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COORDINATION OF THE INFORMATION SOCIETY INFRASTRUCTURE IN GOVERNMENTAL AND REGIONAL RELATIONS

Summary: The significance of computerization of the state is permanently increasing. There is extensive evidence for that, like establishment of the Ministry of Administration and Digitalization, creation of Digital Poland Operational Program or designation of more than EUR 3.25 billion in 2014–2020 for related activities. Information society infrastructure development is planned to be performed on both state- and regional-government levels. This approach enables better identification and meeting of needs but, on the other hand, enforces a need for firm coordination. A dedicated project was appointed to create the system of coordination. The present paper is a summary of results of this project. The results of diagnostic works are presented in the initial sections. The purpose of the diagnosis was to create a solid foundation for the system. The following sections present the system. The presentation of the system is focused on theoretical assumptions for the system and the way of implementing these assumptions in practice. In the conclusion the most important challenges of system implementation were identified and presented.

Keywords: project portfolio management, computerization, information society, cohesion policy, multi-level governance.

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1. Introduction

The infrastructure of information society plays a vital role in regional development nowadays. It enables citizens' access to general information, public services and business services. In consequence, on both demand and supply side, citizens and various organizations of different sectors address state and regional governments with expectations concerning better access to this kind of infrastructure.

The issue is challenging because of two interdependent notions. The first one is related to the scope of relevant public intervention. Information and communication

technologies (ICT) constitute highly competitive and fast growing markets; therefore, governmental bodies of various levels must precisely define the market failure areas where public support is justified. The latter notion refers to the network character of the information society infrastructure and services based on it. Here the coordination issue emerges. State and regional interventions must match each other in order to prevent overlapping systems and lack of interoperation. The paper aims at studying this notion, providing a theoretical framework applied to the case of Polish state government and sixteen regional governments, interacting in planning and implementing the European Union (EU) cohesion policy measures for 2014–2020. The research question refers to search for a successful coordination pattern in between these two levels of governance.

2. Information society policies – setting the scene

Even though the idea dates back to the 1960s, and was so much stressed by visionaries like Toffler [1980], the role of information society and its infrastructure has truly grown throughout the last two decades as the commonly accessible ICT started to change human's lifestyles and professional routines. This period is associated with the "second wave" of information society and its policies [Ducatel, Webster, Herrmann 2000]. The new era of technology use has been already scrutinized in various books, papers and essays of sociological nature, including the concept of the Information Technology Revolution pinpointed in the Castells's [2009] classic book of 1996.

For these reasons, as precisely listed in the timeline by Dabinett [2001], starting from 1994 the information society has progressed to the top of the policy agenda in the EU. Plenty of initiatives have been undertaken since then. The EU promoted the general ideas but also financially supported infrastructures both on state as well as regional levels. In general, even though countries (state governments) invested a lot in country-wide systems, e.g. databases and networks for public administration, citizen services etc., several aspects of information society infrastructures have been developed regionally. Thus the coordination issue of at least two levels of governance (state-region), or even three (state-region-municipality), has appeared since the earliest undertaken actions. It may be assumed that, for obvious reasons, national governments took over nation-wide registers and services (citizens evidence, tax reporting, pension and healthcare schemes, etc.), while regions or municipalities developed their own strategies on regionally/locally-based public services. Here it must be pinpointed that in several cases state/regional/local systems are complementary and delays on one level may result in bottlenecks on the other [Barczyk et al. 2013, chapter 3.2]. The third pillar, concerning e-business support, could either be placed in national or regional schemes. This kind of split should be considered of utmost importance when initiatives supporting information society are seen as a part of wider territorial cohesion concept. Since the 1990s it has been believed that information society notions impact the less favored regions by:

- “Enabling local businesses and professionals to overcome distance and gain access electronically to remote markets and sources of information.
- Providing electronic access to specialist business services supplied from central locations.
- Enabling information processing or information creation work to be decentralized from core regions.
- Improving remote access to services such as health care and education.
- Enhancing democratic processes by providing citizens with remote access to political decision makers or sources of information about these decision.
- Facilitating cultural pluralism and wider media choice.
- Reducing social isolation by plugging remote areas into the »global village« of *virtual communities*.” [Cornford, Gillespie, Richardson 2000].

Implementing information society measures calls for tackling three areas: information, infrastructure and stakeholders [Ziemia, Żelazny 2013]. Information refers to digital contents and digital services. Infrastructure can either be of a network nature (computer networks, internet) or personal interfaces (computers, mobile devices). The general three groups of stakeholders are citizens, government and enterprises. Altogether they all lead to a bundle of information society activities that can be categorized as follows:

- development of ICT infrastructure,
- development of digital contents and services,
- improvement of competences of people, businesses and public administration in the development and use of ICT infrastructures, digital contents and services.

All these issues have been included in the EU’s general as well as regional/cohesion policy. This has been truly mainstreamed into the intervention of European Regional Development Fund (ERDF) and European Social Fund in the programming periods of 2000–2006 and 2007–2013. Before the 2014–2020 perspective was decided, some further key policy decisions had been taken in the “Europe 2020” strategy [European Commission 2010]. The strategy sets “*A digital agenda for Europe* to speed up the roll-out of high-speed internet and reap the benefits of a digital single market for households and firms” with the overall aim “to deliver sustainable economic and social benefits from a Digital Single Market based on fast and ultra fast internet and interoperable applications, with broadband access for all by 2013, access for all to much higher internet speeds (30 Mbps or above) by 2020, and 50% or more of European households subscribing to internet connections above 100 Mbps.” Split of responsibilities between the European Commission and Member States, concerning this aim, is provided in the strategy document. Further the above-mentioned declarations have been implemented mainly throughout the system of EU cohesion policy for 2014–2020 (see Section 3).

3. Programming information society infrastructure development in Poland, perspective 2014–2020

The EU budget/cohesion policy perspective for 2014–2020 is characterized by a strong push towards concentration of funding on selected areas of investment. Therefore, the key words in preparation of the state and regional operational programs for 2014–2020 (to be practically implemented in 2015–2022) are so-called “thematic objectives” and their “investment priorities”, literally listed in the EU’s legislation [2013a, article 9; 2013b, article 5]. In terms of information society infrastructure development, the thematic objective “enhancing access to, and use and quality of, ICT” (so-called thematic objective 2) encompasses the following investment priorities:

1. “extending broadband deployment and the roll-out of high-speed networks and supporting the adoption of emerging technologies and networks for the digital economy;
2. developing ICT products and services, e-commerce, and enhancing demand for ICT;
3. strengthening ICT applications for e-government, e-learning, e-inclusion, e-culture and e-health.”

These priorities clearly set the scope of possible structural funds intervention. As for Poland, it is assumed that the financial stream of structural funds, here the ERDF, will become the key source for funding information society infrastructure development. The expected value of the EU’s contribution on that is EUR 3,811 million [Ministerstwo Infrastruktury i Rozwoju 2014].

The key issue for this paper on infrastructure coordination is a split of responsibilities between the state (Polish government) and self-governing regions. In 2014–2020 all Polish regions are entitled to implement their own Regional Operational Programs (ROPs), whereas other operational programs, including the Digital Poland Operational Program (DPOP), remain in ministerial hands. As a rule, a demarcation line has been set up on thematic objective 2 investments, allowing regional intervention only within the investment priorities 2.2 and 2.3. For modelling the coordination of the information society infrastructure in governmental and regional relations in Poland a scrutiny over planned measures was done. The authors analysed the DPOP as well as 16 ROPs in their draft/working document version (as of April 2014), before the final negotiations with the European Commission started. The aggregated results are presented in Table 1. The analysis on investment priority 2.1 is not included on purpose for the clarity of the text, as it – being linked to state level only – cause no coordination challenges.

The content of Table 1 clearly shows that investment priority 2.3 calls for advanced coordination between the state and the regions. The regions mostly plan in

Table 1. Scope of planned ERDF investments in information society infrastructure in Poland, 2014–2020

Operational Program	Investment priority 2.2, planned measures	Investment priority 2.3, planned measures	Project selection procedure
1	2	3	4
DPOP	Supporting young talents in ICT by offering feasibility studies, coaching, mentoring and financing the proof of principle or proof of concept phase.	<p>Improving availability, accessibility and quality of e-public services, especially concerning: labor market, social insurance, health care, enterprise registers, justice, spatial data, science and higher education, taxes, duties, public procurement, security and emergency, farming.</p> <p>Improving digital efficiency of public offices, including: interoperation, interfaces, databases, ERP systems, access to data, data security policies.</p> <p>Increasing access to public sector data, including maintaining data sets and their repositories in international standards for metadata.</p> <p>Supporting non-public bodies in creating applications that utilize public e-service and public sector's information.</p> <p>E-integration in local societies via local activity centers.</p> <p>Supporting cross-country innovative initiatives on using ICT by different social groups.</p>	Calls for proposals
ROP <i>Dolnośląskie</i>	–	<p>Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies.</p> <p>Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS.</p> <p>Digitalization of cultural, scientific and educational resources.</p> <p>Providing infrastructure supporting digital competences among pupils.</p> <p>Establishing public access internet hot spots.</p>	No information
ROP <i>Kujawsko-Pomorskie</i>	–	<p>Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies.</p> <p>Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, GIS.</p> <p>Advancing ICT infrastructure (incl. digitalization capacity) in administration, health care, education and culture).</p> <p>Digitalization of cultural, scientific and educational resources.</p> <p>Providing infrastructure supporting digital competences among pupils.</p> <p>Establishing public access internet hot spots.</p>	Calls for proposals
ROP <i>Łódzkie</i>	–	<p>Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies.</p> <p>Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS.</p> <p>Digitalization of cultural, scientific and educational resources.</p>	Calls for proposals
ROP <i>Lubelskie</i>	–	<p>Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies.</p> <p>Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS.</p> <p>Digitalization of cultural, scientific and educational resources.</p>	No information
ROP <i>Lubuskie</i>	–	<p>Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies.</p> <p>Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS.</p> <p>Digitalization of cultural, scientific and educational resources.</p>	No information

Table 1, cont.

1	2	3	4
ROP <i>Małopolskie</i>	–	Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies. Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS. Digitalization of cultural, scientific and educational resources.	Flagship projects and calls for proposals
ROP <i>Mazowieckie</i>	Implementing advanced ICT solutions in companies. Developing advanced e-products and e-services.	Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies. Implementing local and regional public e-services especially in the areas of: e-administration, e-health and e-learning.	2.2: Calls for proposals 2.3: Flagship projects and calls for proposals
ROP <i>Opolskie</i>	Implementing advanced ICT solutions in companies. Developing advanced e-products and e-services.	Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies. Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS. Digitalization of cultural, scientific and educational resources.	Calls for proposals
ROP <i>Podkarpackie</i>	–	Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies. Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS. Digitalization of cultural, scientific and educational resources.	Flagship projects and calls for proposals
ROP <i>Podlaskie</i>	Implementing advanced ICT solutions in companies. Developing advanced e-products and e-services.	Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies. Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS. Digitalization of cultural, scientific and educational resources.	2.2: Calls for proposals 2.3: Flagship projects and calls for proposals
ROP <i>Pomorskie</i>	–	Implementing integrated e-health solutions.	Flagship project
ROP <i>Śląskie</i>	Implementing advanced ICT solutions in companies. Developing advanced e-products and e-services.	Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies. Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS. Digitalization of cultural, scientific and educational resources.	2.2: Calls for proposals 2.3: Flagship projects and calls for proposals

ROP <i>Świętokrzyskie</i>	Implementing advanced ICT solutions in companies. Developing advanced e-products and e-services.	Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies. Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS. Digitalization of cultural, scientific and educational resources.	2.2: Calls for proposals 2.3: Flagship projects and calls for proposals
ROP <i>Warmińsko-Mazurskie</i>	Implementing ICT solutions in companies. Developing e-products and e-services bringing entrepreneurs closer to distant markets and supporting sailing and tourism in the area.	Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies. Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS. Digitalization of cultural, scientific and educational resources.	2.2: Flagship projects and calls for proposals 2.3: Calls for proposals
ROP <i>Wielkopolskie</i>	Implementing advanced ICT solutions in companies. Developing advanced e-products and e-services.	Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies. Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS. Digitalization of cultural, scientific and educational resources.	2.2: Calls for proposals 2.3: Flagship projects and calls for proposals
ROP <i>Zachodniopomorskie</i>	Implementing advanced ICT solutions in companies.	Implementing open government, including: interoperation, interfaces, databases, access to data, data security policies. Implementing local and regional public e-services in the areas of: e-administration, e-health, e-learning, e-culture, e-tourism, e-security, GIS. Digitalization of cultural, scientific and educational resources.	2.2: Calls for proposals 2.3: Flagship projects and calls for proposals

Source: own study, based on DPOP and RPOs as of April 2014.

a similar way – the widest possible intervention, whereas the state works on country-wide solutions, for example on information systems in: health care, enterprise registers, spatial data, science and higher education, public procurement. Thus not only interoperation needs to be secured but also a relevant logic of implementation must be agreed to minimize the risk of overlaps and bottlenecks.

4. Coordination in the light of program and portfolio management

The crucial decision in preparing a coordination model was to choose between program and portfolio management. Both of these approaches have certain advantages and disadvantages, and both seemed to be reasonable to apply. To understand the difference between program and portfolio management, it is necessary to understand the notions of “program” and “portfolio”.

At first sight portfolios and programs may seem quite similar. In many definitions both are based on the idea of grouping projects together. For example Letavec says the program is “a grouping of multiple projects that enables consolidated management and reporting” [Letavec 2006] and Wysocki defines program as “a collection of related projects. The projects must be completed in a specific order for the program to be considered complete” [Wysocki 2009]. The portfolio could be perceived as a collection of projects too. According to Archer and Ghasemzadeh, a project portfolio is “a group of projects to be carried out under the sponsorship of a particular organization. These projects must compete for scarce resources (labour, finances, time, etc.), since there are usually not enough resources to carry out every proposed project” [Archer, Ghasemzadeh 2007]. But in many approaches portfolios are attached to the higher level of management than programs. Sanghera defines a portfolio as “a set of projects, programs, or both that is managed in a coordinated fashion to obtain control and benefits not available from managing them individually” [Sanghera 2007]. Harpum also indicates the difference and connection between programs and portfolios. According to this author, a program is “a group of projects that together will deliver strategic objective” [Harpum 2010], while a portfolio is “a group of programs and/or large projects that together form a coherent set, the purpose of which is to deliver a group of strategic objectives” [Harpum 2010]. Probably the most complex distinction was made by the Program Management Institute. PMI defines a program as “a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually. Programs may include elements or related work outside of the scope of the discrete projects in the program” [Project Management Institute 2006]. The portfolio is defined as “a collection of components (i.e. projects, programs, portfolios,

and other work such as maintenance and ongoing operations) that are grouped together to facilitate the effective management of that work in order to meet strategic business objectives. The projects or programs of the portfolio may not necessarily be independent or directly related” [Project Management Institute 2006]. PMI standards not only present definitions of programs and portfolios but also show detailed differences in the approach to them. These differences are presented in Table 2.

Table 2. Programs and portfolios according to PMI standards

	Programs	Portfolios
Scope	Wide scope that may have to change to meet the benefit expectations of the organization.	Business scope, that changes with the strategic goals of the organization.
Change	Program managers have to expect and even embrace change.	Portfolio managers continually monitor changes in the board environment.
Success	Is measured in terms of Return On Investments (ROI), new capabilities, and benefit delivery.	Is measured in terms of aggregate performance of portfolio components.
Leadership style	Focuses on managing relationships, and conflict resolution. Program manager’s need to facilitate and manage the political aspects of the stakeholder management.	Focuses on adding value to portfolio decision-making.
Management level	Program managers manage project managers.	Portfolio managers may manage or coordinate portfolio management staff.
Role of managers	Program managers are leaders providing vision and leadership.	Portfolio managers are leaders providing insight and synthesis.
Planning	Program managers create high level plans providing guidance to projects where detailed plans created.	Portfolio managers create and maintain necessary process and communication relative to aggregate portfolio.
Monitoring and control	Program managers monitor projects and ongoing work through governance structures.	Portfolio managers monitor aggregate performance and value indicators.

Source: own study, based on The Standard of Program Management (PMI).

Approaching the coordination issues of computerization in Poland, one must realize that the Program for Integrated Informatization of State is not a typical PMI program. The most important attribute of this document is a lack of resources directly attached to it. In fact, the most of the resources are divided between EU operational programs (state and regional) and other measures. Moreover, the Minister of Administration and Digitalization has no authority in managing these programs. Therefore, it was decided to regard computerization of Poland as a portfolio. The efforts should be focused on coordinating particular programs in order to aggregate and improve performance of all the components.

5. Methodical recommendation

5.1. Organizational structure and crucial stakeholders

A system of coordination was proposed as a response to the challenge of coordinating computerization programs in Poland. This system has been prepared to serve two main purposes: securing coordination in the technical area and securing coordination of obtaining benefits. The system is based on three pillars: organizational structure, processes and themes. Organizational structure is settled on a triangular model. The most important actors of the system are:

- Coordinator of the thematic objective 2 in Poland (see Section 3) – is responsible for the maintenance of the coordination system and plays the role of the coordination office. Coordinator is designated by the minister in charge of regional development.
- Cabinet’s Committee of Digitalization – is responsible for coordination tasks and activities realized by the central government. Committee is supported and

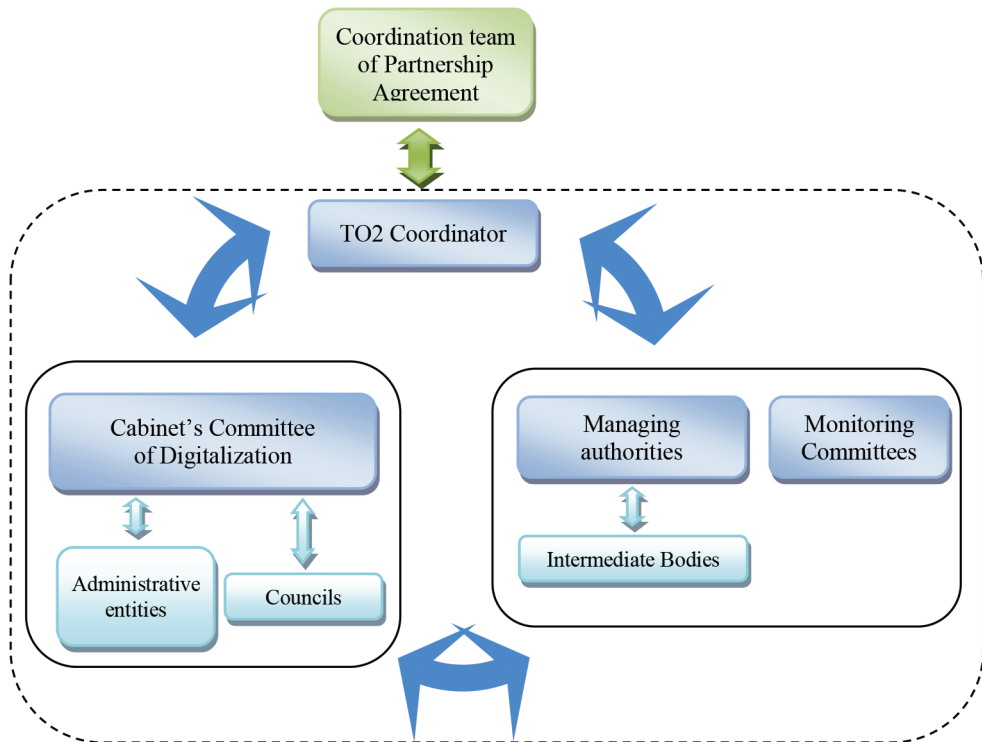


Figure 1. Organizational structure of the system

Source: own study.

serviced by the Ministry of Administration and Digitalization, other ministries and designated entities.

- Managing authorities and monitoring committees – are responsible for coordination on the regional level, within their scope of intervention.

To simplify the management of the system, it was assumed that every stakeholder is represented by one of these main actors unless it is permitted to take direct actions by delegating some roles and responsibilities. The scheme of organizational structure is presented in Figure 1.

It should be pinpointed here that the third party, i.e. the coordination team of Partnership Agreement is situated above the system of coordination. Partnership Agreement is a document agreed by the Member State (Poland) and the European Commission, describing overall intervention utilizing the EU funds for 2014–2020. Therefore, this team is responsible for coordination of all operational programs indicated in Partnership Agreement.

5.2. Roles and responsibilities

Tasks and responsibilities in the system are appointed by means of the roles- and responsibilities-based approach. The actors of the system and of all system processes are described by roles. A role may refer to a single person, group of people or institution, but the connections between people and roles are not fixed. General roles and responsibilities are defined for the entire system but every process and every area of coordination has its own roles and responsibilities as well.

Coordination of computerization in Poland involves many stakeholders and many institutions on the regional and local as well as on the state level. All stakeholders are formally represented by three main actors of the system. In fact, there is a necessity to perform some activities without intermediaries. Rules and procedures of delegating tasks and responsibilities to different institutions are defined within the system. Delegation is based on five principles:

1. Each stakeholder is free in selecting institutions to which powers, roles and responsibilities are delegated.

2. Entity which delegates powers, roles or responsibilities is responsible for the actions of the performer.

3. The process owner cannot delegate the responsibility for proper realization of a process.

4. The process owner cannot delegate the final approval of a process product.

5. The delegating entity is obliged to inform the Coordinator of the thematic objective 2 about the scope and time of delegation. The Coordinator includes such information into the documentation of the system.

5.3. Processes

The main activities recommended for coordination of information society infrastructure development programs are divided into process groups and processes. Each process has the same structure and includes:

- Goal – defining what a process is for.
- Owner – responsible for a process and for delivering outputs.
- Actors – institutions involved in a process.
- Description – description of a process, including a flowchart.
- Roles and responsibilities – list of all responsibilities in a process assigned to specific roles (actors of a process).
- Inputs and outputs – resources needed to run a process and expected results.
- Benefits – particular value added to the coordination system; indicating these benefits is useful for the process owner, because it helps to manage a process properly.

Processes are divided into following groups:

- Planning processes group – contains the processes needed to lay the groundwork for coordination. The planning process group comprises identification of indicators, classification of state government endeavors, interoperability planning, schedule planning and risk management planning. It is important to realize that the planning process is permanent throughout the life cycle of coordinated programs. The processes from this group are activated not only in the beginning of programs but at all the stages of their life cycle.
- Executing processes group – contains the processes necessary to integrate projects, programs, people and other resources. The processes in this group are coordinating of achieving benefits, implementation of interoperability rules and change of interoperability rules.
- Monitoring and controlling processes group – contains the processes required for obtaining information necessary to coordinate all involved activities. The processes integrated in this group do not replace the monitoring of particular programs or projects. The goal of these processes is not to obtain complete information about every activity, risk and result in the computerization area. The information is filtered and the outputs of processes are restricted to those data which are necessary to perform proper and effective coordination. Monitoring and controlling processes group comprises schedule monitoring as well as risk monitoring and control.

5.4. Themes

To properly coordinate entire information society infrastructure development, the system must not be limited to the technical area and obtaining benefits. On the early stages of preparing the system, crucial themes necessary to proper coordination

were indicated. These themes are benefits, interoperability, schedule, communication and risk.

5.4.1. Benefits. The main purpose of all programs is to obtain particular benefits. In order to properly direct the streams of money and to obtain the effect of synergy, these benefits must be coordinated. Generally, the benefits are described by using indicators, which help not only to define benefits but are the tools of measuring the level of obtaining them as well. The two crucial processes of benefits coordination are: identification of indicators and coordination of obtaining benefits. The general assumption in the system is to activate these processes fully in the beginning and while the extent reviews and changes in programs are implemented.

5.4.2. Interoperability. The typical model of coordination in the technical area is based on technical standards. While the standard is prepared and approved, every stakeholder of the system is obliged to use their own solutions. The most important problems in these model are:

- Who is responsible for preparing standards?
- Who is responsible for approving standards and checking for compatibility between them?
- The issue of changing standards.
- How to enforce the implementation of standards by all stakeholders?

The coordination in the technical area consists of four main processes. The classification of crucial endeavors allows identifying those undertakings which have significant influence on creating standards. These undertakings are evaluated for their impact on standards creation and divided into groups (crucial, important, potentially important and others). The second process “planning of interoperability” is dedicated to ensure the acceptance of standards. To make the standards more stable, the acceptance is made on the highest possible level, by the Cabinet Committee of Digitalization. This Committee is responsible for the process “Change of interoperability rules” too. The purpose of this process is to ensure proper handling of changes in the technical dimension. The last process “Implementation of interoperability rules” is placed in the system to ensure that the standards will be implemented by all institutions and stakeholders as wide as possible.

5.4.3. Schedule. To ensure coordination in the technical dimension, not only the standards are important but also the schedule of preparing and implementing these standards. Some programs and undertakings are possible to be performed only in a particular framework. For example to implement the systems of exchanging medical information on the regional level, the standards of this exchange have to be prepared and implemented by the state administration. The programs’ authorities are independent in planning program schedules but if they want to perform their programs efficiently, they have to adapt these schedules to external programs and activities undertaken. The main goal of theme “schedule” is to disseminate knowledge about all important schedules and milestones to all stakeholders. It is carried out by two processes “Schedule planning” and “Schedule monitoring.” Coordination of all

schedules while maintaining the independence of all stakeholders is key for these processes.

5.4.4. Communication. The example of a schedule shows how important communication among stakeholders is. The lack of communication may block obtaining the most of coordination profits. Theme “communication” is this part of the system which is responsible for determining the information and communication needs of all stakeholders and delivering adequate information to adequate recipients. The tools used for communication are similar to the typical tools in program and project management (communication matrix, document templates, Internet based solutions, etc.). Ensuring the proper communication is one of the most important responsibilities of the Coordinator of the thematic objective 2.

5.4.5. Risk. The coordination is burdened by its own risks. The risks of coordination need to be identified, assessed and managed properly. This is fulfilled by “Risk management planning” and “Risk monitoring and control” processes. The risk management in the system must not replace risk management in specific programs and projects. Not only the level of details is different but also the entire approach as well. The risk management in programs is focused on these risks which are important to the success of a program. Risk management in the system pays attention to these threats and hazards which are crucial for coordination among programs.

6. Conclusions

The problem of coordination and information society infrastructure development in the state is very important. Finding the correct solution may be crucial for entire process. As the experience of years 2007–2013 shows, the lack of coordination often results in inefficient spending of money or leads to the failure of specific actions. According to the authors of this paper, the presented system should be able to facilitate coordination significantly. However, it is important to remember that administration in Poland is very complex. Therefore, the implementation of the system may be very difficult. Moreover, the structure of the administration relies upon changes caused by the political situation or external factors. For that reason, the maintenance of the system may turn out to be very challenging.

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KOORDYNACJA INFRASTRUKTURY SPOŁECZEŃSTWA INFORMACYJNEGO W RELACJACH RZĄDOWYCH I REGIONALNYCH

Streszczenie: Znaczenie informatyzacji państwa stale wzrasta. Wskazują na to między innymi utworzenie Ministerstwa Administracji i Cyfryzacji, opracowanie Programu Operacyjnego Polska Cyfrowa lub przeznaczenie w latach 2014–2020 ponad 3,25 mld euro na działania związane z informatyzacją. Rozwój infrastruktury społeczeństwa informacyjnego realizowany będzie zarówno na poziomie krajowym, jak i regionalnym. Takie podejście pozwala na lepszą identyfikację potrzeb, ale wymusza również koordynację działań. W tym celu, na zlecenie Ministerstwa Infrastruktury i Rozwoju, rozpoczęto prace zmierzające do utworzenia systemu koordynacji. W artykule przedstawiono podsumowanie tych prac. W pierwszych rozdziałach artykułu zaprezentowane zostały rezultaty prac diagnostycznych. W kolejnych przedstawiono sam system, koncentrując się na założeniach teoretycznych i sposobie realizacji tych założeń w praktyce. W podsumowaniu wskazano najważniejsze wyzwania związane z wdrożeniem systemu.

Słowa kluczowe: zarządzanie portfelami projektów, komputeryzacja, społeczeństwo informacyjne, polityka spójności, zarządzanie wielopoziomowe.