official confirmation of receipt*" in accordance with art. 3 (20) of the act PIA is understood as "*electronic data related to an electronic document delivered to the public entity or delivered by it in a manner ensuring recognition of subsequent changes in the data, specifying: a) full name of the public entity to which an electronic document was delivered or which delivers a document, b) date and time of introduction or transfer of an electronic document to the data communication system of the public entity - in relation to a document delivered to the public entity, c) date and time of confirming a receipt by an addressee applying the mechanisms referred to in article 20a (1 or 2) - in relation to a document delivered by the public entity, d) date and time of the issued official confirmation of receipt*".

[50] In accordance with art. 3 (17) of the act PIA, the term "*e-mail box*" should be understood as "*publicly available electronic communication means for transmitting an electronic document to the public entity applying commercially available data of the communications system*". In accordance with article 16 (1a) of the act PIA "*the public entity provides e-mail box meeting the standards specified and published on ePUAP by the minister responsible for informatisation, and provides its services*".

[51] See the judgement of the RAC in Lodz on 10 March 2016, I SA/Łd 1417-1415; the judgement of the RAC in Gliwice of 2 March 2016, I SA/Gl 1090/15 of 30 March 2016, I SA/Gl 1222/15.

of the above, the term "electronic address", referred to in article 46 § 4 of the APC should be understood as an electronic address in the ICT, to support deliveries, through which the administrative body can deliver electronic documents and receive required by official confirmation of delivery, i.e. e-mail box address on ePUAP platform. If, however, the administrative body considers that an application for access to public information cause issue of a negative decision, and thus the provisions of APC will be applied. Indeed, the only valid, i.e. in accordance with the law, delivery of a decision, causes the fact that it is put into legal transactions. Therefore, if the body is going to issue this decision, it should inform an anonymous applicant, requesting at the same time, to provide name and surname, address to which this decision should be delivered, pointing out that failure to execute this will cause the application to remain unconsidered. It seems that due to the anonymity of an applicant and the impossibility of effective delivery of a call, and informalisation of the access to public information, and having regard to the content of article 16 (2) of the act PIA, the call will be based on the provisions of the APC. Thus, this will be an informalised call provided to anonymous applicants to its e-mail address solely based on the provisions of the at PIA. The provision of art. 64 § 2 of APC is not applied in this situation, because the provisions of the APC can be applied only in the cases referred to in the act PIA, and any are involved here[52]. However, one needs to remember that the obliged entity must exactly explain effective notification of a decision by electronic means of communication, by sending it to e-mail address of an anonymous applicant.

5. Inaction of the obliged entity in terms of an application for access to public information

Failure to respond to an application for access to public information by the obligated entity to provide it, causes an inaction state of the body referred to in article 3 § 2 (8) of the LPBAC, [53] entitling an applicant to submit a complaint to the administrative court[54]. A complaint for failure to act[55] is a disciplinary measure towards the administrative body, and to admit it, it does not matter

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[52] Wyrok WSA w Łodzi z dnia 10 maja 2012r., II SAB/Łd 46/12, Lex nr 1166260.[The Judgement of the RAC in Lodz of 1o May 2012, II SAB/Łd 46/12, Lex no. 1466260].

[53] Ustawa z dnia 30 sierpnia 2002 r. Prawo o postępowaniu przed sądami administracyjnymi, tekst jedn. Dz. U. z 2015r., poz. 718 ze zm. [The Act of 30 August 2016, Law on proceedings before administrative courts, the consolidated text, the Journal of Laws of 2015, item 718, as amended]. - hereinafter referred to as the act of LPBAC

[54] The subject of a complaint can involve "*inaction or chronic executing of proceedings in the cases specified in paragraphs 1-4 or chronic executing of proceedings in the case referred to in paragraph 4a*" (paragraph 8); "*inaction or chronic executing of proceedings in the cases other than those specified in paragraphs 1-3 of the acts or activities of the public administration on the rights or obligations under the laws adopted in the administrative procedure specified in the act of 14 June 1960. - the Administrative Procedures Code, and the procedures specified in chapters IV, V and VI of the act of August 29 1997 - Tax ordinance and the proceedings to which they the rules established by the laws are applied*" (paragraph 9).

[55] In accordance with art. 21 of the act PIA "*to complaints considered in the proceedings for access to public information, the provisions of the act of 30 August 2002 - Law on proceedings before administrative courts (...) are*

based on what circumstances the act was not taken or the act was not executed, or whether inaction of the body was caused by incidental or indolence of the body in taking or executing, or whether it is connected with the conviction of the body that there are negative evidences to settle the issue through an issued decision[56]. In the legal terms, inactivity occurs at the same time, when the body, in spite of the existing obligation, does not settle, in the specified law form and time, issues on which the applicable regulations make it right and competent, and when it refuses to take a specific action, mistakenly thinking that it is not incumbent upon such an obligation[57]. The entity is obliged to provide public information; therefore, it remains in inaction in particular if a party concerned did not provide requested public information or did not make a settlement decision pursuant to art. 16 of the act PIA[58]. In the jurisprudence, it is stressed that "in the cases of access to public information, a complaint for inaction is entitled not only to the classic "silence", but also when requested information does not meet the requirements specified in article 2 (1) of the act PIA"[59].

A complaint to the administrative court based on understood inaction on issues of access to public information does not have to be preceded by a call to remove the law infringement, as referred to in article 52 § 4 of the LPBAC[60]. Hence, no prior call to remove infringement does not reject it as inadmissible. The evaluation of the brought proceedings of a complainant is much more important in this regard. This evaluation, in the case of an anonymous electronic application for access to public information, raises a number of doubts. The term "any" applied in art. 50 of LPBAC and art. 2 of the act PIA, specifying respectively each entitled to complain and entitled to submit an application for access to public information, are not, despite the same wording, the same in terms of a range. One should distinguish a substantive and legal interest of anyone to access to public information from individualized interest of anyone to request the court to execute control of actions/omissions of the administration on providing this information. Therefore, only the application of the latter one determines the powers of the first one. Consequently, the complaints

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applied, except that: 1) The transfer of files and response to a complaint occurs within 15 days from the date of receipt of a complaint; 2) A complaint is considered within 30 days from the date of receipt of the files with a response to a complaint".

[56] Wyrok WSA w Warszawie z dnia 2 kwietnia 2014 r., VIII SAB/Wa 69/13, Lex nr 1466202. [The Judgement of the RAC in Warsaw of 2 April 2014, VIII SAB/Wa 69/13, Lex no. 1466202].

[57] For instance, the judgement of the RAC in Gdańsk of 9 December 2015, II SAB/Gd 163/15, LEX No. 1963757; the judgement of the RAC in Gliwice of 31 March 2015, IV SAB/Gl 9/15, LEX No. 1677031; the judgement of the SAC of 21 January 2015, II FSK 3097/12, LEX No. 1624342; the judgement of the RAC in Kraków of 20 March 2014, I SAB/Kr 1/14, LEX No. 1518843; the judgement of the RAC in Lodz of 18 November 2014, III SAB/Łd 34/14, LEX No. 1562788.

[58] Wyrok WSA w Warszawie z dnia 24 lutego 2014 r., II SAB/Wa 450/13, Lex nr 1504697.[The Judgement of the RAC in Warszawa of 24 February 2014, II SAB/Wa 450/13, Lex no. 1504697].

[59] Wyrok WSA w Poznaniu z dnia 7 marca 2013 r., IV SAB/Po 103/12, Lex nr 1303744.[The Judgement of the RAC in Poznań of 7 March 2013, IV SAB/Po 103/12, Lex no. 1303744].

[60]See e.g. the judgement of the SAC of 30 November 2011, I OSK 1991/12; or the judgement of the SAC of 24 May 2006, I OSK601/05 and the decision of the SAC of 23 April 2010, I OSK 646/10.

procedures can be initiated only by the entity that previously applied for access to public information. By introducing wide complaints proceedings, based on a model of the administrative and law proceedings, on the criterion of legal interest regardless of the accepted views as to whether the source of this interest is the only substantive rule[61]. whether the procedural and institutional provisions, and regardless of the branch of law to which this provision should relate[62] - the intention of the legislator was not derivation from the fact of providing any abstract right to public information of the complaints proceedings. This fact is determined by the met conditions indicated so extensively in the jurisprudence, including the requirement of a legally protected interest of the entity; the connection between the sphere of its individual rights and responsibilities and the contested act or administration activities; and to demonstrate a submitted complaint in its own case[63]. This last condition, the most important from the point of view of the complaint admissibility of an applicant, consisting of anonymous electronic applications for access to public information, comes down to the submission of a complaint in its own administrative case, understood as provided for in the administrative law possibility of concretisation of the rights and obligations of parties to the administrative relationship, which are: the public body and individual entity non-allocated to this body in terms of organisation[64]. The immanent element of the complaints procedures is therefore the action of a person submitting a complainant directly on its own behalf, and submitting a claim to grant it its own individual rights or an exemption from the obligation imposed, based on the specific provision of the current law[65]. Considering the jurisdiction of the administrative court, covering generally the control of legality of actions/omissions of the administration in the issues of the public administration, it is necessary to preserve the identity of the issues of the administrative courts with previously diagnosed by the administration administrative issue, including, apart from the subject elements, subject elements important for further considerations. The separation of a subjective element is, based on the judicature, important because of the dispute over the legality of administrative actions, is solved by the administrative

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[61]See the judgement of the SAC of 17 April 2007, I OSK 755/06, Lex no. 337023.

[62]See the judgement of the SAC of 18 November 2010, I OSK 860/10, LEX No. 745350; the judgement of the SAC of 17 June 2011, II OSK 1083/10, LEX No. 992469.

[63]See the judgement of the RAC in Wrocław of 23 March 2011, IV SA/Wr 715/10, LEX No. 950603; the judgement of the RAC in Warszawa of 17 October 2006, IV SA/Wa 198/06,LEX No. 283599; the judgement of the SAC of 18 November 2010, I OSK 860/10, LEX No. 745350; the judgement of the SAC of 17 June 2011, II OSK 1083/10, LEX No. 992469; the judgement of the RAC in Opole in Olsztyn of 14 August 2009, II SA/Ol 496/09; the decision of the SAC of 15 April 2010, II FSK 126/10, LEX No. 619840.

[64] See the judgement of the RAC in Warszawa of 17 October 2006, IV SA/Wa 198/06, LEX No. 283599; the decision of the SAC of 28 December 2010, II FSK 2404/10, LEX No. 742354; the decision of the SAC of 27 January 2011, II FSK 2500/10, LEX No. 742360.

[65]The decision of the SAC of 13 November 2012, I OSK 2633/12, LEX no. 1325020; the judgement of the RAC in Gdańsk of 17 July 2008, II SA/Gd 321/08, LEX no. 499821; the decision of the RAC in Białystok of 9 October 2012, II SO/Bk 13/12, LEX no. 1289343.

court only when a complaint about its decision is submitted by the entity with the right to the complaints proceedings. "(...) If a complaint (...) was submitted by an entity without the right to the complaints proceedings, the recognition and settlement of the administrative court is limited to evaluating the legal interest of an applicant, except for initiating a dispute over the legality and the application of the measures referred to in the act"[66]. Because of this condition, a complainant for inaction in providing public information in accordance with the submitted anonymous electronic application, it will be obliged to show its own individual interest in obtaining judicial control in inaction.

There is no doubt that the right to the complaints proceedings initiated in the administrative court is entitled to a person signed on an application for access to public information. The jurisprudence indicates that if "anyone" has the right to apply for public information, a party to legal proceedings (art. 32 of LPBAC) is "any" natural person having legal capacity (art. 26 § 1 of LPBAC) requiring judicial control of the correctness of the consideration of its application. These people can be the ones signed on an application for access to requested information under the provisions of the act PIA"[67]. Thus, it cannot be considered that anyone, apart from an entity refused to access to public information based on a decision, had a legal interest entitling it to submit a complaint against this decision[68]. An author of an access application will be entitled to submit a complaint. However, in the case of an anonymous application for access to public information, one cannot state unequivocally, whether an applicant and a person submitting a complaint are the same entity, and hence whether there is economic identity between them. No signature on an application for access to public information excludes the possibility for its observation by a simple comparison of identity of those entities. Due to the facts, it is often impossible or causes difficulties. Of course, one can look for ways to identify an author of an anonymous application for access to public information submitted by e-mail, but none of them seem to be sufficient. It should be noted that a mail print cannot be deemed sufficient to establish identity of an applicant a person submitting a complaint, it merely provides that an applicant had access to an e-mail box of an applicant[69], and not that it is an author of an application, or an owner of an e-mail box. In addition, submitted certificate (e.g. from the owner of the server) that a person submitting a complaint is an owner of an e-mail box, from which an anonymous application come from, and cannot be

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[66]The judgement of the SAC of 17 April 2007, I OSK 755/06, Lex no. 337023.

[67] Wyrok NSA z dnia 14 grudnia 2012 r., I OSK 2033/12, Lex nr 1366441. [The judgement of the SAC of 14 December 2012, I OSK 2033/12, Lex no. 1366441]

[68] Wyrok NSA z dnia 30 sierpnia 2012 r., I OSK 1860/12, Lex nr 1328726. [The judgement of the SAC of 30 August 2012, I OSK 1860/12, Lex no. 1328726]

[69] It is possible e.g. to provide access to an e-mail box to someone, as well as breaking into it and sending an anonymous e-mail. Por. też wyrok WSA w Szczecinie z dnia 31 marca 2016 r., II SAB/Sz 25/16. [Cf. the judgement of the RAC in Szczecin of 31 March 2016, II SAB/Sz 25/16].

considered sufficient, it does not provide undoubtedly identity of an applicant and a person submitting a complaint. Therefore, to assume that an author of an application is the same entity as a person submitting a complaint, both an application and a complaint must be signed with the same name and surname. In no other case, such identity can be specified undoubtedly. Foresight and forethought in the gathering of evidence for a possible occasion to demonstrate the substantive compliance still does not eliminate the uncertainty as to the complaints proceedings, there is no certainty as to who actually sent an application from a virtual e-mail address. But even if the admissibility of the submission of an anonymous application for access to public information is approved, and the consequences the obligation of the entity obligated to response, the anonymity of an application should preclude the possibility of submitting an effective complaint to the administrative court[70]. Consequently, if, after an anonymous application for access to which the entity obliged to response does not respond, a complaint against inaction is submitted to the administrative court, it should be rejected as inadmissible. If an applicant wishes to take advantage of the process guarantee in a form of a complaint to the court, it should disclose its data at the stage of an access application, and at this stage, due to the informalisation, it will not be needed to sign an access application with a certified electronic signature, or the application of the trusted platform ePUAP. The disclosure of this data is therefore the application of entitlements guaranteed by article 61 (1) of the Constitution of Poland, and art. 2 (1) of the act PIA, in accordance with the well-understood interests of a party applying for public information. The last but not least, one must note that although an application for access is submitted by an entity having no legal capacity, which, considering far-reaching informalisation of the access mode will be permitted, can even finish with obtaining public information, at the stage of the administrative proceedings, it should be represented by a legal representative[71]. In the light of the applicable legal regulations, one cannot complain effectively against inaction to the administrative court if a complaint against inaction is the result of an anonymous application for access to public information. It must therefore be assumed that the act PIA allowed to "hide" by an applicant, and at this stage, it can take advantage of this by submitting an anonymous application. In addition, when it comes to simple information, the obliged entity should satisfy it. However, if a complaint submitted to the administrative court is the consequence of an access application, an applicant must disclose, only in this case there will be no doubt as to

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[70] Cf. G. Sibiga, *Na anonimy również odpowiadamy*, Rzeczpospolita z dnia 7 lipca 2016r., p. C3 oraz wskazany tam pogląd WSA w Białymstoku, II SAB/Bk 38/16.

[71] Cf. the judgement of the RAC in Warsaw of 20 April 2015, II SAB/Wa 1032/14, Lex No. 1724010, which indicates that if the "an application for access to public information is submitted by a journalist acting on behalf of a particular journal, the legal interest in the proceedings initiated with this application will be entitled to a journal, and not just a journalist as an individual. An editor of such a journal, as a person in charge pursuant to art. 25 (2) of the act of 1984 - Press law, is entitled to submit a complaint in such proceedings".

identity of an applicant and a person submitting a complaint[72]. Otherwise, a complaint should be rejected as inadmissible. No complaints proceedings can in fact be qualified as another reason, based on which the submission of a complaint is unacceptable, and which is specified in art. 58 § 6 of LPBAC. Rejection of a complaint is not substantive way to consider it, essentially undertaken in closed session composed of one person, and in questionable issues requiring clarification through direct oral hearing, a hearing can be composed of three members. One should notice that the same legal form in which the administrative court expresses its decision about no complaints proceedings is the subject of divergent views of the jurisprudence itself. Basically, one can note two opposing trends in this regard. The first one, although dominant, but not worthy of approval, proceeds from the assumption that if the right to submit a complaint is a substantive prerequisite, and the essence of the complaints proceedings expresses the right to request control of actions/omissions of the administration in order to bring into compliance with the law, and to eliminate the law breach on the subject, a declaration of no complaints proceedings, i.e. the finding that a complaint was submitted by an entity having no legal interest from the substantive law, and results in dismissal of a complaint[73]. However, the proponents of this view modify this position themselves, assuming that a complaint submitted by an entity that *a limine* cannot have the right to the complaints proceedings subject rejection based on art. 58 § 1 (6) of LPBAC, and the statement in the course of the proceedings that a complainant could not show a legal interest will cause dismiss of a complaint[74]. The latter type of a judgement, in accordance with the representatives of this trend, does not apply to such a situation when a complaint is submitted by an entity that does not fit into any category of entities referred to in article 50 § 1 and 2 of LPBAC[75]. If, however, the establishment of no right to the complaints proceedings of an applicant is the result of the research

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[72] The example is the content of art. 37 of the act of 27 August 2009 on public finances (the consolidated text, the Journal of Laws of 2013, item 885, as amended). - hereinafter referred to as the act of PFA This provision imposes an obligation to publish data of entities that were granted tax relieves in excess of 500 PLN. If an entity does not use any relief, its data as a taxable person, are protected by the treasury secrecy, and hence, even under the in the act PIA, it will not be possible to specify them. However, if the same entity wants to benefit from a relief and it obtains it, then its data will have to be published within the deadline based on article 37 of the PFA, and thus one can read them without having to apply the PFA. Therefore, if a particular entity benefited from the relief, it should be aware that its data would be published in this context, it would not be protected by the treasury secrecy. The provision of art. 37 of the PFA constitutes an exception to the rule that the individual tax data are subject to the treasury secrecy.

[73] The judgement of the SAC of 16 September 2010, II OSK 1397/09, LEX no. 746508; the decision of the SAC of 5 February 2014, II GSK 9/13; the decision of the SAC of 8 July 2014, I OSK 1351/14; the decision of the SAC of 15 June 2012, I OSK 1133/12, LEX no. 1333846; the decision of the SAC of 24 February 2011, II OSK 227/11, LEX no. 1071206; the judgement of the RAC in Gliwice of 12 January 2015, II SA/Gl 791/14; the judgement of the RAC in Warszawa of 18 March 2013, I SA/Wa 1530/12, LEX no. 1321333.

[74] Cf. the decision of the SAC of 27 January 2011, II FSK 2500/10; the judgement of the SAC of 10 March 2011, II OSK 439/10, LEX no. 992577; the decision of the SAC of 12 July 2012, II FSK 2667/10; the decision of the RAC in Białystok of 9 October 2012, II SO/Bk 13/12, LEX no. 1289343; the judgement of the RAC in Olsztyn of 20 January 2015, II SA/Ol 1131/14.

[75] See the judgement of the SAC of 10 April 2008, II OSK 374/07, LEX No. 468574; the judgement of the RAC of 14 August 2009, II SA 1083/O1 496/09.

of its legal interest, within the meaning of art. 50 § 1 of LPBAC, the administrative court should judge, dismissing a complaint, and not a decision to dismiss a complaint[76]. It is admissible therefore to dismiss a complaint only if no right to the complaints proceedings is evident,[77] and therefore it is obvious[78], and results from the evaluation of a formal complaint submitted based on a settled case law and does not require examination of the *merits*[79]. The second opposite trend assumes that no right to the complaints proceedings is the basis to reject a complaint[80]. The representatives of this trend assume that if the court, in a preliminary stage of the proceedings, is obliged to examine the admissibility of a complaint, when a person submitting a complaint does not show a connection between the sphere of individual rights and obligations of a person submitting a complaint and the contested act results in the fact that a person submitting a complainant is not legitimized to submit it, and a complaint must be rejected based on art. 58 § 1 (6) of LPBAC. Sharing this point of view, it should be noted that since the examination of the legal interest of a person submitting a complaint is, as noticed by the proponents of this trend, a basic action, the result of which influences on further course of the proceedings[81], undertaken at any stage of the proceedings, it is difficult to see the logic in the view that for this reason the court could reject a complaint, doing so at the hearing composed of three members. Referring the case for hearing, which is confirmed in the common practice, does not have to mean that a complaint will be considered based on the merits by the court, and the more that it is obliged to dismiss a complaint due to no right to the complaints proceedings. The hearing does not have to result in substantial consideration of a complaint, since such an order does not result in any way from the provisions. Therefore, there are no obstacles to reject a complaint, also at the hearing, if the procedural acts taken in the course of it reveal no right to the complaints proceedings of a person submitting a complaint or this will occur after referral for hearing. That is important, the administrative court, examining the complaints proceedings (whether single or by three people), evaluates it not only by

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[76]The judgement of the SAC of 28 December 2010, II FSK 2404/10, Lex no. 742354.

[77]See the judgement of the SAC of 13 June 2007, II FSK 1337/06, LEX No. 384145; the judgement of the SAC of 27 January 2011, II FSK 2500/10, LEX No. 742360.

[78] This is the case e.g. of a complaint submitted by a person to whom the special act does not grant in a particular case the right to the complaints proceedings (the decision of the SAC of 13 June 2007, II FSK 1337/06, LEX no. 384145); a complaint submitted by the body which issued the decision in the first instance (the decision of the SAC of 28 December 2010, II FSK 2404/10, LEX no. 742354); a complaint submitted by an addressee of the decision, so the entity formally being a party of the court and administrative proceedings, however, as showed by the court examination, not having a legal interest arising from the substantive law (the judgement of the SAC of 3 August 2010, I OSK 1536/09, LEX no. 745073; the judgement of the RAC in Poznań of 18 September 2013, II SA/Po 765/12, LEX no. 1393287).

[79] Postanowienie WSA w Lublinie z dnia 7 października 2015 r., III SA/Lu 1197/15, LEX nr 1803870. [The decision of the RAC in Lublin of 7 October 2015, III SA/Lu 1197/15, Lex no. 1803870].

[80] E.g. the decision of the SAC of 24 November 2011, II OSK 2376/11, LEX no. 1070391; the decision of the RAC w Lodz of 25 June 2010, III SA/Łd 323/10, LEX no. 602432; and the decision of the RAC in Lodz of 26 July 2005, II SA/Łd 10/05.

[81] E.g. the judgement of the SAC of 16 September 2010, II OSK 1397/09, Lex no. 746508.

the simple statement of facts with the possible content of the legal rule, but it must evaluate it by the applicable analysis on the provisions for interest of a potential person submitting a complaint, the more that the interest is often a result of the adoption of the so-called reflex law. In addition, the evaluation often allows for a compliant based on the circumstances of a particular case requiring to make arrangements with the participation of parties to the proceedings, which can in turn justify the hearing and then the result of findings, which can influence on the evaluation the complaints proceedings. Thus, any time, at the stage of making a decision to continue the proceedings, the court must consider this aspect, as well. This means that the evaluation of the complaints proceedings, to a lesser or greater extent, is always the subject of the evaluation of the court. The exceptions involve special situations of obvious lack of the right to the complaints proceedings. The mode in which a complaint is rejected should not have a crucial meaning for the evaluation, but it should involve objective and fact of no legal interest. If, what needs to be stressed, no right to the complaints proceedings is the disadvantage of a complaint, which does not subject to rectification, but is in favour of the subject inadmissibility, in consequence of stating it, it seems inappropriate to dismiss a complaint because of the lack of, and not as a result of a positive evaluation of the action/inaction of the administration, which is, after all, a consequence of the control executed by the administrative court. Contrary to common practice of decision-making by the administrative courts concerning dismissal and not rejection of complaints, due to no right to the complaints proceedings, dismissal of a complaint in this case does not lead to a substantive consideration of a complaint. The more one cannot accept occurring in practice situations, when the administrative court evaluates the legality of the administration actions with an indication, apart from the major legal arguments, the circumstances of no right to the complaints proceedings because of the discrepancy between identity of an applicant and a person submitting a complaint in the administrative proceedings[82], and dismissal of complaints indicating directly and essentially to the lack of the right to the complaints proceedings[83].

The above arguments justify the adopted thesis, in accordance of which no response of an entity obliged to provide public information based on an anonymous application may prevent from effective submission of a complaint against inaction to the administrative court. An anonymous applicant will not, in fact, be able to demonstrate its personal identity in access and complaints proceedings. If such a complaint is submitted to the administrative court, it will reject it as inadmissible. Since in any case, subjective identity must be kept between an applicant and a person submitting a complaint, the right to the complaints proceedings against inaction of the body will be

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[82] The confirming example is the judgement of the RAC in Lodz of 13 July 2016, II SA/Łd 149/16.
[83] E.g the judgement of the RAC in Szczecin of 31 March 2016, II SAB/Sz 25/16.

granted to a specific entity (specified with name and surname) that submitted an access application. A different way to demonstrate its legal interest before the administrative body and before the administrative court opposes, so widely adopted implicitly in the judicature, the view that access to public information must lead to wide access to the court and substantive consideration of a complaint against inaction of the administration in providing public information. The term "any" meaning commonly "individual out of a team of people, objects, events, phenomena; all without exception"[84], in the normative approach to the evaluation of the right to the complaints proceedings is of a narrower range than for the evaluation of the right to the complaints proceedings of an applicant for public information. Informalisation and simplification of the procedure for providing public information is not a sufficient reason for the consideration of full anonymity of applications for this information. Name and surname provided in an electronically submitted application does not affect this lack of formalism, and only allows to consider the will expressed by an applicant in this way. The applicant is still anonymous, as long as no further data to identify it are provided, it will not be possible to establish its identity, especially when it has a common surname and name. Considering the importance of an application for access to public information and related legal consequences, an applicant's statement contained therein must minimally indicate an applicant, which is not synonymous with the possibility of its full identification. Abstract e-mail address does not undoubtedly allow to specify whether an application was submitted by a natural person, a legal unit or an organizational unit without legal personality, and if it is an adult or the incapacitated. Such address, in the absence of evidence establishing the data identifying an applicant, does not indicate a person submitting a complaint.

6. Conclusion

Ensurance of wide access to public information, and far-reaching informalisation, allowing to familiarize oneself with this information, contribute to the execution of social control of the public administration. For this reason, they deserve a positive evaluation. Informalisation is, occurring in practice even anonymous applications, possibly signed pseudonym, but it arises a number of legal difficulties. Despite the differences in the doctrine and judgements, one should allow for an anonymous application for access to simple information, and the correlating with it obligation to allow for it without the need to identify an applicant. However, an applicant must take the consequences into account in terms of such submitted application. If an anonymous application remains unanswered of the entity obliged to provide information, an applicant will not be able to

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[84] Dunaj B. (ed.), *Popularny słownik języka polskiego*, Warszawa 2000, p. 216.

successfully submit a complaint against inaction to the administrative court. The judicial protection can be applied by a specific entity, signed with first and last name, which is the same as the ones of an application author. One cannot also ignore the fact that a number of anonymous access applications sent by electronic means of communication, the content of which is often the same, the result of which involves complaints against inaction to the administrative court, containing a request to obtain costs of the proceedings (often in double height) can be applied as a way of earning a living, and thus constitute a kind of abuse of the law. In fact, it is not about access to information, but assigning the body with additional activities, and in the case of exceeding a short period to consider an application based on the act PIA, submitted complaints against inaction and request for refund the costs. In this case, one can talk about the abuse of the right to information, the purpose of the action of an applicant is not, in fact, to obtain information, but to obtain reimbursement of the costs of the proceedings, which, with an electronic application, typically includes only the court register. Therefore, it seems that the legislature could consider whether or not to specify the minimum elements of an application for access to public information, which, however, should be limited to two, i.e. precise indication of the range of requested information and provision of name and surname of an applicant without validating the signature on a stage far-reaching informalisation and undoubtedly simplified procedure. The legislature should in fact take into account values such as, on the one hand, the provision of wide access to public information, and, on the other hand, the provision of the possibility of a proper proceeding in the case of inactivity of the obliged entity to provide public information, i.e. an effective complaint against inaction to the administrative court. The specification of the minimum elements of an access application should not cause difficulties in access to public information, on the contrary, it should allow the bodies to execute further proceedings by preventing from the abuse of the law by both an applicant (and then a person submitting a complaint), as well as by the entities obligation to provide public information which would like to submit a complaint against inaction in the future, will not be able to ignore the obligations relating to the provision of public information.

Paweł A. Nowak[1] Behavioural coincidence of the information society

Abstract:

In the discourse concerning the construction of the information society (IS) in Poland, the functional aspect dominates. This means that contributions for these activities and their measurable effects (the percentage increase measurable digital competences, quantity of provided public eServices, built infrastructure) become main area of interest. Unfortunately, this approach is not able to explain why the effects of several billion Euro spent in the period 2007-2013 for the development of the information society in Poland are still unsatisfactory[2]. The problem is particularly important for an administration responsible for their economical and efficient use due to granting public funds. The introduction to understand the causes of dysfunctionality of this phenomenon will be a departure from the standard approach to the information society and, in particular, the market of public eServices "based on the analysis of the ratio of exchange and parallel relations between market participants, creating supply and demand"[3] and attempt to understand it based on the behavioural economics. Taking into account dimensionality of the market of public eServices and motivation to activities (explicit and implicit) of its participants will give a chance to increase the efficiency of investments in this area, and hence the construction of eGovernment in Poland.

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[3] Kucharska-Stasiak E., *Nieruchomość w gospodarce rynkowej*, Wydawnictwo Państwowy Instytut Wydawniczy, Warszawa 2006, p. 40-41.

1. Definition of information society problems

Today, the term information society exists in the concept in a number of fields of science, e.g. social, technical, or economic sciences. This means, unfortunately, that each of them defines the information society a bit differently, stressing aspects characteristic of the base areas. No uniform definition is, as claimed by M. Goliński, one of the largest weakness of the concept of the information society, because "in the case of so complex and abstract concept, such short and concise definitions are limited to selected elements of this issue, stressing only some of its aspects"[4]. Although the lack of a universal definition can be characteristic for modern science because, as a rule, "there is no definition of the unanimously shared by all researchers"[5], in the case of the information society it can be pre-cause if problems with its construction.

The origins of the information society are, in the literature of the subject, closely correlated with the development of computer science. This also translates into the development of its definition. Initially, the information society was defined by its technical and technological possibilities. In Poland, the first this type definition was adopted by 1st Polish IT Congress, which adopted that the information society is characterised by "the preparation and the ability to use information systems, computerised and using telecommunications services to upload and remote processing of information"[6]. Due to the fact it soon became apparent that the level of development of the information society translates directly on the condition and development of the economy, the definitions of strong economic deviation occurred. The example can be a definition presented by S. Juszczyk, who claimed that "this is a society that is characterised by the arrangement of relations based on the information economy, when more than 50% of gross national income is formed within the wider information sector"[7]. Soon, however, it turned out, that these definitions do not cover all aspects of the information society, particularly in the area of caused social changes. Therefore, multi-aspect definitions occurred and even dominated soon, such as that developed by K. Krzysztofek and M. Szczepański, who claim that the information society is a "society in which information is extensively used in the economic, social, cultural and political lives; this society has

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[4] Goliński M., *Społeczeństwo informacyjne – geneza koncepcji i problematyka pomiaru*, Oficyna Wydawnicza Szkoła Główna Handlowa, Warszawa 2011, p. 30.

[5] Zimniewicz K.: *Instrumenty zarządzania we współczesnym przedsiębiorstwie*, [in]: *Zeszyty Naukowe nr 36*, Wydawnictwo Akademii Ekonomicznej w Poznaniu, Poznań 2003, p. 8.

[6] *Raport 1 Kongresu Informatyki Polskiej*, Poznań 1994, based on: http://www.kongres.org.pl/on-line/1-szy_Kongres/index.html 050415, (12.07.2013).

[7] Juszczyk, St.: *Człowiek w świecie elektronicznych mediów – szanse i zagrożenia*, Wydawnictwo Uniwersytetu Śląskiego, Katowice 2000, p.12.

a wealth of means of communication and processing of information, which are the basis for creating most of national income and source of livelihood for most people"[8].

Assuming that the definition of the information society will continue to evolve along with its development, it should be noted that the functional and market recognition absolutely dominates in the theoretical considerations about the information society. It assumes a description of the information society through the prism of its functionality, and as regards to public eServices, it causes creating them based on the creation cost (which is understandable that it applies to the issue of public money) and the necessary adjustment to the legal environment. It seems justified that such an attitude is one of the essential causes of low efficiency of expenses which are incurred for the construction of the information society in Poland.

2. eServices within the tasks of public administration

One of the fundamental, definitional tasks of the public administration is to meet the collective needs of citizens[9], including through the organisation and provision of public services, i.e. "services provided by public administrations directly the population within the public sector or private operators to provide a service"[10]. In the literature there are a number of different typologies of public services created based on a variety of evaluation criteria. However, from the point of view of the range of considerations, the division proposed by W. Wańkowicz into administrative, social and technical services seems to be the most useful[11].

In connection with dynamic development of information and communication technologies, electronic public services (eServices) are more increasingly allowed, and often even preferred form of provision of public services. Unfortunately, in the case of eServices, as often in the case of new phenomena and innovative solutions, the practice overtook the theory. For this reason, it is difficult to find complete, and most importantly legal definition of public eServices. Most attempts to define eServices ends in fact with specifying public services provided electronically based on areas or numbers[12], therefore, for the purposes of this article, one can take a descriptive definition of public eServices:

Electronic public service (public eService) meets the following conditions:

- is provided by a public entity, or on its behalf,

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[8] Krzysztofek K., Szczepański M.: *Zrozumieć rozwój. Od społeczeństw tradycyjnych do informacyjnych*, Wydawnictwo Uniwersytetu Śląskiego, Katowice 2002, p. 122.

[9] Izdebski H., Kulesza M., *Administracja publiczna. Zagadnienia ogólne*, Wydawnictwo Liber Księgarnia, Warszawa 2004 r., p. 79-152.

[10] Kożuch B., Kożuch A. (ed), *Usługi publiczne. Organizacja i zarządzanie*, Wydawnictwo Instytut Spraw Publicznych UJ, Kraków 2011 r., p. 34.

[11] Wańkowicz W. *Wskaźniki realizacji usług publicznych*, Wydawnictwo Ministerstwa Spraw Wewnętrznych i Administracji, Warszawa 2004 r., p. 61-66.

[12] Flis R. i inni, *E-usługi – definicje i przykłady*, Wydawnictwo Polskiej Agencji Rozwoju Przedsiębiorczości, Warszawa 2009, p. 4-19.

- involves the tasks of a public body,

- is provided with the application of electronic communication channels (Internet, telephone, etc.),

- is provided remotely, without the need of co-existence of parties.

The issue directly related to the provision of public eServices is their level of maturity understood as the range of interaction between a provider and ta recipient, changing with the development of eAdministration, an increase in the application of information technology and the complexity of digitized internal processes of administration[13], In accordance with K. Lane and J. Lee, this means sharing level directories (1), transactions (2), vertical integration (3) and horizontal integration, interprocess (4)[14]. A little different, though, in a similar way, the levels of maturity of public eServices are defined by the European Interoperability Frames[15]. They are distinguished by the level of information (1) in which customers can, on websites of public entities, find interesting information, interactive level (2) allowing in addition to the initiation of the case by a customer with the application of electronic communication in a particular office, transactional level (3) allowing to initiate a case electronically with the possibility of obtaining a response from that office, also electronically, and integration level (4), in which the specialised portals provide services provided by different public entities at the transactional level. In the strategic documents of the Polish administration, the commonly applied description of the maturity of public eServices is in accordance with the five-grade scale developed by Capgemini for the European Commission [16], wherein:

- The first level, information services - means the possibility of finding information on the website of a public entity,

- The second level, one-sided interaction - means the additional ability to download and print the applications and annexes necessary to initiate a case,

- The third level, bilateral interaction – also allows for electronic filling and sending the documents necessary to initiate a case by a public body,

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[13] Layne K., Lee J., *Developing Fully Functional e-Government: A Four Stage Model*, [in:] „*Government Information Quarterly*", vol. 18(2)/2001.
[14] Ibidem.
[15] https://ipsec.pl/firmy/2009/europejskie-ramy-interoperacyjnosci-eif-20.html (20.06.2016).
[16] E.g. *Przewodnik po merytorycznych kryteriach wyboru projektów dla działania 2.1 PO PC*, źródło: https://cppc.gov.pl/wp-content/uploads/zal.-9-*Kryteria-merytoryczne-przewodnik*.pdf (20.06.2016) lub Środa z funduszami dla instytucji publicznych na e-administrację i cyfryzację, source:
https://www.google.pl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&uact=8&ved=0ahUKEwjnjvy2yJjOA hUjIJoKHVEKBkEQFggwMAM&url=http%3A%2F%2Fwww.powiat.klodzko.pl%2Fplik%2Fid%2C11143%2Cv%2C artykul_7236.pdf&usg=AFQjCNFVYWP1n7bXxhEPkooE3rpxIlMgqg&bvm=bv.128617741,d.bGg

- The fourth level, transaction - covers the whole administrative procedure, in an electronic version, from the initiation of a case by a customer, by issuing binding administrative decision by a public body to payment of applicable fees (if any),
- The fifth level, personalisation - provides "the official settlement of a case electronically while providing personalisation, i.e. the automatic provision of specific services, personalised for a user and non-initiated by it"[17].

In order to fully illustrate the problems of public eServices, it is necessary to place them in relations with the main entities of social and economic life. The main entities can be considered as citizens/customers, business (widely defined operators) and administration, and keep in mind that although all these entities can initiator a relationship, the active creation of eServices belongs to business and administration only. We can describe nine basic relationships between entities:

1) A2A - administration-administration,

2) A2B - administration-business,

3) A2C - administration-citizen,

4) B2B - business-business,

5) B2A - business-administration,

6) B2C - business-citizen,

7) C2C - citizen-citizen,

8) C2A - citizen-administration,

9) C2B - citizen-business.

This translates only into two potential providers, six types of eServices, including three types of eServices.

One can assume that in the area of eGovernment, three types of public eServices are crucial:

1) A2A - internal administration services provided between public entities,

2) A2C - services provided by administration for customers/citizens,

3) A2B - services provided by administration to businesses.

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[17] http://eregion.wzp.pl/obszary/uslugi-elektroniczne (20.06.2016).

Figure 1. Types of eServices depending on the types of service providers and service recipients
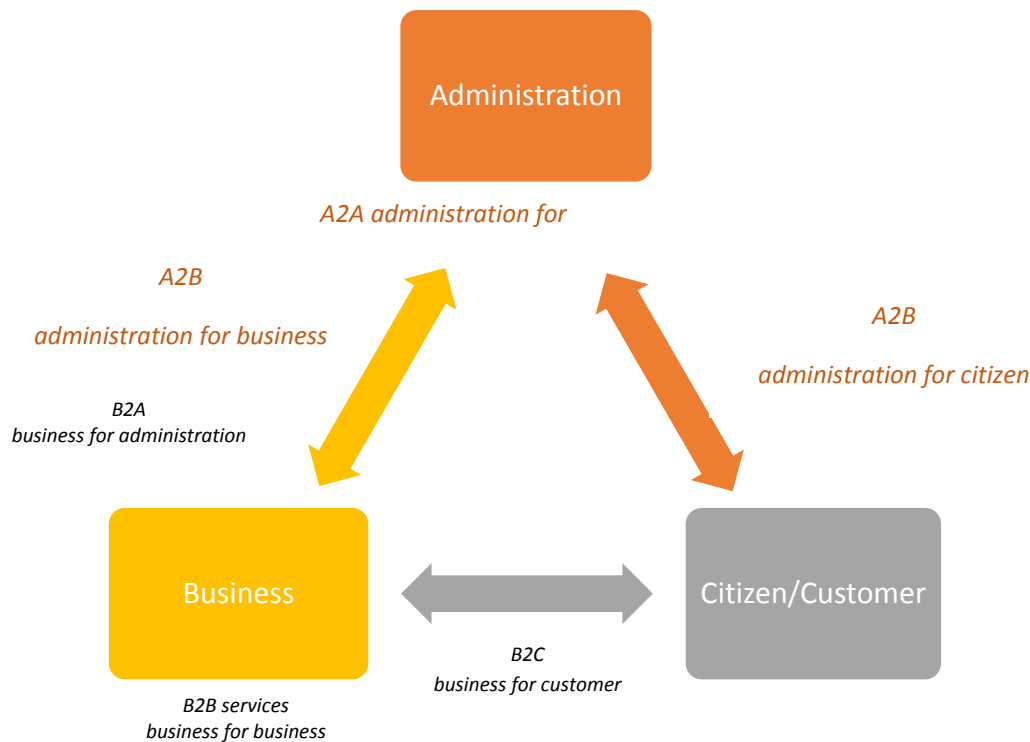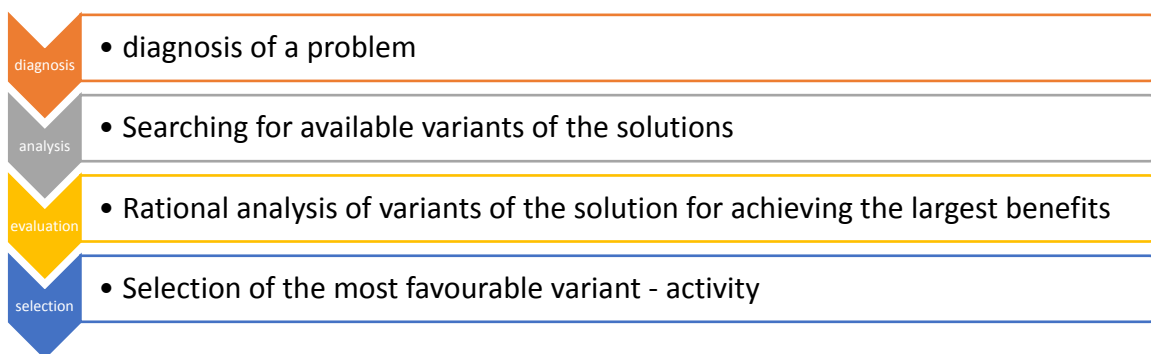

Source: own development

3. Information society in behavioural terms

In traditional terms, the research of economic behaviour of people, and as such we can consider all activities associated with the construction and the "application" of the information society, are based on three basic rules: unlimited rationality of people in decision making, unlimited will of a decision maker decision and its pragmatic selfishness[18]. Such an approach assumes that the decision-making process consists of four main steps: diagnosis, analysis, evaluation and selection.

**Figure 2.** Diagram of economic decisions in neoclassical terms

Source: own development based on: Szczepaniec M., *Makroekonomia. Przewodnik*, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 1996, s. 7.

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[18] Thaler R.H., Mullainathan S., *Behavioral economics. The Concise Encyclopedia of Economics 2008*, Library of Economics and Liberty, http://www.econlib.org/library/ Enc/BehavioralEconomics.html, (02.08.2016).

Currently, the fact that human behaviour is not conditioned only rationally is undoubtedly, it is affected by emotion, mood, or even instinct, because "both people and animals are" programmed "to react emotionally to certain environment features"[19]. The adoption of such an assumption does not mean a move away from the reasonable rationale economic decisions, but rather enforces a wider analysis of a problem, taking into account the irrational motives for activities. Already in the 1950s of the 20th century, the phenomenon described by H.A. Simon in his concept of limited rationality by proving that "the capacity of a human mind is too small in relation to encountered problems, so that they can be resolved in an objective and rational manner. Encountering all sorts of time and technological restrictions, people are not able to access all information relevant to a problem, or are not able to process them accurately. This means that people are at best rational in a limited way"[20].

By adopting a behavioural paradigm of the information society, one should consider also a changed model of the decision-making process (Figure 3).

Figure 3. The economic decision-making model in behavioural terms
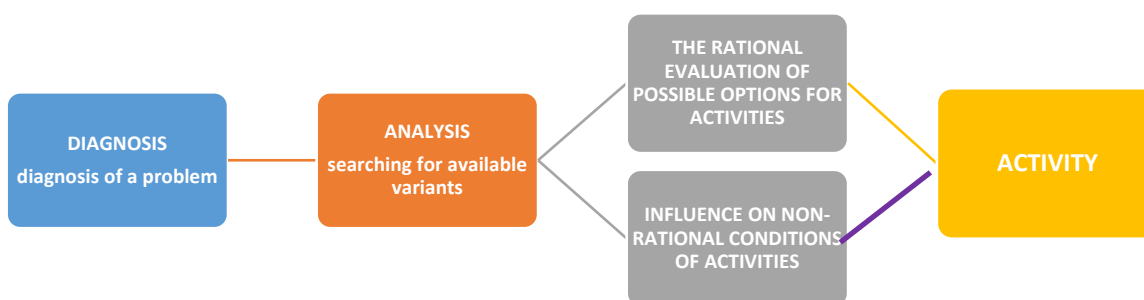
Source: own development

By adopting a behavioural approach to the information society, one has to deal with the problem of non-rational conditions of participants' activities. Due to the fact that their influence on the level of development and the efficiency of investments in this area can be critical, one should try to answer the following questions:

1. Do the non-rational conditions concern all participants in the information society, or only the beneficiaries of its products (demand sphere)?

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[19] Tyszka T., *Decyzje perspektyw psychologiczna i ekonomiczna*, Wydawnictwo SCHOLAR, Warszawa 2010, p. 127-128.

[20] Gorlewski B., *Podejście behawioralne w naukach ekonomicznych. Przykład ekonomiki transportu*, [in:] Bartkowiak R., Ostaszewski J. (ed.), *Nauki ekonomiczne w świetle nowych wyzwań gospodarczych*, Wydawnictwo Szkoły Głównej Handlowej, Warszawa 2010, p. 376.

2. What factors/factors group influence on the on-rational elements of the decision-making process?
3. Is it possible to measure/predict the influence of these factors?
4. Can be modelled or control?

4. Non-rational elements influencing on the construction of the SI

When executing the analysis of non-rational elements of the decision-making process influencing on the construction of the information society, it should be noted that they are not the exclusive domain of customers of the IS. In addition, the public entities - service providers and investors make decisions in the process of the construction of the information society in many cases based on the conditions, which cannot be regarded as reasonable. The most important of these is illustrated the best by the term "fashion". The analysis of the projects related to the construction of the SI that received funds in the national and regional operational programmes within the financial perspective 2007-2013 proves that a number of local governments joined the very similar projects, e.g. "Gates of the Region". This was especially visible in the area of "soft" projects, financed from the resources of the European Social Fund (ESF). It was visible to the point that among the employees of the Department responsible for the implementation of the component of the Regional Operational Programme Human Capital, a softly repeated saying "CTRL C + CTRL V and you will have a new application" occurred. Unfortunately, this means that a significant proportion of the projects concerning the construction does not take into account the local or regional conditions and needs. Of course this translates directly to the efficiency of investments in the public sector.

The next non-rational element influencing on the investment decisions in the area of the construction of the IS by public bodies is no full knowledge about the conditions under which the investment will be implemented and, in particular, under which it will operate after completion. In the period 2007-2013, a variety of Polish public institutions implemented investments in public eServices with the application of the EU aid funds. A significant portion of these investments was to apply a part of the functionality of the Electronic Platform of Public Administration Services (ePUAP). However, during this period, the concept of what ePUAP will be, and what functions it will be in the future, changed many times[21]. As a result, they were often executed for several years, and had "chase" the development concept of ePUAP.

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[21]ePUAP platform is still evolving. Successive governments (in addition, often ministers responsible for the development of ePAP, and even the officials of various government departments) change the target scope of this project. This, unfortunately, causes interference in the implementation of other projects associated with ePUAP and prevents from the full coordination of the investment in the construction of the information society (ed. by P.A. Nowak).

Among the significant non-rational conditions influencing on the decisions of public bodies in terms of the construction of the information society, one cannot miss the universal tendency to entrust the key positions in this area to IT professionals. Although, such a decision looks like a rational one, it causes a serious risk that the construction of the IS will be carried out with "engineering methods", which will not always be an effective solution[22].

Emotions are one of the most important non-rational elements influencing customer decisions of the IS[23]. In the opinion of M. Wojtas-Klima "in the subject literature, we find the statement that anyone is 80-90% of decisions are made by anyone based on emotions and intuition rather than rational considerations"[24]. This means that they are an extremely powerful factor in the application of the IS products. Without considering detailed psychological analysis, it can be assumed that the following are of crucial importance for the development of the IS, including the development of public eServices: fear of the unknown, which in the absence of experience in the application IT can be further amplified by a sense of lack of competence or negative feedback about these services expressed by people/environments reliable from the point of view of a potential customer, its personal wrong experience in the application of public eServices and lack of confidence in the information and communication technologies. In the latter case, one should definitely distinguish approach of customers/users of the IS to public and commercial service providers. This difference is clearly illustrates by the efficiency of the flagship project of the Polish eAdministration (ePUAP), which in January 2016, involved 582 211 registered trusted profiles and 1 306 534 user accounts[25] using on-line banking in Poland (over 29 million savings and billing accounts with electronic access at the end of 2015)[26] or the number of closed transactions on a shopping platform (Allegro) (more than 125 million transactions in the second half of 2014 and more than 1.25 billion visits per

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[22]Although, the application of information technology (IT) is crucial in the formation of the IS, it seems reasonable that increasing application of IT is one of the key tools for the construction of the information society, but it cannot be regarded as its main purpose (ed. P.A. Nowak).

[23]As with most concepts in the field of social sciences, there is no single definition of the concept of "emotions" For the purposes of the aforementioned considerations, however, one includes the concept by Norbert Sill, that emotions are "a global reaction of an organism to an unexpected situation on imbalance in the relationship with the environment" - cf. Sillamy N., *Słownik psychologii*, Wydawnictwo Książnica, Warszawa 1994 s. 66-67 (ed. P.A. Nowak).

[24] Wojtas-Klima M., *„Gdy emocje już opadną" – czyli co wpływa na podejmowanie decyzji*, [w:] Zeszyty Naukowe Politechniki Śląskiej seria Organizacja i Zarządzanie, nr 71/2014, s. 317.

[25] Data based on: Statystyki ePUAP za 7 lutego 2016, source: https://www.google.pl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwiiooC9k4jP AhUF2ywKHcEfDY0QFggcMAA&url=http%3A%2F%2Fwww.cca.gov.pl%2Fdl.php%3Ffile%3D20160208143230_s tatystyki_epuap_za_07_lutego_2016r.pdf&usg=AFQjCNHUQ8MvTrizUcSnQXR3Wajms5y3Fw&bvm=bv.132479545 ,d.bGg (28.08.2016).

[26] *Raport PRNews.pl: Rynek kont osobistych - IV kw. 2015*, source http://prnews.pl/raporty/raport-prnewspl-rynek-kont-osobistych-iv-kw-2015-6552303.html (28.08.2016).

month)[27]. In addition, it should be recalled that most user accounts are public entities for which this is an obligation under the law[28].

A habit is another non-rational important factor influencing on the decisions of potential customers of the IS. This does not include only habituation to the "traditional" way of settlement of the case, but also to the steps to be taken "by the way". This phenomenon can be observed during the analysis of public eServices in small rural municipalities. Contrary to popular belief, the level of competences necessary for the application of eServices does not differ dramatically between potential users from rural and urban areas, especially among young people[29]. However, due to the differences in the organisation of space (distance between office and place of residence, communication capabilities, etc.), inhabitants of rural communities are definitely more prone to get things done on the occasion of a visit to the office of other matters such as visiting family and friends, shopping, etc.

5. Summary

In the Polish and English literature, there are no considerations related to the behavioural approach to the information society. However, the key role in social and economic development, which in the financial perspective 2014-2020 is assigned to the construction of the information society, forces the European Union and Poland to take the discussion about how to improve the efficiency of expenditures and the application of products, including eServices. If previously applied in the construction of the information society bases solely on rational factors development did not cause a satisfactory result[30], one must extend the analysis of the non-rational factors.

The above non-rational factors affecting decisions related to the construction and application of the products of the information society certainly does not constitute a complete list - its preparation would require to execute detailed research. However, even some examples show that for the proper development of the information society, it is necessary to change or at least correct cognitive paradigm of the information society. The existing approach, even assuming the restriction

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[27] *Raport Wirtualmedia.pl*, source: http://www.wirtualnemedia.pl/artykul/wiecej-transakcji-i-nowych-uzytkownikow-allegro (28.08.2016).

[28] Poziom wykorzystania eUsług publicznych w Polsce szczegółowo opisują m.in. A. Aleksiejczuk oraz K. Sachpazidu-Wójcicka w opracowaniu *Determinanty rozwoju e-usług w administracji publicznej w Polsce*, [in:] „*Economics and Management*" nr 1/2015, s. 32-43.

[29] Cf: *Kompetencje cyfrowe młodzieży w Polsce*, Raport Fundacji ORANGE, source: https://fundacja.orange.pl/badania.html (20.07.2016).

[30] Do braku satysfakcjonujących rezultatów w budowie społeczeństwa informacyjnego w Polsce przyznaje się także, choć nieśmiało, administracja publiczna – patrz np. *Państwo 2.0 Nowy start dla e-administracji, Społeczeństwo informacyjne w liczbach 2014* i inne. (ed. Paweł A. Nowak).

of destructive influence of formal factors such as no stability of the law, or assuming functional solutions, exhausted its potential.

Getting to know at least part of the non-rational factors influencing on the construction of the information society will allow to take into account their influence on the construction of the IS and possible correction of the ongoing and planned activities, and thus to increase their efficiency. From the point of view of the currently performed research about the behaviour of both groups of influence (administration and potential users of the IS), the development of a methodology and implementation necessary social research seems to be moderately complex issue, although due to the size and diversity of the subject matter, they are certainly expensive.

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Cezary Szydłowski[1] The role and the aims of the internal audit in relation to ensuring security of the information within the organisation.

Abstract

The article touches upon the issue of the computerised system within the organisation and the role of the internal audit in its assessment. A dynamic increase in the information gathered by processed by the organisation creates a necessity of carrying out internal or external audits, in a periodical manner, in order to evaluate the organisation's security which prevents the system from losing all of the data. Currently, the internal audit department is a key component which carries out audits in regards to IT system's security of the organisation.

The auditor's role in the evaluation of data security shall increase with the development of computerised systems and services provided via the Internet.

Key words: data security, internal audit, information technology audit (IT audit).

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Introduction

Each organisation, regardless of its organisational-legal form or its ownership possesses various information, which are crucial for carrying out the current activity. The information generated by the organisation or gathered from its area is an important resource, which security is not always observed by the management or the company or public institutions. Current globalization and the ongoing economic activities are the result of processing large amounts of data. Making a rational decision, without the managers, if a project should be carried out is not possible without gathering sufficient and key information. This process requires the use of modern information and communication systems, which through the use of appropriate software can generate the necessary data sets, which are later used for further analysis or to aid the senior managers in making strategic decisions.

The information that are in company's possession can be an item of interest for different stakeholders, including the competition and criminal groups or terrorist organisations. The growing number of threats related to the cyberspace and data security requires a different approach to introducing new systems of control and procedures on that field. Introducing new procedures and data security systems should be tested and evaluated regularly by independent experts.

Individual processes implemented in every organisation require processing of valuable information, which should be properly secured and protected against loss or unauthorized access. Ensuring the proper procedures and solutions in regards to data security requires constant supervision and verification of the introduced solutions' efficiency. The internal audit is an invaluable tool for verification of the information security systems introduced within the organisation. The main idea of the internal audit is to provide managers with a reasonable assurance, that a certain companies or public organisations work efficiently. The laws in Poland enforces the managers to carry out audits annually in the public data security services by the means of internal audit. Data security is currently a very important issue in each organisation, what is why it is worth to evaluate on the internal auditswith regards to that topic.

It is worth to mention, that the current security of data is connected with each individual, who uses IT systems, which includes both the organisations and any other user of the IT systems and the World Wide Web. The topic of the following publication touches upon the key issues, which are important to any user who gathers and processes information, either for commercial or private use, since each of us should be aware about the importance of data security.

1. Data security within the organisation

Running a business, the management of the state, public services or ensuring the security of the state, in spite of their differences, is linked by access to information. A rational assessment of the facts or a decision is not possible without having accurate information about the subject matter. Dynamic changes which occurs in every socio - economic area makes information a valuable resource or even priceless (eg. In business or in the national security matter). The huge competition along with threats from other countries or terrorist groups causes information to become an item of great desire among many people. The number of threats to information security has grown with the development of information systems and the Internet. Now, thanks to the global ICT network one can now immobilise many organisations or even nations from without leaving his or her own house. To make it happen, certain skills, knowledge, equipment, software and Internet access. Simultaneously, low costs of modern computer equipment and software contribute to the growing number of individuals, including terrorist groups, trying to obtain information illegally. This has been confirmed by special reports of the services responsible for monitoring the threats in the ICT network[2].

Analysing the problem of information security one should clarify the terminology in this area, since terms such as "data" and "information" are present in general discourse. "Data" should refer to "things, facts, on which one can base their thoughts"[3] or "raw numbers and facts representing an isolated piece of reality"[4]. However, information is an outcome of "ordering data or analysing them in a certain way"[5]. One must remember that the information must be accurate, relevant and up to date if it is to be useful.

Having the terms explained, it is worth to mention what the ICT and IT security is. IT security covers "a range of types of exchange, storage and processing information, limited to technical means of telecommunication (phones and mobile phones, radio stations, computer systems and networks), while the ICT security relates to the information that is sent, stored and processed in the ICT networks and systems"[6]. Risks associated with data loss or unauthorized access includes the ICT and IT services. These systems enable the processing, collection and transfer of information within and outside any organisation. The popularity of using the information systems for collecting and processing information makes the potential dangers real and the loss of such actions are difficult to estimate and they include financial losses and reputation damage.

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[2] *Raport o stanie bezpieczeństwa w cyberprzestrzeni RP w 2014*, Warszawa marzec 2015, www.cert.gov.pl
[3] A. Jashapara, *Zarządzanie wiedzą*, ed. 2, PWE, Warszawa 2014, p. 32.
[4] R. W. Griffin, *Podstawy zarządzania organizacjami*, ed. 2, PWN, Warszawa 2006, p. 724.
[5] J. A. F. Stoner, R. E. Freeman, D. R. Gilbert Jr., *Kierowanie*, PWE, ed. 2, Warszawa 2011, p. 589.
[6] K. Liderman, *Analiza ryzyka i ochrona informacji w systemach komputerowych*, PWN, Warszawa 2009, p. 11-12.

Security of information processed by commercial and public organisations in the ICT systems are vulnerable to hackers - people attempting to illegally break security systems and access the resources of the organisation. The term "hacker" refers to a single person or a group of people with high knowledge and skills in the ICT systems. They have all the skills which enable them to break through the security of the ICT systems used by the organisation. Their knowledge, equipment and appropriate software allows them to access the internal systems and networks illegally. By this, they can get information that the organisation possesses. Actions taken by hackers are associated with the so-called. "Cyber-terrorism, which is a crime of a terrorist nature, committed in cyberspace. The term cyberspace is defined as the space in which the processing and exchange of information generated by the ICT systems takes place."[7]. Hacker's activity may have very serious consequences for any organisation. There are vast numbers of such examples, especially within companies that work online on in virtual world. Such companies conduct their business mainly through the Internet, where most of their transactions take place. The most recent example of hacker activity in this area was when hackers broke into the server of "Netia", which took place between April and July 2016. The hacker bypassed the security systems of Netia, which resulted in the theft of personal data of its customers. In accordance with the published information, the stolen data, among other things, included the history of orders placed by customers who used the form found on the Web site. The "zaufanatrzeciastrona.pl" website informed, that among the information disclosed by the hackers, that personal data of people, who were willing to become Netia customers were also stolen the Web site, along with the history financial transactions of individual customers. Hackers, among other things, managed to steal data such as:

➢ Name and surname,
➢ Address,
➢ Bank account number,
➢ Phone number,
➢ E-mail address[8].

The above mentioned information, stolen during the breach, contained personal data, since the illegally obtained data make identification of individual Netia clients possible. The emergence of the above mentioned threats for information security in Poland[9] lead the government to establish the Governmental Computer Emergency Response Team CERT.GOV.PL. Moreover, a strategic document has been prepared, which is the Policy on Cyberspace Protection in Poland. The leading

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[7] *Polityka Ochrony Cyberprzestrzeni Rzeczypospolitej Polskiej*, Ministry of Administration and Digitization, Internal Security Agency, Warsaw 23rd June, 2013 r., P. 5.
[8] https://zaufanatrzeciastrona.pl/post/uwaga-dane-klientow-netii-wykradzione-i-ujawnione-przez-wlamywaczy/
[9] *Raport o stanie bezpieczeństwa w cyberprzestrzeni RP w 2014 r.*, Warszawa marzec 2015, www.cert.gov.pl

message of the above mentioned strategy is "the security of cyberspace, which has become one of the primary strategic goals in the area of security of each country. At a time when there is free flow of people, goods, information and capital - the security of the democratic state depends on the development of mechanisms for efficient prevention and fighting threats to cyber security"[10]. Actions taken by the government are the result of the fact, that various organisations, both commercial and public are in no position to take specific actions of strategic nationwide nature. Public authorities are aware that they must engage in a process of improving information security, due to the fact that they possess the legislative and executive authority. The Strategy of Cyberspace Security expects significant involvement of public authorities and institutions responsible for security (including the Internal Security Agency) in preventing and fighting the potential risks associated with the use of the Internet. The document is connected with organisational solutions - legal requirements in this regard, among others, with the European Union and the Member States. Furthermore, the strategy takes into account the national strategic planning documents relating to national development in the field of computerization of public services, under the implementation of e-administration systems in Poland. The next step in the implementation of Cyberspace Security Policy in Poland was establishing on 4th July 2016 of National Centre for Cyber security. The main objective of the National Centre for Cyber security is the possibility of rapid exchange of information and the effective response to all incidents of threats in the cyberspace[11]. The number of threats increases with the number of users of the Internet and the services provided on-line. The availability of the Internet and low user awareness of the threat that is connected with it, which has made the information security become a priority at the state level, individual organisations or even individual users. The analysis and monitoring of the threats made by CERT.GOV.PL show that the most common data loss is caused by:

➢ Messages sent by hackers. The messages are so called "spear phishing", which is in a form of targeted attack "phishing", which involves sending messages via e-mail or e-mail, using the image of a person or a company (often known user eg. a bank) in order to make the user to use the provided link or attachment, since both of them contains malware,

➢ the watering hole technique which involves compromising a certain website in order to implant a hardware, with the aim to compromise the website which will infect the user's computer,

➢ placing malware as updates to the software used in industrial drivers via compromised websites of manufacturers of these drivers [12].

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[10] *Polityka Ochrony Cyberprzestrzeni Rzeczypospolitej Polskiej…, op. cit.* p. 4.

[11] https://mc.gov.pl/aktualnosci/ncc-na-strazy-cyberbezpieczenstwa

[12] http://www.cert.gov.pl/cer/publikacje/raporty-o-stanie-bezpi/738,Raport-o-stanie-bezpieczenstwa-cyberprzestrzeni-RP-w-2014-roku.html, p. 17.

New threats appear more frequently and they are connected with the so called "social engineering, which aim is to extract of sensitive data via e-mail or fake website, along with malware infections by convincing the user to use the attachment or a link which may contain malware". Attempts made by hackers (criminal groups, terrorists or foreign countries) "within the social engineering are more often focused on organisation of public administration, and for the increase its efficiency and make it more credible, they used well-known companies, institutions that deal in Internet sales of other companies, such as forwarders, auction services, banks or phone providers"[13].

The above mentioned CERT.GOV.PL has created a joint catalogue of potential threats for the ICT systems. The prepared document is a result of analysis and evaluations made by CERT.GOV.PL team, base of which were the detected threats and events that took place in different organisations in regards to information security. The catalogue is presented in a table below[14].

Table 1 Catalogue of threats CERT.GOV.PL

Threat		Vulnerabilities
1. Deliberate actions	1.1 - malware	1.1.1 - virus 1.1.2 - worm 1.1.3 – trojan 1.1.4 - dialer 1.1.5 – botnet client
	1.2 – security breach	1.2.1 – unauthorised login 1.2.2 - hacking into the account/ forced entry 1.2.3 – hacking into applications
	1.3 – Publications on the Internet	1.3.1 – offensive material 1.3.2 - slander (defamation) 1.3.3 – copyright infringement 1.3.4 - disinformation
	1.4 – Collecting information	1.4.1 – scanning 1.4.2 –listening-in 1.4.3 – social engineering 1.4.4 – spying 1.4.5 - SPAM
	1.5 – Computer sabotage	1.5.1 – unauthorised change of information 1.5.2 - unauthorized access or unauthorized use of the information 1.5.3 - denial of access (eg. DDoS, DoS) 1.5.4 – data erasing 1.5.5 - the use of devices vulnerability 1.5.6 – the use of application vulnerability

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[13] *Raport o stanie bezpieczeństwa w cyberprzestrzeni RP w 2014 r.* http://www.cert.gov.pl/cer/publikacje/raporty-o-stanie-bezpi/738,Raport-o-stanie-bezpieczenstwa-cyberprzestrzeni-RP-w-2014-roku.html, p. 24.

[14] Katalog zagrożeń CERT.GOV.PL - http://www.cert.gov.pl/cer/publikacje/katalog-zagrozen-stosow/731,Katalog-zagrozen-stosowany-przez-CERTGOVPL.html

	1.6 – Human factor	1.6.1 - violation of security procedures
		1.6.2 - violation of laws
	1.7 – Cyber terrorism	1.7.1 - a terrorist offense committed in cyberspace
2. Unintentional actions	2.1 - Accidents and random events	2.1.1 - hardware failures
		2.1.2 – link failures
		2.1.3 – software failures (bugs)
	2.2 - Human factor	2.2.1 – procedures violation
		2.2.2 – negligence
		2.2.3 - incorrect configuration of the device
		2.2.4 – lack of knowledge
		2.2.5 - copyright infringement

Source: http://www.cert.gov.pl/cer/publikacje/katalog-zagrozen-stosow/731,Katalog-zagrozen-stosowany-przez-CERTGOVPL.html

The above catalogue of threats clearly indicates, that the information that are at the company's disposal can be endangered by a growing number of threats. The development of information technology makes it very difficult to draw a perfect mechanisms, which could counter the risks of data loss. Threats appear faster than tools for countering them. It should be mentioned that apart from external threats , the organisation is also exposed to the inappropriate conduct of its members. This creates a need, within the organisation, for establishing procedures and implementing modern systems for securing the data in its possession.

To ensure proper security of data, it is important to establish the right access system. The key components for proper working of the system are the following processes:

➢ authorization process - which consists of setting up the whole data access system and setting up information and communication system in your organisation

➢ authentication process, that takes place in the ICT system and involves checking the user's permission to access and work in the computer system,

➢ authorization verification process, implemented in the ICT systems, checking the right of the user to execute an operation system[15].

The issue of protecting information by an organisation does not stop on systems. Managers and individual employees should be aware, that any information posted on any media (electronic or traditional, such as for example a sheet of paper) should be protected against unauthorized access. As a result we can speak of logical protection (including data communications systems and processed data from them) and physical protection (protecting the organisation from unauthorized access, eg. from break-ins to the organisation's facilities). Data security requires security measures, adequate to the threat level and the organisation's nature. One should remember, that within the security area, there are special norms and guidelines for actions that the organisation should take in

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[15] K. Liderman, *Bezpieczeństwo informacyjne*, PWN, Warszawa, 2012 r., p. 68.

regards to information security. Polish organisations, just like others around the world, implement an updated data security system. The issues are also perceived by the Polish public and legal authorities.

The above mentioned threats for data security also refer to public organisations. Polish public administration offices have repeatedly been the subject of attacks by hackers who tried to break security systems or interfere in the content of websites of public organisations. These issues are becoming important in the public sector due to the number of public services provided by means of the Internet. The online administration introduced by the government ,solving matters via Internet leads to the potential increase of threats for the security of data, that are processed by public sector. One must remember that some data, which is in possession of public administration, are of strategic importance in regards to national security and the security of individual citizens.

In regards to what was mentioned above, authorities have developed data and information security requirements in regards to the ICT systems. Key guidelines for information security that should be provided by public entities in Poland are set out in the Regulation of the Council of Ministers of 12 April 2012 on the National Interoperability Framework. That implementing act is based on the guidelines set out in the Polish Standards and is an example of a document that imposes on selected organisations a data management system for the information they possess. The regulation normalized rules and mode of implementation of the information security system. In addition, it was stated that if a public organisation implements the data security management system on the basis of Polish Norm PN-ISO/IEC 27001, it will meet the requirements of the implementing act. Moreover, properly implemented information security system should follow the guidelines of the following Polish Norms:

❖ PN-ISO/IEC 17799 – in regards to security settings

❖ PN-ISO/IEC 27005 – in regards to risk management,

❖ PN-ISO/IEC 24762 – in regards to data recovery after a crash as part of business continuity of the organisation [16].

Introducing the organisation to a systematic information security policy in accordance with the appropriate regulations and guidelines can help to minimize the risks in this area. However, this system requires constant monitoring, expansion and modernization in accordance with the technological changes and constantly appearing threats in this area.

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[16] *The announcement of the Prime Minister of 14 January 2016 on the uniform text of the Council of Ministers on the National Interoperability Framework, the minimum requirements for public registers and exchange of information in electronic form and minimum requirements for IT systems, the Journal of Laws of 2016. Item. 113, § 20.*

The tasks of internal audit in evaluation of data security within organisation

Ensuring information security in any organisation is one of the key areas, which require a proper monitoring and supervision. Implementation procedures for information security and the efficiency of systems that protect data requires periodic verification and evaluation. Moreover, the evaluation of information security should be carried out after detecting vulnerabilities in the system or after an incident which violated data security. Implementation of the most effective security systems requires constant testing and monitoring. Supervision carried out by the persons responsible for security of systems gathering and processing data in the organisation is important, however only periodic audits of data security can provide the rational confirmation of effectiveness of those systems. The international standards and guidelines in regards to data security show, that it is necessary to execute periodic security audits of IT system within the organisation. The audit, as any other, can be carried out by external auditors or the organisation employees. Carrying out the audit in regards to data security requires the auditors to possess a broad knowledge in regards to IT systems and methodology and techniques used to verify the security of the ICT systems.

Modern commercial organisations more frequently employ internal auditors, just as in public sector which obliged to do that by the law. The growing number of threats and the increasing vulnerability of computer systems to threats makes it necessary to conduct an independent study of their security. The norms and procedures developed worldwide recommend periodic audits of data security. For example, in public sector, since 2012, there is an obligation of executing periodic internal audits in regards to security at least once a year.[17] Therefore, the role of the internal audit in the process of information security evaluation increases and is concentrated on executing an independent evaluation of this process.

It is worth to explain what the internal audit is. The definition developed by the international association of internal auditors defines internal audit as "an independent and objective activity, which aims to add value and improve the organisation's operations. It is based on assessment carried out in a systematic manner in regards to the processes of: risk management, organisation control and order, and it helps to improve their performance. It helps organisations achieve the objectives of ensuring the effectiveness of these processes along with counselling"[18].

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[17] *The announcement of the Prime Minister of 1⁴ January 2016. On the uniform text of the Council of Ministers on the National Interoperability Framework, the minimum requirements for public registers and exchange of information in electronic form and minimum requirements for IT systems, the Journal of Laws of 2016, iItem. 113, § 20. 2 pts. 14.*

[18] *Międzynarodowe standardy praktyki zawodowej audytu wewnętrznego*, The Institute of Internal Auditors, Stowarzyszenie Audytorów Wewnętrznych IIA Polska, Warszawa, grudzień 2012, p. 3.

Internal auditors in carrying out their activities execute an analysis of potential threats. Similar activities are carried out in regards to information security. Risk analysis allows to point areas in the organisation, which are the most vulnerable to losing data.

A growing number of threats require the implementation of mechanisms to counter those risks. Each new threat creates a necessity of developing a new security measures, preventing data loss or unauthorised access. The internal audit, in this area, should point the threats and check the efficiency of the solutions introduced by the organisation, which should secure information and the ICT systems. The internal auditors, as members of the organisation, in comparison to external auditors, know the aims and tasks, specification of actions and the direction of development, they know all the procedures and control systems, also in regards to information security. In addition, internal auditors are not involved in the current activity of the organisation, which allows them to objectively evaluate the area, which is the security of the ICT systems or information security procedures and the techniques and methods of gathering and processing data within the organisation.

The internal audit plays an important role in evaluation of data security within the organisation. The range of audit procedures carried out in the area of the ICT systems is very broad. It involves both the verification of internal procedures in regards to security policy and the evaluation of the policy of purchasing and current performance of selected the ICT services within the organisation. The regulations introduced in Poland in regards to the ICT systems have described the object and subject range of the actions taken by the internal auditors in the area of information security in organisations of the public finance sector. Public organisations and their internal audit of systems in regards to information security is a good example of systemic approach to the discussed subject. It is worth to remember, that commercial entities also carry out information security and IT systems audits. The range of security audits is similar in all companies, however, each time it includes the specification of the given commercial or public entity.

IT audits are the basis for the safe operation of the organisation in regards to any organisation, particularly those operating exclusively via the Internet. This includes online stores, auction sites, entities BPO (Business Process Outsourcing) and the global network organisations. All in all, in the era of fully computerized activities, each organisation should periodically conduct a comprehensive audit of information security and IT systems.

Previously quoted regulation, which is laying down the framework for the interoperability of systems defined the range of information security management in public organisations. Product goals in this area are based on the solutions used by organisations around the world and it comes from international standards and guidelines in the field of information security and information

systems. Thus, the implementation of the guidelines set out in the regulation which set the framework of interoperability creates a need of verification carried out by the auditors of individual areas that are stated in that act. Therefore, the actions conducted by internal auditors should provide the management with objective evaluation of the actions carried out by the organisation, in areas as:

❖ providing updates of your organisation's internal regulations with regard to the changing environment,

❖ constant monitoring of the organisation's hardware and software, which is used for processing information regarding their nature and configuration,

❖ carrying out periodic risk assessments within the organisation in regards to the information security and the ICT systems,

❖ continuous improvement of workers involved in information processing, to ensure that they have proper qualifications which will allow them to carry out the tasks related to information security,

❖ training the employees involved in the process of processing information, in particular with regards to the issues of threats to information security, the breach of the rules of information security, including the liability and the application of measures to ensure security of information, including equipment and software minimizing the risk of human error,

❖ ensure the protection of processed information against theft, unauthorized access, damage or interference,

❖ monitoring access to the information within the organisation,

❖ conducting investigations revealing breaches of information security,

❖ providing measures to prevent unauthorized access at the level of operating systems, network services and applications,

❖ the establishment of basic rules that guarantee safe operation of the processing of the mobile telework,

❖ securing information in a way which prevents unauthorized disclosure, modification, removal or destruction,

❖ including, within the service agreements signed with the service providers, points guarantying the appropriate level of information security,

❖ setting the rules for handling information, ensuring minimal risk of information theft and the ICT hardware, including mobile devices,

❖ ensuring the appropriate level of security in the ICT system, which is connected with:
  ✓ attention to updating the software in use,
  ✓ minimizing the risk of information loss in case of failure,

- ✓ protection against errors, data loss, unauthorized data modification,
- ✓ the use of encryption of data in a manner adequate to the threat or the requirements of the provision of law,
- ✓ ensuring the security of system files,
- ✓ reduction of risks arising from the use of published technical vulnerabilities of the ICT systems,
- ✓ taking immediate action after noticing undisclosed vulnerability of the ICT systems to the possibility of a security breach,
- ✓ checking compliance of IT systems with the relevant standards, guidelines and security policies,
- ✓ ensuring immediate reporting of incidents of information security breach in a specified predetermined manner for quick corrective actions[19].

The above mentioned issues should be the subject of auditing tasks carried out in accordance with the approved work plan of the internal audit. The obligation to carry out an annual audit of information security makes it necessary to include the area in the plan of internal audit for the year. Of course, organisational limits to the internal audit unit and the need to implement audit tasks in other areas of the organisation means that in a given year, it is possible to examine the chosen issue. For example, in one year one can conduct an audit of information systems, and in the following year one can carry out audit of the purchase policy of computer equipment which was adopted in the organisation.

In regards to internal audit, it is very important to assess the potential threats every time in regards to the information security in a given area. As it was mentioned, the wide range which the internal auditors should evaluate in the area of information security does not allow for evaluation of all the issues simultaneously. Despite that, the risk assessment should be carried out for all the areas of information security, since it is the base for choosing the topic in the area of the specific audit task. It is worth to remember that, in most cases, the internal auditors do not have full knowledge or skills which are essential for proper evaluation of the ICT system's security. Having the above in mind, it is sometimes essential to use, when the information security audit or IT audit is carried out, the external experts specialized in the evaluation of IT systems and their security. The need to use external experts increases the costs of carrying out the audit task in this area, however, in this case it

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[19] *The announcement of the Prime Minister of 14th January 2016 on the uniform text of the Council of Ministers on the National Interoperability Framework, the minimum requirements for public registers and exchange of information in electronic form and minimum requirements for IT systems, the Journal of Laws of 2016, item. 113, § 20.*

, for the internal auditors employed in the organisation, is possible to acquire new skills and knowledge in this area from the external experts.

Potential areas of internal audit in the organisation in regards to information security and information systems are presented in the table below.

Table 2 Summary of potential areas of information security audit in the organisation

No.	Potential areas of information security audit	Important issues that should be assessed during the audit
1.	information security procedures	1. Compatibility of the internal procedures of the organisation and the security policy with the law and international laws in regards to information and the ICT systems security. 2. Evaluation of the procedures in the area of ensuring continuity of the organisation in the event of a disaster or other event critical for its activity. 3. Possessing the knowledge of applicable procedures of information security by all members of the organisation. 4. The mode and scope of updating security procedures taking into account the occurrence of incidents affecting the security of information in the organisation. 5. Training system for the organisation's members in regards to information security policy.
2.	ICT system security	1. Verification of the current the ICT security systems in the organisation. 2. Testing the security of information systems in the organisation (ie. penetration testing to verify the current security, which is controlled hacking to organisation's systems, while bearing in mind that the action of this type must be carried out very carefully, because it can cause a serious threat to the security of the ICT systems). 3. Assessment of the backing-up system. 4. Checking the events records of the system (information security incidents - IT systems). 5. Check for updates of the software used in the organisation. 6. Verification of Provisions of Contracts with external entities maintaining the computer equipment for the insertion of clauses protecting the organisation against data loss. 7. Checking the preparation of information systems in the event of a disaster or other emergency situation that prevents the organisation from operating (assessment of the ICT systems to ensure business continuity)
3.	IT management	1. Checking the records of IT resources. 2. Checking the rules of managing the computer hardware.
4.	Purchasing policy of the organisation	1. Verification of the organisation's IT strategy. 2. Assessment of the validity of equipment purchases. 3. Verification procedures for awarding a public contract for the purchase of computer equipment (in the case of public organisations). 4. Evaluation of the agreements with suppliers of computer equipment.
5.	Servicing of computer equipment	1. Verification of contracts with external entities servicing the hardware for adding the clauses that guarantee the security of information held by the organisation.

		2. Checking the security of data (eg. Hard drives) before sending hardware for repair. 3. Evaluation of the quality and timeliness of repairs done by third parties.
6.	Security of the organisation's website	1. Verification of website security preventing attacks from hackers. 2. Checking contracts with web site provider (if any were signed). 3. Testing website's security (eg. A controlled attack on the security website).
7.	Security of mobile devices used by the organisation.	1. Checking the security of mobile devices (mobile phones, tablets, laptops). 2. Mobile equipment security testing. 3. Verification of contracts concluded by the organisation with the users entrusted with the mobile equipment.
8.	Software license	1. Checking the purchasing policy of software in organisations. 2. Verification of the software installed on a particular hardware used by members of the organisation. 3. Verification of the software records.
9.	Physical security of the objects	1. Checking the physical security of each organisation's facilities. 2. Checking the physical security of key facilities of the ICT infrastructure of the organisation (server and points of distribution, etc.). 3. Checking the records of entry for the key objects of the ICT infrastructure of the organisation (server, distribution points etc.). 4. Evaluation of the effectiveness of the security services protecting individual objects. 5. Checking the equipment used for electronic surveillance of the objects (eg. Video monitoring system, alarm system).

Source: own work.

The above list of potential areas of audits of information security and information audit is only an example illustrating the scale of the activities of any organisation that should be covered by the above mentioned audit. In addition, the number of potential areas for evaluation by the internal auditors is increasing with the development of information technology. Still new threats arise. An example of that are mobile devices that change the approach to information security. The development of mobile phones means that they are, in many cases, carrying vast number of information. Organisation's employees use mobile phones and tablets often to execute current tasks which also involves the collection and processing of information. Mobile devices have become the subject of hacker attacks, as they represent a valuable source of information, which unfortunately does not have as good security in comparison to desktop computer operating within the internal IT network of the organisation. In addition, members of the organisation use their laptops (eg. laptops or notebooks), which can process large amounts of data, including sensitive (eg. personal data, information on plans for the development of the organisation, contracts or planned contracts). The loss of the mobile device can result in huge losses for the organisations similar to a breach in the IT systems. This situation makes it necessary to broaden the scope of protection of information

beyond the organisation and its infrastructure. This implies the need to use modern technologies such as data encryption and monitoring of the use of individual mobile devices. This results in the need to increase the cost of activities of the organisation, since modern and efficient information security systems require a large financial investment and modern management solutions.

Periodic audits of information security and diagnosis of data security carried out by the organisation is one of the elements of organisation's management in the era of computerization. The results of each audit should provide the basis for further development of the organisation in the field of information security.

Summary

Information security has always been carried out by organisations, however, before the era of computerization it did not require complex operations and separate regulations. Technological progress in the area of the information flow resulted in the creation of new security procedures and the implementation of modern technologies in this field. Currently, in order to obtain data from another organisation one just needs the right IT equipment, knowledge of the systems and access to the Internet. A review of the available security information on the Internet clearly shows how problematic it is for each user to protect his information. Risks increase with the increase in the number of services provided through the Internet and its availability. Major contribution of the ICT systems to threats makes it necessary to conduct assessments and analysis of potential threats to information security. Without organisation taking any actions in this area, it will not be possible to avoid risks related to the loss of sensitive data. The threat of data loss by the organisation directly affects the efficient and effective implementation of the objectives and mission of a commercial or public entity. Therefore, it is very important that managers at all levels and the individual staff are aware of the value of information as a key resource of any organisation. It should be remembered, that ensuring the adequate protection of information is crucial for both the organisation and its stakeholders.

With this in mind one needs to be aware that the verification of the level of information security in the organisation is an important process that should be subject of periodic reviews. Tasks in this range are carried out in the organisation by the internal or external auditors. In order to ensure the quality of provided services by internal auditors in the field of information security, the management should take care of their professional development in this area. Only the investment in modern the ICT systems and continuous improvement of employees engaged in information security can minimize the risks associated with data loss.

The need to assess the internal audit function of new areas is primarily the result of the development of information technologies as well as increase in the amount of data generated and processed by the various organisations.

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Filip Moterski[1] Promotion of objects of industrial heritage through their use in organising and conducting sports events

Abstract

Sport events are one of those events that do not interfere indirectly in the structure and fabric of historic buildings, yet it can effectively promote and supplement the promotional offer of the city as well as substitute its absence. Sports events are also a major undertaking, the purpose of which is the realization of goals of different participants of the event, including supporters, players, sponsors and the media. The use of industrial objects in sports events may be intentional or accidental, which will result in promotional activities. In case of the industrial heritage which protection and use are much more convergent in comparison to other historical resources. Their use for the needs of organisation and sport events can be a key component, which will save those structures from deterioration and being forgotten. The aim of this article is to present the possibilities of promoting industrial objects through organising sports events on their premises, using modern technology.

Key words: event, sport events, cultural heritage, sports competitions.

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Introduction

For many years, there was a discussion regarding the topic of historical monuments. The community focused around conservators of monuments is slowly accepting the changing reality and the frequent need to use the monuments, as an answer to the growing need for this kind of objects. It turns out, that sport events are one of those events which do not interfere with the structure or the core of the monuments, and it can promote and supplement the promotional offer of the city as well as substitute its absence. In case of the industrial heritage which protection and use are much more convergent in comparison to other historical resources. Their use for the needs of organisation and sport events can be a key component, which will save those structures from deterioration and being forgotten. A reference to the present and a platform for cooperation with the technological generation is often the use of innovative tools that will facilitate access, ease of communication and increase the positive reception of the event.

The aim of this article is to present the possibilities of promoting industrial objects through organising sports events on their premises, using modern technology.

Cultural and industrial heritage

First, we should explain the idea of a cultural and industrial heritage, which will be the subject of the following article. J. Purchla noticed, that the cultural heritage can be discussed in the following context:

- Product of tourism;
- Development factor;
- A resource increasing the quality of life;
- Job market;
- Tool for limiting social exclusion;
- Tool for brand building;
- Tool for promoting social integrity;
- Subject of hoarding;
- Economic alternative for creating new building resources[2].

In accordance with Ashworth, a heritage could be anything, which modern people select from the past, that was created for present use or in order to pass it to the next generation. He stresses that the heritage involves a process, not types of resources, and for sure it is not a selection of unique objects, structures or events. The aims for forming the heritage should be dependent on the needs

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[2] Hausner J., Karwińska A., Purchla J. (ed.), *Kultura a rozwój*, Publishing house: Narodowego Centrum Kultury, Warszawa 2013, p. 54.

and challenges and it should be changed when the situation in the surrounding changes[3]. M.W. Kozak describes heritage with the definition used by the UN. The focus is on material objects and it involves three main groups:

- monuments of architecture, sculptures and paintings, objects and structures, archaeological sites, inscriptions, cave houses, which have outstanding value from a historical point of view, art or another field of science;

- group of buildings ie. a group of single or connected buildings which, due to its architecture, homogeneity or position in the landscape play an important role in it;

- Manmade places or conglomerates created by nature and man, and areas including archaeological sites which are valuable from a historical, aesthetic, ethnological or anthropological point of view[4].

An industrial heritage can be understood as buildings with their conglomeration, areas and sites and landscapes, as well as related machines, objects or documents, which testify to the former or still ongoing production processes, as well as the extraction of raw materials and converting them into products and the infrastructure, for transporting or power supply purposes, connected with it[5].

From the point of view of the article, we will view the industrial heritage as objects and areas which are historically connected with the production that took place in the area, which was ceased due to social and economic reasons. Currently, the mentioned objects or areas could have a new function, including production after modernization of those objects. Due to the location, Due to the location, physiognomy, history and connection with the identity of the city they can be used to promote the region, city or other entities.

Sport events in the area of industrial objects

Events, which could be also called special events are one-time or repeating events that last for a fixed period of time and offer their participants unique sensations[6]. They are events or actions of sport nature, which should have actions of interactive nature[7]. Sensations mentioned by Proszewska-Sala and Florek can relate to the event itself (in this case – sport events), but also the place of the event. The more attractive and unique the pace is, the more probable it is that it will

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[3] [Ashworth w: Murzyn, Purchla, 2007, p. 32]

[4] Kozak M. W., *Turystyka i polityka turystyczna a rozwój: między starym a nowym paradygmatem*, Publishing house: Scholar, Warszawa 2009., p.87.

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[6] Proszowska-Sala A., Florek M., *Promocja miast. Nowa pe*rspektywa, Publishing house: Ströer Polska, Warszawa 2010, p. 204.

[7] Florek M., Augustyn A., *Strategia promocji jednostek samorządu terytorialnego – zasady i procedury*, Publishing house: Best Place, Warszawa, p. 186.

facilitate positive emotions and opinions about the place and the event. Looking from the perspective of marketing, an event, including sport events, can be a subject of interest of experts from that field, as an element of different values offered to the clients in exchange for other material, financial or emotional assets[8].

Events should be thought out, set to achieve goals, which are supposed to be consistent with higher goals. When it comes to involvement, JST.W. Lipoński points out, that we currently observe a spectacular development of sports performance, which meets the expectations of a vast number of people[9]. Thus, sport events have the potential and possibilities of influencing the image of the city[10]. It is necessary to coordinate actions and extensive cooperation for a coherent, unified message to all concerned, in accordance with the marketing strategy of the city, in which the competition takes place, as well as the organiser of the event. The multitude of sports events can be seen among other things, in the number of people taking part in racing, and race events, which are organised and reported to the Polish Athletics Association. Compared to the number of such events 5 years ago, their number has quadrupled. It is worth noting that not all of the organisers submit their races to the federation, treating their events as a typical recreation. The venues of the events are becoming more diverse, both in terms of degree of difficulty of the route, as well as its pageantry. The situation is similar in other disciplines. More and more competitions are held in unusual places, adapted specifically for the event. As an example: pole vault competition at the pier in Sopot and throwing competition on the premises of a market square in Płock, throwing competition on the premises of a hall in Zurich and Budapest, boxing in the conference room at the hotel, competitions windsurfing at the National Stadium in Warsaw, as well as many other events taking place in unusual places. The competitions taking place in the area of industrial buildings are becoming more popular. The possibility of such use of objects of heritage are highlighted by M. Dragićević-Šešić and B. Stojković[11]. Sports events are among the cultural events that can and should be held on the premises of objects that are described as cultural heritage, as one of the possibilities of adaptation and contemporary use. Thus, sport competitions held in the industrial area can be viewed as an attempt to integrate the area most often associated with the degradation in smooth, contemporary functioning of the city, also in terms of marketing. Andrzej Sznajder points out, that sport events

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[8] Szromnik A., *Marketing terytorialny. Miasto i region na rynku*, *Wydanie V poszerzone*, Publishing house: Wolters Kluwer, Warszawa 2016, p. 394.

[9] Lipoński W, *Historia sportu*, Publishing house: PWN, 2012, p. 698.

[10] Proszowska-Sala A., Florek M., *Promocja miast. Nowa pe*rspektywa, Publishing house: Ströer Polska, Warszawa 2010, p. 203.

[11] Dragićević-Šešić M., Stojković B., *Kultura: zarządzanie, animacja, marketing*, Publishing house: NCK, Warszawa 2010, p. 123.

can be a marketing medium, and different forms of advertisements can appear in the sports arena[12]. Industrial objects present great possibilities when it comes to marketing. Their surface, accessibility, infrastructure equipment allow to use both standard methods of communication (banners, signs, outdoor advertising) as well as innovative forms of communication (holograms, forms of street art, the use of technology). In addition, the organisation of sporting events forces to establish cooperation between different stakeholders of the sport event: local communities, public authorities, the organisers and the private sector, which may be involved in the creation and promotion of the event. Sport events are therefore a broad attempt to integrate the industrial area with the rest of the city. If performances are held exclusively in the industrial area, it could result in positive effects on the effectiveness of the promotion of industrial heritage, as well as promotion of the city, in which the property is located, since the decision on the location of the event must first be carefully thought out because of the nature of the surrounding (with its advantages and disadvantages) and the frequent need to adapt to the needs of the sporting event. The industrial parts of the city, containing a large number of objects that were once centres of factory business filled with life, had trouble with surviving to the present day in Polish reality. Residents of these areas were often employees working in those buildings. After the collapse of the industry, many of them were unable to function in the new, capitalist reality. Progressive socio-economic stratification only deepened the problems of unemployment (including structural unemployment), pathologies, technical deterioration in the area or poverty. People living in areas around the former factories were and are at risk of social exclusion. One of the interesting ways for implantation of industrial objects into modern cities is their adaptation and revival through regeneration processes. The effect will be the introduction of new functions, monitoring the market needs for industrial buildings and new functions that they can carry out. In addition it is important to involve local communities and stakeholders, who have an idea for revival, promotion and use of the buildings, into the process of managing the area. J. Papuczys draws attention to the possibility of realizing these goals, mentioning the goals and demands of one of the most recognizable sport events – Tour de France. He points out that at the beginning of the twentieth century, the inhabitants of smaller towns and villages have been virtually excluded from the modern, spectacular life in their country, and therefore the possibility of participation in the creation of the modern concept of the nation. The exclusion was deepening the already strongly marked division between urban and rural areas, both in functional and social context. The sporting event, which Tour de France has closed that gap. Though the stages began and ended in the big cities, they ran through towns and villages. The case is similar in regards

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[12] Sznajder A., *Marketing sportu*, Publishing house: PWE, Warszawa 2015, p. 28.

to sport events in the industrial areas[13]. The case is similar in regards to sport events in the industrial areas.

It is an attempt to incorporate not only the object, but also the local community into the modern function of the city, without any stigma or exclusions. A sports event is to unite: the space, athletes, fans, casual observers and sponsors. Additional function: promotion of a place and the implantation through integration with other parts of the city, it may not only be difficult, but at the same attractive for all participants of the event. A S. Parszowski. and A. Kurczyński point out, events, especially those on a large scale are an important part of social, political and cultural life, and access to them should not be restricted because they are a source of unusual experience and emotions. Organising events on the premises of industrial heritage which can be assessed as a positive influence on the functioning of the city, preventing the degradation of the material elements and eliminating the threat of social exclusion in post-industrial areas. Besides, it is also an attempt to use the potential, coming from the organisation of the events likely to affect the overall image of the city. A. Proszowska-Sala and M. Florek point out, that some cities some cities have natural or historic attractions, unique buildings or unique tradition. Cities that do not have these resources must actively work and count rely on events as their main attraction, which will complement the resources in the possession of the city[14].

The potential of sports events is large, which, especially in the industrial areas, can be a positive impulse to engage in the production of high-quality, friendly sport events, involving many actors from public, private and local communities. Proszowska-Sala and Florek point out to another aspect of the organisation of successful events - the effect of loyalty[15]. In this case, there is a high probability of organising the next event, which, with proper use of the capital and positive image, can contribute to gaining more resources, partners, advertisers, fans and participants. The primary objective of organising the events is the positive publicity around JST, and the main advantage is the attraction of public attention, which gives the opportunity to build a positive image of the city and promoting its offer[16].

Sports event has different dimensions, but the most important are those traits that increase the values that can be perceived and felt and acquired through purchase made by customers. The relationship between the value provided by the participation in a sporting event and the value

[13] Papuczys J., *Tour de France jako przedstawienie kulturowe*, Publishing house: Uniwersytetu Jagiellońskiego, Kraków 2015, p. 45.

[14] Proszowska-Sala A., Florek M., *Promocja miast. Nowa pe*rspektywa, Publishing house: Ströer Polska, Warszawa 2010, p. 204.

[15] Ibidem, p. 205.

[16] Florek M., Augustyn A., *Strategia promocji jednostek samorządu terytorialnego – zasady i procedury*, Publishing house: Best Place, Warszawa 2011, p. 186.

transferred in the form of compensation is the criterion for assessing satisfaction from the transaction with the event's organiser. Satisfaction, however, is the result of the set of values, the range and associated expectations of the customer (the participant, the purchaser)[17].

Looking at the use of industrial heritage in the organisation and execution of sports competitions, there are two types of sporting events in industrial buildings:

- Regular events - included in the calendar of the sport federation, under the auspices of which this event takes place. In this case, the race can take place at various locations, including the ones that are not regular arenas of competition, and have been specially prepared in accordance with special guidelines;

- Occasional events – one-time events, often connected more with entertainment than sport. Their aim is to popularize certain disciplines, integrate local communities, promote the cities and clubs. They are focused on achieving results and sports competition are usually just a background. Creating the show is the biggest aspect.

Both the first and the second type of sports events may occur alternately, they can also be arranged together, as exemplified marathons and the whole range of accompanying events organised for amateurs, whose primary purpose is entertainment and popularization of running. The above division creates the following:

- Sport events – those which goal is to get sports results and competitions are conducted in accordance with the technical guidance of a sports association, even if they are held in a place originally not related to sports – on the premises of industrial structures. Professional athletes are involved in those events, which can attract viewers, fans and sponsors;

- Recreational events popularizing the sport where the result of competition is secondary to the satisfaction that participants.

Another, the most important factor is the division on the basis of deliberate implantation of the heritage: conscious and unconscious. Conscious events are those where legacies are on the route or are in the area of the competition. A motive for that kind of event might be finding a new and attractive place for that kind of shows, but also the will to promote the heritage and the city. An example may be some cross-country mass runs: „Łódzki Bieg Fabrykanta", or „II Nocny Półmaraton Piotrkowski Wielu Kultur". These are the events where the route was specifically associated with elements of cultural heritage including the industrial heritage. These activities aim to combine the idea of sport rivalry with knowledge of the history of places. The runs have a different rank, such as race Fabrykanta, organised in 2015 was marked as the Championship

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[17] Szromnik A., *Marketing terytorialny. Miasto i region na rynku*, Wydanie V poszerzone, Publishing house: Wolters Kluwer, Warszawa 2016, p. 400.

of Polish Women for a 10 km run. In addition, the participants had to meet the basic requirements, among others, they registered to participate in the event and had paid the entry fee. Conscious events incorporate parts of the heritage as arenas for the competition. The organiser promotes those objects. Another example is the organisation of rallies in the industrial areas, where on the one hand, we have professional players, fully competing on a secure area, the viewers, fans and visitors who have the opportunity to experience sporting events in a unique, post-industrial landscape. The second type is the unconscious event, where a part of the whole competition is held in facilities which are an industrial heritage. It happens inadvertently and therefore, no marketing activities are carried out, which would emphasize the advantages of participating in such event. The „RossmannRun Bieg Ulicą Piotrkowską" might be an example of such event. The aim is to run 10 kilometres along the streets of Lodz (part of the route leads through the Piotrkowska Street). During the run, the runners have a chance to see different parts of the city, which in no way are emphasized or promoted. Those structures are there "just because they are there" and the likelihood that they will appear on the route is the same for all of them.

The above mentioned distinction is crucial when it comes using the promotion and marketing tools. In the event of conscious events, the use of the heritage promotional activities must be consistent and coordinated with the marketing strategy of the units, in which the event is being organised.

This ensures the cooperation between the different stakeholders, where the aim of this cooperation is to conduct high quality sporting event which would be attractive to all participants, and accompanying persons. With the events including the unconscious involvement of industrial objects, the promotion activities, if any are carried out, will promote the image of the organiser, setting aside the historical buildings. Changing the status of the event is an expression of the good / bad will and willingness / unwillingness to cooperate with various entities: event organisers, local communities, public authorities and the private sector.

The potential of the ICT tools, and possibilities of its use in the promotion of industrial heritage through the organisation of sporting events

The organisation of a sporting event in such a special place as industrial facilities is a major undertaking, which is based on a series of operations carried out long before the event. The planning process in some cases takes place 3-4 years earlier (or even earlier). The quintessence of the action is the event itself. We should not forget about the actions that should be carried out after the event to sustain the positive impressions of the participants (the loyalty effect connected to the place, the event and the organiser). At each of those stages, we can see the unusual use of the ICT sector achievements, which highlights the innovative concept of promotion of objects of historical heritage through the organisation of sporting events.

The first stage, which is associated with the planning and preparation of the event will involve the following elements of modern technology:

- High-quality Internet connection, capable of streaming (audio and video in a format that allows TV broadcasting) In the age of high-speed Internet and the popularization of healthy lifestyle, there is a growing interest among the sponsors, athletes or the whole events. The option of advertising the brand to a wider range of consumers is not without significance, especially when the event is broadcasted in TV. However, broadcasting of such event requires adequate infrastructure in the form of efficient, high-speed connection, capable of broadcasting to everyone who is interested. It also has to ensure, that the quality will not suffer, or will suffer in the smallest possible degree, when it comes to broadcasting the sound and the image. The creation of required infrastructure is neither easy nor cheap, but it gives the opportunity to anchor the event and its cyclical nature (due to preparation costs). t is also one of the strong arguments in favour of the organiser's efforts to hold the next event. industrial facilities, as buildings often protected by law, require a lot more attention than all the others. Additional technical issues come into play, along with the camera angles that will be rewarding for both the viewer and potential sponsors.

- Servers of high quality that are able to store all the data in the cloud. This is a part indirectly connected to the object of heritage. However, there is a very important part of the infrastructure, thanks to which there is a chance of promoting the event and the place itself.

- A mobile application dedicated for the event - for both the players and the fans, the media, judges and sponsors. It is about the ability to record the event, organising all logistical issues related to the participation in the competition, stay, sightseeing, post-race relaxation zone and leaving the event area. It is also a versatile communication with all stakeholders - from the fans, the media to the judges, which can use the mobile application to asses if the event is carried out in a proper manner (example: walking competition organised at major events like the European Championship or Olympic Games where judges provide information about irregularities through special terminals with installed applications, so that key information about the race can be quickly transferred). Applications are also a platform for communication between the sponsors of the event, and all other users. At this point, each of the parties may propose a form which would be client-friendly, which would increase its presence in the perception of the participants. Cities with monuments, in which an event is held should guarantee a place on the possibility of promotion of objects by placing the information boards, legends, stories or sightseeing routes. By means of the application, it would be possible to organise services that are associated with the event, such as: sightseeing, insurance, buying tickets or tagging.

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In relation to the industrial heritage, the creation of the dedicated application is a great innovation. In the case of sporting events it is already a standard, since these events are organised with the support of large companies, both financial and organisational, for example: Orlen Warsaw Marathon, BMW Praski half marathon in Warsaw, Verwa Street Racing, PZU Warsaw marathon, PKO Białystok half-marathon. Those companies order the promotion of those events to advertising agencies, where one of the channels of communication is the application for smartphones, addressed to all of those involved: he participants, supporters and the media. In the case of industrial heritage, linking the building with the event with the use of modern communication tools seem to be on the one hand a very natural solution, but on the other hand also very innovative due to the nature of the objects used in the event. Such applications, apart from the event itself, should emphasize the place, its history, and the possibility of visiting it. A lot depends on the degree of involvement of the object's managers: whether it is the main area of the competition or an event passing through the former industrial area.

- The preparation of the places/location points, which are downloaded in the data for logging into social media - such information cannot be accidental. hey must be carefully selected and consistent with the policy of promoting the object and the territorial unit. In the case of industrial facilities, it is worth to show the cultural heritage and the industrial heritage. The technical condition is more important to the media than the location itself. Objects that are not renovated have no chance to appear both in traditional media (eg. TV broadcast), but also in social media (eg. posts on Facebook). Even the best story of the place may not convince the media to show it, unless the object is a very important part of our historical map (eg. the ruins of the factory, which was bombed during the liberation in the Second World War). However, sport events in such locations do not happen very often.

During a sport event, which promotes the existing cultural heritage, one can use:

- High quality streaming with the help with the help of screens on which sports events will be displayed (live broadcast) – thanks to that, the post-industrial object can be presented to the viewers, the media and the participants. In this case, the advertising area of industrial facilities can be very attractive, so that to sponsors can communicate with their customers. It must be remembered, however, that cultural heritage is not a typical commercial space, not only due to the limitation imposed by the legal protection, but also for preventing the uncontrolled commercialization of this type of space. The lack of control and decisions about giving away this kind of surface for advertising purposes must be taken very carefully, in order not to cause any physical damage to the structure or the reputation of the building.

- Hologram broadcasting – industrial facilities, due to the large surface area can be a very attractive medium when it comes to broadcasting with the use of modern tools of communication and promotion – holograms. Their use in the unusual setting of post-industrial monuments can enhance the attractiveness of media, which will be an advantage in negotiations with potential sponsors.

- Laser projection on the facades of buildings- this is ,without a doubt, one of the most innovative elements for highlighting the attractiveness of the post-industrial space. An example of this technique is the Light Move Festival in Lodz. Using this method during the sports events, which would take place in the industrial area, would be an interesting solution.

- Mobile applications – their pros have been presented earlier in this document.

- Using interactive games – PokemonGo, and through it, promotion of the event and the place. Fans appear in the area of the event. Their involvement in the course of the competition depends on the level of the sports discipline, the presence of celebrities and the quality of the event itself. It is worth to take care of fans, not only in terms of the rank of the event itself, but also making spending their free time there more attractive by using interactive games, which can be located on the premises of the post-industrial building. This will become the promotion of such a place by making use of the existing trends in the world of advertising and marketing.

- 3D, 5D or 7D shows, taking the users on a journey through ancient times - this type of projections should allow the viewers, the participants and the fans to spend their free time during sport events. Those objects can use the area of the building, along with its walls, rooms and sometimes even the graphic reproduction and use of this image in interactive animations.

- The shows using the achievements of science connected to the specific historical objects (interactive reproduction of the production process), in a way that allows the participants to learn about the history of the objects, not only from the stories or a written word, but also from the audio, so that they can comment on their experience.

  After the sport event, the technological aspects can be used to:

- Promoting an even on the scale of the city, region or the country through a website, application, podcast or video – all of those tools should show the object in the way that would be the most appealing to all users, sponsors and media;

- Gifts related to the place (the place of cultural heritage), which will facilitate memories and the loyalty effect.

- Functioning website and presence in social media, which will highlight both sports, but also the character of the place, or the object of industrial heritage.

Each of the above-mentioned technological innovation should be consistent with the process of promotion and marketing of the event. The media communication is extremely important, especially at a time when technological progress is noticeable in every sphere, not just promotion, but also the broadcast, delivery of results and communication with users (including fans). It is also a special opportunity to promote the place, with the use of an advanced technology. Especially because there are not too many opportunities to promote the same industrial facilities. Therefore, it seems innovative to use them in the organisation of sporting events.

Conclusion

Sports events are a very serious undertaking, the purpose of which is to implement plans of participants in terms of gaining medals and getting results, and for recreational events - participation in the event. The use of post-industrial objects in sports events may be intentional or accidental, which will result in promotional activities. It also results in the ability to use technological innovations to promote the event, as well as the place itself. If the involvement of industrial heritage is conscious, that is intentional, then you can say that sporting events are one way of promoting the objects of heritage, including the industrial heritage. In this case, the use of high technologies will become more likely, because it will be intentional, complementary and implementing the main objective. It should be emphasized that the organisation of the sport event in the industrial complex is already an innovation, when it comes to the use of this type of space.

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Jakub Rzymowski[1] Electronic signature , and the rules of equivalence in the Act on Electronic Signatures and EIDAS. electronic stamp.

Abstract:

The following chapter refers to the phenomenon of electronic signature, and electronic stamps in the EIDAS regulation. The chapter presents the effects of electronic signatures on the basis of the Law on Electronic Signature, and on the ground of EIDAS. It also presents potential problems that may occur after using an electronic stamp in an office.

Key words: electronic signature, EIDAS, advanced electronic signature, qualified electronic signature, and electronic stamp.

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Introduction

The Regulation of the European Parliament and of the Council (EU) No 910/2014 of 23rd July 2014 on electronic identification, and trust services in relation to electronic transactions in the internal market and repealing Directive 1999/93 / EC (hereinafter referred to EIDAS) entered into force on 1st July 2016. The mentioned act is valid throughout the European Union. Polish legislator is preparing a bill for trust services (hereinafter: the Act of UZ). At the time of writing this chapter[2] the UZ was known only as a project. It should be remembered, because only this bill repeals the Act on Electronic Signatures[3]. EIDAS repeals the 1999/93 / EC directive, however, the repeal of the directive does not affect the validity of the law which is the reception of that directive, which was the Law on Electronic Signatures.

When it comes to the phenomenon of electronic signature, EIDAS does not bring any revolutionary solutions. Electronic signatures on EIDAS basis bear different names than electronic signatures in regards to the Law on Electronic Signature. In EIDAS, as in the Act on Electronic Signatures, there are two basic types of signature, and like on the basis of the Law on Electronic Signatures, one type of signature can replace handwritten signature, and the other cannot.

A new solution, from the legal point of view, is the solution brought by EIDAS in the form of an electronic stamp.

1. Electronic signature in the Act on Electronic Signatures

The Electronic Signature Act establishes two types of electronic signatures. They are: an ordinary electronic signature and an advanced electronic signature verified by a (valid) certificate (the advanced electronic signature). Name: ordinary electronic signature is not present in the law on electronic signature, it is used, however, to distinguish an electronic signature, which is not verified by a qualified certificate for electronic signature, which is verified by a qualified certificate. Regular electronic signature bears under the Act on Electronic Signatures is called: electronic signature. This name is imprecise, since the safe electronic signature verified by a qualified certificate is also a digital signature.

The advanced electronic signature verified by a qualified certificate was both in the Act on Electronic Signatures and the doctrine incorrectly called "the advanced electronic signature verified

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[2] The following chapter is the third in a series of chapters devoted to the use of electronic documents in administrative proceedings (ed. J. Rzymowski).
[3] The Act of 18th September 2001. On electronic signature. The Journal of Laws of 2001 No. 130, item. 1450, as amended. i.e., the Journal of Laws of 2013, item 262.

with a valid (emphasis J. Rom.) qualified certificate." As for the validity of the certificate, it expires after the time for which the certificate was issued, usually after a year or two years. Then the digital signature is verified by a qualified certificate, which, however, no longer has any validity.

1.1. The rules of equivalence in the Act on Electronic Signatures

The advanced electronic signature is verified with the qualified certificate and it has the same legal effect as a handwritten signature. This follows from the rule of equivalence present in the article 5 (2) of the Law on Electronic Signature. This law reads: "The data in electronic form bearing the advanced electronic signature verified by a qualified certificate is equivalent in terms of legal consequences of the documents bearing the handwritten signature, unless otherwise provided by law." A careful reading allows one to note small mistakes in that law. Firstly, the data "bearing the advanced electronic signature" was levelled in terms of the legal consequences with the documents bearing a "handwritten signature." The reasons for plural relating to the signature which appears here are not clear. Perhaps the author of the law assumed that if the law are "documents" that these documents are signed with signatures, not a single signature. This reasoning would be correct, but it was not applied in the first part of the law. There the "data" should be accompanied by the "signature", and yet the data is plural. If we apply the same reasoning as in the first part of the law, data should be accompanied with "a signature". Although the data do not appear in the singular, however, it changes nothing in the above reasoning, and if it does, the change is minute.

If the legislature wanted to ever improve featured mistake the rule of equivalence should sound differently, namely as "data in the electronic form accompanied by an advanced electronic signatures are verified by using the (...) qualified certificate is equivalent, in terms of legal consequences, to the documents bearing the handwritten signature (..)"[4]. This version of the rule is still imperfect. The plural, both in relation to electronic signatures, as well as in relation to the handwritten signature can make one assume, that the legal consequences connected with handwritten signature will apply when the electronic signature is used only when there are at least two handwritten signatures on the document. Then, they should be replaced by at least two electronic signatures, and the number of electronic signatures should be equal to the number of the handwritten signatures. Those conclusions go further, on the basis of the proposed meaning of the resolution it is hard to reject them, since they are not ridiculous. It is clear that the proposed version of the rule leads nowhere. It is hard to level the legal consequences of the electronic signature with

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[4] „important" I removed it, marking it as an omission in quotation. One word „important" should not even be in the mentioned rule for the reasons mentioned above (J. Rzymowski).

the consequences of a handwritten signature assuming that if the consequences of two electronic signatures are the same as in the case for two handwritten signatures, then the consequences of a single electronic signature are the same as in the case of a single handwritten signature.

In the proposed version of the equivalence rules the idea of "data" in a plural form was respected. It can be neglected and assume, that a document signed with a single electronic signature cannot contain "one piece of data", but it always contains "data" in plural. Then, the equivalence rule should be as follows: "Data in a digital form signed with an advance electronic signature verified by (…) qualified certificate are also, in legal terms, equal to the consequences of the document with a handwritten signature […]".

Unfortunately, the above mentioned mistake is a result of careless use of the singular form and the plural form is not the only mistake in regards to the equivalence rule. For further solutions, the rule is: „ The data in electronic form bearing an advanced electronic signature (...) are equivalent in terms of legal consequences to documents bearing the handwritten signature (...). " We know that an electronic signature can sign a computer file. It is impossible to sign it otherwise. From the point of view of the law, if your computer has any meaning, it is an electronic document. An electronic document contains data. Non-electronic document, for example, drawn up in the form of a letter written in ink on a piece of paper, also contains data. The answer to the question of why, in the rule of equivalence, data and documents were levelled in regards to the legal consequences, which contain the data, remains a mystery of the law's author.

One comes to a conclusion, during the interpretation of the law, in accordance with which the advanced electronic signature verified by a qualified certificate has the legal effect, which is the same as a handwritten signature. With the wording: "The data in the electronic form bearing an advanced electronic signature verified by means of (...) qualified certificate "we reject" data in the electronic form, "from the wording" documents bearing the handwritten signature "rejects documents". As a result of this action we are left with a sentence, which has the following meaning: "the advanced electronic signature verified by a qualified certificate is an equivalent, in terms of legal consequences, to the handwritten signature". To reach the described sentence, one must omit the above-described non-compliance in terms of singular and plural nouns, and equate the data with the documents. As far as the equation of the data with the documents, this step would not be necessary if the rules of equivalence was present in the law in a slightly different form.

The data or the documents can be the core of the law. If we assume that data are the core, then the rules will have the following meaning: "Data in the electronic form bearing the electronic

signature verified by (…) qualified certificate are equal in regards to the legal consequences to data bearing the handwritten signature (…)'. If the document becomes the core, the rules has the following form: „ Electronic document bearing an advance electronic signature verified by means of (...) qualified certificate is an equivalent in terms of legal consequences to a document bearing the handwritten signature (...)".

If the equivalence rules present in Article 5 (2) of the Law on Electronic Signature had one of the meanings proposed in the preceding paragraph, this phenomenon of equivalence signatures would be much easier to explain. The Law on Electronic Signature will probably soon become more of a historical document, but it is worth a moment to stop by the mistakes in this law, because the so-called second rule of equivalence is still within the text of the law on computerization of entities executing public tasks. There, it levels its legal consequences of the handwritten signature with legal effect of a signature confirmed by using a secure PUAP profile, which is done in an equally strange way. The essence of the rule of equivalence rule is "advanced electronic signature verified by a qualified certificate is equivalent in terms of legal consequences to a handwritten signature." This rule is obtained by interpretation, as described above.

2. EIDAS electronic signature

EIDAS, just like in the Act on Electronic Signatures, there are two basic types of electronic signatures[5]. One of them is an advanced electronic signature, the second is the qualified electronic signature.

2.1. The inner signature and the external signature

The advanced electronic signature as a signature may appear as an internal and the external signature. The use of internal signatures results in receiving one file after the signing - the file of the signed document. Using the external signature results in receiving two files - the document file and the signature file. Please note that the use of internal or external electronic signatures does not translate directly to the legal effects of signature. The advanced signature has other legal effects, and the qualified signature has different legal effects, but each of those signatures can be made in the form of an external or internal signature. There are therefore: the advanced electronic signature, the external advanced electronic signature, qualified electronic signature, an external qualified electronic signature. Currently, at the basic level of the doctrine development concerning EIDAS,

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[5] EIDAS dopuszcza istnienie innych, niejako bezpieczniejszych, a przynajmniej innych niż dwa podstawowe, rodzajów podpisu, jednak mało prawdopodobne, by podpisy te rzeczywiście zaistniały, w związku z czym nie poświęcam im dalej uwagi (przyp. J. Rzymowski).

a legal language concerning EIDAS is emerging. Therefore, I postulate the use of names of signatures in the manner described by me, that is, for example, an external qualified electronic signature. First of all, it is more important that the signature is qualified (or advanced), the fact that it is external (or internal) is less important, otherwise formulated names look better, at least in my opinion.

2.2. The advanced electronic signature

An advanced electronic signature is defined in art. 3 (11) EIDAS in conjunction with the Article. 26 EIDAS and in conjunction with the article 3 (9) and 10 EIDAS. From those provisions we learn that the electronic signature is uniquely assigned to its owner, so there is no possibility that two people can have the same signature, the same goes for three or more people. The advanced signature is a signature of an individual. A signature of authority or legal person does not exists in EIDAS. In the office, a signature is the signature of an individual person appointed by the authority. A legal person may also use the electronic stamp, which I describe later. Advanced electronic signature "is associated with the data signed in such a way that any subsequent change of data is recognized." It should be remembered that if the data change is recognized, because the file was signed, it does not indicate what change has occurred. If the file, an electronic document, is signed with an electronic signature, and then is modified, thanks to the fact that the file was signed, we find out that the file has been changed, but we will not find out when, nor who, or to what extent the file has changed. Electronic signature does not prevent the file from being modified, the signature at most can determine that it was modified.

2.2.1. Legal consequences of an advanced electronic signature

Legal consequences of an advanced electronic signature are similar to the legal effects of an ordinary electronic signature stated in the Law on Electronic Signature. Article 25 (1) in its important part for further discussion is stated in the following way: "electronic signature may not be denied any legal effect (...) only because (...) it does not meet the requirements for qualified electronic signatures." In other words, the quoted law states that one cannot deny the legal effect of an advanced signature. In other words, we can say that the quoted provision prohibits the denial of the legal effect of an advanced signature. Please note that an electronic signature is made by a natural person, so the natural person shall be entitled to any rights or obligations under this law. In the spirit of legal conceptualism, understood as a general theory of law, this provision states that the signing person has all the rights. The right states, that the person who uses the advanced signature can expect, that each person who came into contact with the signature verifies it,

concludes the legal consequences and recognises its effect. On the basis of art. 3 (6) EIDAS person who relies on electronic identification, or, for example, verifies the electronic signature, shall be called the relying party. The relying party must thus consider the legal effect of the signature.

Unfortunately, EIDAS is burdened with the same omission of the legislator, with which the Law on Electronic Signature was charged. EIDAS gives rights to the person using the advanced signature, EIDAS forbid the relying party to deny the legal effect of the signature. EIDAS does not specify, however, what the legal effect is.

2.2.2. The use of advanced electronic signature in administrative proceedings

It is not known what legal consequences the advanced electronic signature produces. Article 25 (1) EIDAS states, inter alia, that there is a prohibition to refuse an advanced electronic signature's legal effect. However, while the advanced signature should not be denied its legal effect, they do not know what the legal effect would be. But one thing is known and needs to be pointed out. The advanced electronic signature does not have the legal effect of the personal signature. Therefore, an advanced electronic signature cannot be used to sign final documents on paper signed by a handwritten signature, such as administrative decisions and rulings. I emphasize that the administrative decision signed with the advanced electronic signature, not the qualified electronic signature is a decision with a shortcoming. This shortcoming is the lack of signatures, in this case a qualified electronic signature.

From the discussed art. 25 (1) EIDAS results the following: "The electronic signature cannot be rejected (…), its admissibility as evidence in legal proceedings solely because (...) that does not meet the requirements for qualified electronic signatures". In other words, from the quoted provision one can conclude, that it is not allowed to reject the advanced signature's admissibility as an evidence in a court case. In the spirit of the General Theory of the Law, from the quoted law results a right of the person who uses the advanced electronic signature. The person has the right to expect, that the court will accept the signature as an evidence in a court case. This correlates with court's duties, with which the court must allow the electronic signature to be treated as an evidence in a court case. However, the electronic signature as an evidence is a separate case. Probably because the signature was placed and somebody placed the signature. One should not jump to conclusions and carelessly use the advanced signature in the administrative procedures, believing that the electronic signature can be used in a court case if any disputes arise. As I stated before, the advanced electrical signature is not equal to the handwritten signature. The legal effect of the handwritten signature (read further) creates a qualified electronic signature. If someone signs

an administrative decision with the advanced electronic signature, the signature will not have the legal effect of a handwritten signature, and in the case of a dispute, it will be an evidence that a wrong advance electronic signature was placed., A qualified electronic signature should be placed instead[6].

The idea of the Polish legislator follows this direction, who by the UZ (currently it is known as a project) intends to amend the Code of Administrative Procedure[7]. Amend it in a way, in which where the advanced electronic signature in PKA was verified by (important) qualified certificate, a qualified electronic signature takes it place.

If I thought about the advanced signature and if it is useful in any office to sign anything, the answer to that question must be positive. The advanced signature can be used to sign projects of administrative decisions, passed for further acceptance. Of course, the final signature under the decision must be done with a qualified electronic signature, or a handwritten signature.

2.3. A qualified electronic signature

The second type of signature in EIDAS is a qualified electronic signature. Just as the advanced signature, it is a signature of a natural person and it can function as an internal signature or an external signature. The qualified electronic signature is made by a qualified device for electronic signature, which is based on a qualified certificate of the electronic signature – those who traits distinguish it from the advanced signature, however from the point of view of the user, the qualified signature is a signature, that was sold to him as a qualified signature by the company dealing with signature service.

The real difference between the qualified electronic signature and the advanced electronic signature is included in the difference between the legal effects of those two signatures.

2.3.1. The legal effects of the qualified electronic signature

In the everyday office practice, the most important is the signature that has the same legal effect as a handwritten signature. In Art. 25 EIDAS, which states: "A qualified electronic signature has a legal effect of a handwritten signature". Again, the rule of equivalence is created. I have mentioned that the legal language regarding EIDAS is in its early stage of development. In this idea I would like to state, to call the rule of equivalence present in EIDAS with a new name: "the new

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[6] More about administrative decisions' defects: Kamiński M., *Nieważność decyzji administracyjnej. Studium teoretyczne*, Publishing house: Wolters Kluwer, Warszawa 2006.

[7] The Act of 14 June 1960. Code of Administrative Procedure Acts. U. 1960 No. 30, item 168, as amended. i.e. the Journal of Laws of 2016, item 23 as amended.

rule of equivalence", or "the rule of equivalence of EIDAS"[8]. It is worth to remember, that only the qualified electronic signature can be used for the final signing of administrative decisions and any other documents, which in a non-digital way – paper form would be signed by hand. As I mentioned above, the need to use the qualified electronic signature for signing decisions and any other documents that require handwritten signature, comes from the UZ project.

In the spirit of legal conceptualism – the General Theory of Law, from the Art. 25 EIDAS results rights of the person, who places the qualified electronic signature. The right states, that the person who uses the qualified signature can expect, that each person who came into contact with the signature verifies it, concludes the legal consequences and recognises its effect. This right correlates with the relying party – the party must acknowledge the legal effect of the advanced signature.

3. Electronic stamp

A novelty in the Polish law, which was brought by EIDAS, is the electronic stamp[9]. It is a solution. This is similar to the electronic signature or as a qualified electronic stamp, while, unless the electronic signature can be used by a natural person, the electronic stamp can be, which comes from art. 3 (24) EIDAS, used only by a legal person. This creates a problem. On the one hand, the electronic stamp can be used only by the legal person, but on the other hand, the legal effect of neither the advanced nor the qualified stamp cannot be rejected (art 35. P. 1 EIDAS). From Art. 35 p. 2 IEDAS results that the qualified electronic stamp ensures integrity of the data bearing the stamp and the authenticity of their origin, while Art 35. P. 2 EIDAS states, that also the advanced stamp has a legal effect. As we can see, the legal effect of the electronic stamp is quite illusory. Using the stamps is regulated by the Regulation of the Council of Ministers dated December 7th, 1955 on the tables and **official stamp**. This regulation governs the details of the use of the stamp for stamping on paper and using ink, but nothing was said about the electronic stamps. If we assumed, that the electronic stamp can substitute the stamps from the regulations from 1955, then the problem is elsewhere. The electronic stamp is, as mentioned above, a stamp of a legal person, and the offices are not recognized as legal persons. For example, a community cannot use the electronic stamp. The voyt is not a legal person, the community office is not a legal person, so the company delivering the electronic stamp should not provide those entities with one. However, I can imagine the situation in which the community office or the voyt apply for the stamp and later use it. I can also imagine

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[8] Numbering of this rule does not make sense, because from the point of view of Polish law it is the third rule of equivalence, and from the point of view of European Union law understood as EIDAS replacing Directive 1999/93 / EC, this is the second rule of equivalence.

[9] Unusual and interesting remarks about the analogy between the electronic signature and the stamp were included in the work of J. Janowski. He draws the attention to the electronic signature of a person authorized to sign a "loose, artificial, logical," relationship just like the stamp (not electronic stamp, J. Janowski does not mention it). Janowski J., *Podpis Elektroniczny w obrocie prawnym*, Publishing house: Wolters Kluwer, Warszawa 2007, p. 49-50.

a situation in which a company delivering the electronic stamps delivers such stamp to the community office. The company will violate EIDAS, the community office will risk the violation of EDIAS, KPA and the Constitution by using the electronic stamp. The stamp issued for the entity, who is not a legal person does not change its electronic form, but does means that it is in constant legal effect of an electronic stamp described by EIDAS – this is open for a discussion. In terms of dominion - probably yes, in terms of empire- one can have his doubts[10], Voyt is the executive body of the community, so one can think, that the electronic stamp, which he will use should be given to the community[11]. Regardless of how the practice of issuing the electronic stamps shapes itself, one must remember that affixing of a document such as an administrative decision with an electronic stamp does not exempt the need for signing it with the qualified electronic signature.

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[10] The problems associated with the legal personality of legal persons are in an interesting way described in: Targosz T., *Nadużycie osobowości prawnej*, Publishing house: Wolters Kluwer, Kraków 2004.

[11] Szerzej o wójcie: Szewc A., Szewc T., *Wójt, burmistrz, prezydent miasta*, Publishing house: Wolters Kluwer, Warszawa 2006. p. 62-63.

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