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IN SEARCH OF PROJECT MANAGEMENT EFFICIENCY. RENEWAL OF PUBLIC SECTOR INSTITUTIONS

Summary: The authors present a research proposal that concerns project management efficiency in the public sector institutions and the model of their project management advancement. Efficiency of project management determines quantity and quality of results. The high PM efficiency means better results in a proper time and with adequate costs. This is a crucial matter for the public sector institutions, which exist to accomplish goals and tasks for the society. Taking those aspects into consideration, the present research proposal seems to concern a very important and up-to-date issue. The purpose of the following research project is to improve the understanding of organizational renewal possibilities by efficient project management.

Keywords: public sector, project management maturity, project management efficiency, renewal.

1. Introduction

One of the way of the public sector institutions' renewal is by developing the project management. Studies and observations lead to the conclusion that various projects, infrastructural, social, educational and cultural, are carried out, and they are completed with different results. Some of them are successful while the others not. Why is that so? Why is project management in public sector institutions more efficient in some cases than in the others? Why are some organizations of public sector able to manage their projects in a better way and obtain better results than others? What causes the high efficiency of project management in those organizations? Those questions seem to be very important at present and they need to be answered, because the high efficiency of project management is the basic condition of successful renewal.

The purpose of the present research project is to improve the understanding of organisational renewal possibilities by efficient project management.

2. The nature and relevance of the research problem

The basic research questions that we are going to answer in this study are: why is project management in public sector institutions more efficient in some cases than others? What causes the high efficiency of project management in those organizations?

We understand the efficiency of project management as an ability to achieve all quantitative and qualitative goals, and complete the project in a planned time frame and budget [Lock 2009, pp. 17-22]. The high PM efficiency means a successful project which allows for achieving all formulated goals and tasks, and is completed in accordance to time schedule and budget. The low efficiency means that goals are not achieved, or deadline or/ and budgets are exceeded, etc.

The efficiency of project management in the public sector depends on many both internal and external variables, e.g. the strategy of organization (How dynamic and flexible the strategy is?); engagement of the top management (Do the top managers support projects?); methods and techniques of project management that are used (What kind of methods and tools is used? What types of structural forms are used to accomplish projects?); closer environment: institutions responsible for distributing funds (How friendly or hostile are they?), other organizations (Do they compete or co-operate?); general environment: economic situation, socio-cultural and legal environment, etc. Remembering all the factors mentioned before may determine the efficiency of project management (PM). We focus only on those that are related to managerial aspects in further considerations.

Project management plays an important role in the public sector. The dynamic environment causes projects to be more frequent than decades before, and since Poland entered EU many various projects have been carried out with EU funds support. According to the data of EU, 107.9 billion euros will be spend in Poland on projects by the end of 2013 [*Wstęp do funduszy ...*].

But there are still obstacles and troubles in projects' realization. Organizations of the public sector do not apply for EU funds too frequently, many applications are rejected because of poor quality and formal mistakes, and lots of projects are carried out with serious troubles.

If we knew why project management is more efficient in some cases than others, we could identify sources of successes and failures, and then build the best base for practice. More efficient project management means better allocation of EU funds, domestic budgets, and other resources. It allows for completing complex tasks, such as building infrastructure, motorways, implementing new IT solutions, and developing knowledge based society. It also determines the image of the whole public sector.

3. Project management maturity – A theoretical view

Looking for high efficiency of project management and positioning an organization’s relative PM level with other organizations, various maturity models are used. Most models follow a systematic approach to establish an organization’s current project management level.

The best known project management maturity models in the literature are Project Management Maturity Model (PMMM), Prince2 Maturity Model (P2MM), and OGC’s Portfolio, Programme and Project Management Maturity Model (P3M3), etc. They will be described in this section more extensively.

Project Management Maturity Model (PMMM) shows that the increased project management advancement leads to excellence. The model is comprised of five levels, and what is important, each one brings an organization closer to PM excellence. Each level represents a different degree of maturity – level one: common language, level two: common processes, level three: singular methodology, level four: benchmarking, level five: continuous improvement. A general description of all five levels is shown in Table 1.

Table 1. Levels of PMMM

Maturity Level	Description
Level 1 – Common language	At this level the organization recognizes the importance of project management and the need for a good understanding of the basic knowledge of project management along with the accompanying language/ terminology
Level 2 – Common processes	At this level the organization recognizes that common processes need to be defined and developed so that successes in one project can be repeated with other projects. Also included at this level is the recognition that project management principles can be applied to and support other methodologies applied by the company
Level 3 – Singular methodology	At this level the organization recognizes the synergetic effect of combining all corporate methodologies into a singular methodology the center of which is project management. The synergetic effects also make process control easier with a single methodology than with multiple methodologies
Level 4 – Benchmarking	This level contains the recognition that process improvement is necessary to maintain a competitive advantage. Benchmarking must be performed on a continuous basis. The company must decide whom to benchmark and what to benchmark
Level 5 – Continuous improvement	At this level the organization evaluates the information obtained via benchmarking and must then decide whether or not this information will enhance the singular methodology

Source: [Kerzner 2006, pp. 890-891].

Table 2. P3M3's maturity levels

Maturity Level	Portfolio Management	Programme Management	Project Management
Level 1 – Awareness of a process	Does the organization's Executive Board recognize programmes and projects, and maintain an informal list of its investments in programmes and projects? (there may be no formal tracking and documenting process)	Does the organization recognize programmes and run them differently from projects? (programmes may be run informally with no standard process or tracking system)	Does the organization recognize projects and run them differently from its ongoing business? (projects may be run informally with no standard process or tracking system)
Level 2 – Repeatable process	Does the organization ensure that each programme and/ or project in its portfolio is run with its own processes and procedures to a minimum specified standard? (there may be limited consistency or co-ordination)	Does the organization ensure that each programme is run with its own processes and procedures to a minimum specified standard? (there may be limited consistency or co-ordination between programmes)	Does the organization ensure that each project is run with its own processes and procedures to a minimum specified standard? (there may be limited consistency or co-ordination between projects)
Level 3 – Defined process	Does the organization have its own centrally controlled programme and project processes and can individual programmes and projects flex within these processes to suit particular programmes and/ or projects. Does the organization have its own portfolio of management process?	Does the organization have its own centrally controlled programme processes and can individual programmes integrate with these processes to fit the particular programme?	Does the organization have its own centrally controlled project processes and can individual projects integrate with these processes to fit the particular project?
Level 4 – Managed process	Does the organization obtain and retain specific management metrics on its whole portfolio of programmes and projects as a means of predicting future performance? Does the organization assess its capacity to manage programmes and projects and prioritize them accordingly?	Does the organization obtain and retain specific measurements on its programme management performance and run a quality management organization to better predict future performance?	Does the organization obtain and retain specific measurements on its project management performance and run a quality management organization to better predict future performance?
Level 5 – Optimized process	Does the organization undertake continuous process improvement with proactive problem and technology management for the portfolio in order to improve its ability to depict performance over time and optimize processes?	Does the organization undertake continuous process improvement with proactive problem and technology management for programmes in order to improve its ability to depict performance over time and optimize processes?	Does the organization undertake continuous process improvement with proactive problem and technology management for projects in order to improve its ability to depict performance over time and optimize processes?

Source: [Introduction and ... 2010, p. 8].

The model was tested mostly in large companies, e.g. Motorola, Ericsson or Compaq. It shows that advanced (or mature) project management leads to PM excellence [Kerzner 2006, p. 890].

The most visible weakness of the presented model is that particular maturity levels are not defined precisely; and different issues are mixed in each level, e.g. implementation of PM tools, organization of the project, people engaged in the project, as well as project's environment. Apart from that, the model can be hardly adopted to small and medium organizations.

Another interesting approach to measuring PM advancement is the OGC's (Office of Government Commerce) Portfolio, Programme and Project Management Maturity Model (P3M3). This is a complex model designed for organizations of different nature and size, and it is commonly used in British public sector organizations¹. The model also contains five maturity levels. All the levels are described in Table 2.

The model is simple and logical. It clearly shows the path from understanding to managing projects within an organization. Also in this approach, the more mature project management means the higher level of PM efficiency. Although P3M3 is more detailed, still different issues and aspects are mixed in the description of the aforementioned levels. The managers do not know what exactly they should do to make project management more efficient.

Another model was presented by PriceWaterhouseCoopers [*Poprawa...* 2004]. It also shows five levels of project management maturity: inefficient/ unreliable processes, informal processes, standardized processes, monitored processes; and the last one is optimized processes. Table 3 presents the description of each maturity level.

In general, there are many similarities between PwC model of project management maturity and models presented earlier. All approaches to project management maturity are linear. Each starts with almost no project management and ends concerning on optimizing all processes related to project management in order to enhance overall project performance. As the results of research made by PwC (200 companies) show for the majority of cases, the higher the maturity level, the higher the project performance. In addition, the lowest maturity levels can be found in the public sector, where the majority of organisations (56.3%) only reached maturity level 1.

The results of the research carried out in over 300 enterprises shows that overall average level of maturity is rather low (2.5). It means that most of the investigated companies were at the level of informal processes and explains the multitude of failed projects. The results shows also positive correlation between the level of maturity and level of efficiency of the project.

¹ More information about Portfolio, Programme and Project Management Maturity Model on P3M3 official website: www.p3m3-officialsite.com.

Table 3. PwC's maturity levels

Maturity Level	Description
Level 1 – Unreliable processes	Sporadic use of project management. Formal documentation and the knowledge of the standards of project management are absent. No training. Little organizational support
Level 2 – Informal processes	A formally approved project management methodology is absent. Basic processes; not standard for all the projects. Project participants are informed about project management standards, but do not apply these standards appropriately. Lessons learned are not recorded
Level 3 – Standardised processes	A project management methodology is developed, approved and used. Project participants are informed about project management standards. Most projects are implemented using these standards. Management supports the use of standards. Focus on individual projects
Level 4 – Monitored processes	An integrated project life cycle methodology is used. Application of the standard set is monitored and fixed for all projects. Projects support the strategic plan. Project benefits are tracked. Internal training is in place. Project Office is established
Level 5 – Optimised processes	A regular analysis and renewal of the existing project management methodology is conducted. Lessons learned files are created. Knowledge is transferred. Process in place to improve project performance. Management focuses on continuous improvements

Source: [Nieto-Rodriguez and Evrard 2004, p. 6].

Analyzing models of project maturity, it could be concluded that the higher level of maturity is better, and that companies should strive to reach higher levels. It is not quite true. In many companies the level of 2-3 is a level sufficient to effectively implement projects. Achieving higher levels can only lead to additional cost and not affect the increasing effectiveness. When considering whether to introduce new elements to the project management, an organization should take into account many factors, such as the number of projects and their value, the complexity of the projects, costs and risks associated with achieving the next level of maturity, etc. The development of the project management company must first of all reflect the need to increase the efficiency of project implementation, and not “blind” the transition to the next level of maturity without obtaining improved performance of the organization, and only at a cost.

PM is a relatively young sub-discipline in management sciences and its theoretical background is still developing. We may find some gaps and weaknesses in presented approaches and models in terms of investigating the public sector institutions.

First, the models mentioned before are too general and not ordered accurately, especially for smaller organizations (both business and public sector institutions). They focus on complex methodologies of project management, like PMBook or PRINCE2. Small or medium organizations need a more detailed PM maturity model that takes into consideration particular aspects of project management.

Second, major suggestions drawn from those models refer mainly to instrumental aspect – project management tools, IT support, etc. Structural aspect is often limited to analyzing general organizational design (when using a strong or balanced matrix structure, when pure project structure, etc.), and not organization within the project (how the project is structured inside, how tasks, competences, and responsibilities are divided). The personal aspect is limited to knowledge, skills and attitude of project managers, while profiles of participants are described rarely.

Thus, the aforementioned models focus mainly on business organizations. The public sector institutions realize different types of projects and exist in very unique conditions – with limited budgets, many external legal regulations, rigid and over-formalized organizational structures, specific organizational culture, etc. This makes typical project maturity models inadequate to organizations of public sector.

4. The proposed model and hypothesis

In the present study we focus on cause-effect relationships between the advancement of three aspects of project management: structural, instrumental, and personal, and the efficiency of the project management. As independent variables we set three aforementioned aspects of project management. All three variables may vary in their presence from low to high; and there are few medium stages between high and low presence of each variable. The efficiency is the dependent variable and it also varies in its presence from low to high.

In the model that we create the structural aspect refers to the question of how the project is structured. The low presence of structural aspect means that the project is conducted within the traditional organizational structure without project autonomy, tasks are not divided, organizational roles are not set apart. The high level means that there is high autonomy of the project, and it is structured inside – there is a division of tasks and roles among project participants, rules and procedures are introduced, etc.

The instrumental aspect refers to the PM tools that are used. The low presence means rare use of basic tools like timetables, graphs and checklists. The high presence means that more advanced PM tools are used, like benchmarking and risk analysis, as well as they are supported by IT solutions.

The personal aspect concerns people within the project. The low presence means that people are selected randomly, do not have adequate knowledge and skills, and there are no training courses that concerns project management methodology. The high presence of personal aspect means that project manager knows exactly who he needs – people are selected carefully, and they have required skills. Additionally, PM

trainings are organized frequently, and there is positive synergy in the project team. Combining those aspects, we obtain aggregated independent variable which we shall call project management advancement or maturity.

The dependent variable is the efficiency of project management. It is seen in terms of budgets, timetables, and quality of results. The low presence of efficiency means that deadlines are not met, budgets are exceeded, the final results are worse than planned, and additional problems may appear, e.g. organizational conflicts or uncomfortable atmosphere. The high presence of efficiency means that all goals of the project are achieved (both quantitative and qualitative) and project is realized with respecting timetables, budgets, and quality of final results. The model proposed by the authors is shown in Figure 1.

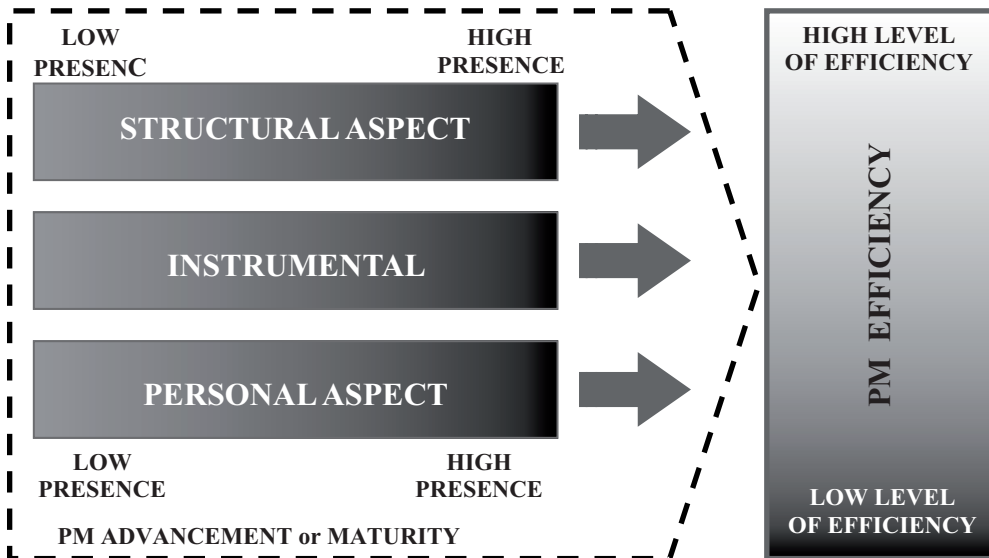


Fig. 1. Project management advancement model for public sector institutions

Source: Authors’ own study.

The model that we propose allows for identifying relationships between variables in a more analytical way than other models. It allows to suggest what should be done (what aspects should be developed) to make project management more efficient in a particular situation. For example, which aspect – structural, instrumental or personal – should be developed when a small public sector institution with limited budget is going to carry out a small educational project, and which one when a big organization is going to realize a huge investment project.

The model will be developed in further research studies – scales of presence for all variables will be introduced, and questionnaire forms will be designed

(an organization's position on the scale will be determined on the basis of responses to a series of questions).

We set the basic hypothesis (H1) that the more advanced project management the higher level of its efficiency. The second hypothesis (H2) is: the success of organisational renewal by project management depends on PM efficiency.

5. The research methodology

To answer research questions and verify presented hypotheses we are going to use mixed research methodology which contains both quantitative and qualitative methods [Creswell 2009, p. 4]. The research design consists of two interrelated phases: the first phase is based on quantitative, and the second one on qualitative methods.

The first phase of the study will be based on quantitative methods. We are going to carry out the questionnaire research in a larger sample of projects ($n = 100$) in different public sector institutions to identify the correlation between dependent and independent variables (advancement of PM aspects and its efficiency). Crucially, the project will be the observation in our study. The questionnaire will be addressed to project managers because they are experts and they have required knowledge about projects that they manage.

In the second phase, we will use case study research design. A deep study will be carried out in selected organizations that conduct various projects (5-10 deep studies of projects). The main goal of the second phase is to find out the reasons why such relationship exists, why the level of advancement of three PM aspects results in lower or higher efficiency, and why some tools and activities cause increase of efficiency. We are going to use various techniques of gathering data (analyzing project documentation, interviewing project managers and employees, observing processes and results), and multiple sources of information (asking different people the same questions, looking for the same data in various places).

We mostly focus on the projects co-financed with EU funds carried out by organizations of the public sector: municipals, local offices, institutions of education, sport, and culture. The period of time that we examine is the last three years. We believe that this time period will make our findings up-to-date because previous projects were conducted in other programming periods (before 2004, and in 2004-2006) and different economic and legal conditions.

6. Conclusions

At present, projects are very common in the public sector organizations. Municipals, local agencies, universities, organizations of social care, culture and sport, are carrying out many different projects and are spending a huge amount of UE funds

that are assigned for this type of projects in current programming period (2007-2013).

Efficiency of project management determines quantity and quality of results. The high PM efficiency means better results in a proper time and with adequate costs. This is a crucial matter for the public sector institutions, which exist to achieve goals and tasks for the society. Taking all that into consideration, the present research proposal seems to concern a very important and up-to-date issue.

Renewal is often triggered by the following conditions or circumstances: a yawning gap between the organisation's stated ideals and its day-to-day practice and operations and dramatic failure or profound internal weaknesses in the organization. The efficiency of project management in the public sector institutions seems to be the critical for organizational renewal.

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W POSZUKIWANIU EFEKTYWNOŚCI ZARZĄDZANIA PROJEKTAMI. ODNOWA ORGANIZACYJNA W SEKTORZE INSTYTUCJI PUBLICZNYCH

Streszczenie: Autorzy prezentują w artykule propozycję badań, dotyczących efektywności zarządzania projektami w sektorze instytucji publicznych oraz przedstawiają dla nich model zaawansowanego zarządzania projektami. Efektywność zarządzania projektami decyduje o ilości i jakości wyników. Wysoka efektywność zarządzania projektami oznacza lepsze wyniki w odpowiednim czasie i w adekwatnej cenie. Jest to bardzo ważna sprawa dla instytucji sektora publicznego. Celem prezentowanego projektu jest wzmocnienie zrozumienia możliwości organizacyjnej odnowy przez efektywne zarządzanie projektami.