

SAFETY OF THE EU PROJECT MANAGEMENT SYSTEM IN PUBLIC UNIVERSITIES

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Abstract: Effective project management requires consideration of aspects such as quality, costs, time, material resources, staff and communication, and risk. In the case of projects co-financed from European Union funds, the main threat is recognition of part or all of the costs as ineligible, which will result in a need to cover them from university's own funds. Therefore, not only successful completion of the project but also financial condition of the university depends on safety level of EU project management system. Main purpose of the study was to indicate actions aimed at increasing safety of EU project management system in public universities. First part of article is theoretical and was prepared based on a critical analysis of the literature in a field of project management. Second part of the text was based on primary data collected during the survey among EU project managers at public technical universities. Literature studies and results of own research have enabled preparation of recommendations to increase the level of safety of project management system co-financed from EU funds at public universities.

Keywords: system safety, project management, public universities.

1. INTRODUCTION

Public universities in Poland actively participate in absorption of European Union (EU) funds by implementing numerous projects of significant value for university budgets. One of the main obligations of entities participating in the process of spending EU funds is to ensure their eligibility, i.e. possibility of financing them from EU funds. At the same time, a possibility of classifying costs incurred under the project in whole or in part as ineligible constitutes a significant risk to financial liquidity of the university. That is why it is so important to ensure a high level of project management system safety at the university.

Process of managing EU projects begins when the application for funding is prepared. Then, after receiving the funding, management processes are strongly intensified until the project is closed. After the end of implementation period, EU projects enter a sustainability period within which management activities are also necessary. Implementation of projects involves many organizational units at the university, requires use of various tools and compliance with complex procedures.

During the implementation of projects, initially low costs and commitment of human resources increase rapidly, reaching maximum at the stage of implementation of substantive tasks (performance of works). Then, in the last phase (closing the project), both costs and involvement of human resources decrease sharply. Along with subsequent stages of project life cycle, costs of introducing changes, risk and uncertainty as well as power of influence of ordering (financing) entity are changing. Impact of stakeholders on the project, as well as risk and uncertainty associated with its implementation are highest at the beginning of project. As the progress of work increases, probability of successful completion of the project increases, thus the risk and uncertainty associated with its implementation decrease (Project Management Institute, 2008). However, risk related to possibility of considering costs as ineligible, which expires only after the end of durability period, is not reduced.

Effective project management, in addition to aspects such as quality, costs, time, material resources, staff and communication, also requires taking into account risks associated with implementation of the project (Sanderson, 2012; Jun et al., 2011; Carr and Tah, 2001; Manikowski, 2013). Successful completion of the project also requires monitoring and control activities. Ability to predict, report and audit projects ultimately determines their effectiveness - and inclusion of safety aspects in the project management process contributes to its strengthening (Bulger, 2013).

Risk is understood as a possibility of an event that will affect achievement of assumed goals (Zachorowska, 2006; Jastrzębska, 2010). Uncertainty that can be quantified we also name risk (Damodoran, 2009; Zawila-Niedźwiecki, 2014; Urbanowska-Sojkin, 2013). Uncertainty occurs when effects of introduced measures are not known (Opolski and Waśniewski, 2011).

Risk associated with preparation, implementation and closure of a project is often referred to as project risk. It is determined by a number of factors (Stabryła, 2006), which can include: scope of the project, its schedule (Kim et al., 2012) and budget, complexity of project (Bosch-Rekvelde et al., 2011; Padalkar and Gopinath, 2016), quality requirements (Knop, 2017, Kowalik and Klimecka-Tatar, 2018) and experience of manager and team members in project implementation.

Risk management is identified with the process of undertaking activities regarding the level of risk in a given entity, aimed at achieving that risk by the entity at an acceptable level. Given the above, risk management should be a component of the management of a given entity and should be included in its strategy (Jajuga, 2007). However, project risk management should become part of entity's risk management process. This approach should contribute to increased safety of the project management system in public universities.

Main purpose of the study was to indicate actions to increase safety of EU project management system in public universities. In pursuit of this goal, identified threats affecting the level of safety of the EU project management system in public universities have been analyzed and assessed during research process.

2. METHODOLOGY OF RESEARCH

The subject of research were public technical universities operating in Poland. Two universities, two academies and fourteen polytechnics (technical universities) were included in public technical universities. They have their headquarters in thirteen out of sixteen Polish voivodeships.

Based on the data collected in the National Information System SIMIK 07-13, the author identified 659 projects implemented by public technical universities individually or as part of a consortium, where the university played a leading role. All of these projects received funding from the European Union under the Operational Programs of financial perspective for 2007-2013 and were implemented between January 1, 2007 and December 31, 2015. These projects represented examined population. Target-random selection of respondents was used to conduct the survey. 20% of the projects were drawn at random from each of the eighteen public technical universities. Systematic sampling has been adopted as a sampling scheme. Sample obtained in this way is the effect of choosing every k-th unit from the community. In this study k=5. Survey was prepared online and posted on webankieta.pl platform. Invitation to complete the survey was sent by email to 132 EU project managers, of which 85 fully completed the survey, which resulted in a 65% return. Survey questionnaire concerned one project and included closed and semi-open questions. Closed questions were mostly rank-based and were built on the basis of Likert's 5-point scale, where extreme answers were placed on opposite sides, and as a result the middle answer "hard to say" was treated as "neither high nor low", "average". Due to the ordinal scale used, statistical measures were used: median, dominant, standard deviation.

3. RESULTS

EU project management can be based on one of many recognized project management methodologies. Project risk management has an important place in these methodologies, hence their application can contribute to increasing level of safety of the project management system. Therefore, managers of EU projects implemented at public technical universities were asked whether they used specific management methodology in the context of project management. Results obtained are summarized in Table 1.

Table 1

Degree of respondents using project management methodologies

Did you used project management methodology as part of project management, e.g. PRINCE2	Number	Share (in %)
Yes	11	12,9
No	62	72,9
Don't know/ hard to say	12	14,1

Source: self elaboration based on research, n=85.

The vast majority of respondents (72.9%) indicated that they have not used any project management methodology when managing their project. 14.1% of managers had difficulty answering the question. On the other hand, 12.9% of respondents indicated that project management methodology was used as part of their project management. Most often they pointed to the PRINCE2 methodology (81.3% of responses). A low level of use of project management methodologies by public technical universities is visible. For most projects, they were managed based on their own solutions. It can therefore be concluded that the safety of the project management system at public technical colleges is not supported by the use of recognized project management methodologies.

Next questions, which were aimed at indicating activities aimed at increasing the safety of the EU project management system in public universities, included respondents' assessment of: procedures, frequency of trainings and possessed knowledge in the field of project management. Results obtained are summarized in Table 2.

Table 2

Assessment of actions aimed at increasing safety of EU project management system at public universities

Specification	I definitely agree		I rather agree		Hard to say		I don't agree		I definitely disagree	
	L*	U**	L*	U**	L*	U**	L*	U**	L*	U**
There are clear procedures at the university regarding implementation of EU projects	25	29,4	49	57,7	4	4,7	6	7,1	1	1,2
Project team members regularly participate in training or other forms of raising qualifications regarding implementation of EU projects	18	21,2	29	34,1	16	18,8	14	16,5	8	9,4
Project team members have high knowledge about project management	9	10,6	56	65,9	14	16,5	5	5,9	1	1,2

* number of answers, ** share in %

Source: self elaboration based on research, n=85.

Most respondents (57.7% of responses) rather agree with the statement that their university has clear procedures for implementing EU projects. 29.4% of respondents strongly agreed with this statement. Percentage of project managers who disagree and definitely disagree was 8.3%. However, 4.7% of respondents did not have an opinion on this topic. It can therefore be concluded that not all universities have clear procedures for implementing EU projects.

Respondents were also asked to assess veracity of the statement regarding regular participation of project team members in training or other forms of raising qualifications regarding implementation of EU projects. 55.3% of respondents rather agreed or definitely agreed with this statement. Percentage of EU project managers who had no opinion was high (18.8% of responses). Percentage of respondents who disagreed with this statement was also high. In total, 25.9% of respondents chose the answers "I don't agree" and "definitely disagree". It is evident that not all universities have project team members regularly participate in training or other forms of raising qualifications regarding implementation of EU projects.

An important element of successful project management is the project team's knowledge of project management. Majority of respondents (65.9%) rather agree with the statement that members of the project team have high knowledge about project management, and 10.6% of respondents definitely agree with this statement. However, a fairly high percentage of choices (16.5%) indicated answer "hard to say", as well as

those managers who don't agree (5.9%) and definitely disagree (1.2%) with this statement, indicate that not all universities have the same emphasis on this important issue. This is confirmed by previous answers given by respondents regarding participation of project team members in trainings raising their knowledge on the implementation of EU projects.

In order to summarize obtained results, answers received were assigned appropriate ranks, i.e. answers "definitely agree" 5 points, answers "rather agree" 4 points, answers "hard to say" 3 points, answers "don't agree" 2 points, and "definitely disagree" 1 point. Obtained results of the assessment of activities aimed at increasing safety of EU project management system in public universities together with basic descriptive statistics are presented in Table 3.

Table 3

Descriptive statistics for assessment of activities aimed at increasing safety of EU project management system at public universities

Scope	Average	Median	Mode	Standard deviation
There are clear procedures at the university regarding implementation of EU projects	4,1	4	4	0,8562
Project team members regularly participate in training or other forms of improving qualifications regarding implementation of EU projects	3,4	4	4	1,2564
Project team members have high knowledge about project management	3,8	4	4	0,7574

Source: self elaboration.

According to respondents, university has quite clear procedures for implementing EU projects (average 4.1, median = 4, mode = 4, with a standard deviation of 0.8562). In their opinion, members of project teams do not regularly participate in training or other forms of raising qualifications in the implementation of EU projects (average 3.4, median = 4, mode = 4, standard deviation 1.2564). High standard deviation indicates that there are quite large discrepancies between universities in the frequency of participation of project team members in training or other forms of raising qualifications in the implementation of EU projects. In addition, according to managers of examined projects, members of their project teams had above average knowledge about project management (average = 3.8, median = 4, mode = 4, standard deviation = 0.7574).

4. DISCUSSION

Universities are actively acquiring EU funds under subsequent financial perspectives. Undoubtedly, they constitute an opportunity for development of universities, but with increase in the number of projects, value of costs that may be considered ineligible and, as a result, burden financial result of the university increases, thus threatening financial security of university.

During conducted research, one of aspects analyzed was assessment of procedures in force at universities for implementation of EU projects. Second aspect of the research concerned assessment of qualifications of team members and the process of raising them. Managers of examined projects indicated that at universities there are quite clear procedures regarding implementation of projects co-financed from EU funds, although ratings in this respect were not the highest.

An important aspect of development of each employee is participation in training and other forms of raising qualifications. In the case of EU projects and safety of project management system, this is particularly important because guidelines on eligibility of costs change frequently, this also applies to national law provisions affecting implementation of projects (e.g. tax law, the Higher Education Law). Therefore, employees involved in process of managing projects co-financed by the European Union should regularly participate in training so that their knowledge does not become outdated.

In addition to participation in training and other forms of improving qualifications, an important aspect is self-education and continuous improvement of your knowledge and skills in line with the idea of lifelong learning. EU project managers indicate that at their universities staff involved in managing EU projects have above average knowledge. However, there are also discrepancies between examined universities in this respect.

5. CONCLUSION

Public universities obtain significant EU funds available under subsequent financial perspectives. These funds are intended for implementation of projects for which one of the main threats is recognition of part or all of costs as ineligible, resulting in a need to cover them from university's own resources. Therefore, not only successful completion of the project but also financial security of university depends on the level of safety of EU project management system. It is therefore necessary to look for solutions that reduce a risk of ineligible costs arising in projects, which leads to increased safety of the EU project management system at the university. These activities should be undertaken both at the planning stage of project works, during project implementation, as well as during their durability.

Based on conducted literature studies and own research, the following recommendations can be made to increase safety of EU project management system in public universities:

- increasing frequency of applying popular project management methodologies, such as PRINCE2,
- introducing clear procedures for managing EU projects,
- engaging employees with high knowledge about project management in project teams,
- directing members of project teams for regular training or other forms of raising qualifications in implementation of EU projects.

Recommendations presented are focused on personnel managing EU projects and procedures at universities that regulate implementation of projects co-financed from EU funds. This means that in a relatively short time it is possible to increase safety of project management system at the university by updating existing or introducing new procedures and by directing employees to additional training in the field of managing EU projects.

Presented research results indicate importance of conducting further research in the scope of increasing safety of EU project management system in public universities. In consequence, results of these studies should contribute to increased safety of EU project management system, which will result in increased readiness of university to absorb EU funds even more. In addition, given growing volatility of environment in which universities operate, recommendations should have a positive impact on implementation process of all projects at universities, regardless of the source of funds.

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