Bukłaha E., Operational Project Controlling – Results of the Study [w:] Project Management - Challenges and Research Results, red. M. Trocki i E. Bukłaha, Oficyna Wydawnicza SGH, Warszawa 2016, s. 103-125

Bukłaha E., Operational Project Controlling – Results of the Study [in] Project Management - Challenges and Research Results, Trocki, M. and Bukłaha, E. (eds), Warsaw School of Economics Press, Warsaw 2016, pp. 103-125

Emil Bukłaha

6

OPERATIONAL PROJECT CONTROLLING – RESULTS OF THE STUDY

6.1. Introduction – Description of the Aim of the Study

The aim of the study is to analyze the scale and types of controlling used in the practice of project management, in respect of the projects implemented in organizations operating in Poland. The author also done research on the current status and approach to control of projects at every stage of their life cycle, and the results were set together with the scope of the information required to effectively manage projects and most frequent recommendations in recognized methodologies of project management (PRINCE2, PMBoK, PCM, Scrum).

Participants of projects implemented in Polish organizations, primarily the managers, but also members of the project teams and project boards were the target group.

Despite its significance, controlling of projects is an issue not adequately described in the literature, both Polish and foreign. For the past ten years, just a few books on the subject were created[1]. At the same time one tries to move the concept of controlling the current activities of the organization to the project management area, which raises a lot of confusion and misunderstanding, since the implementation of projects does not usually coincide with the process (repetitive) activities of the company.

In the opinion of the author the conducted research enabled to create a comparative analysis of the actual shape, form and scale of demand for control-decision-settling in projects (as well as the reasons for their state) with methodological approaches, which set world standards in modern project management. This in turn – according to the author – will serve not only for the organization of knowledge, but also can carry in itself a significant application dimension.

---

[1] S. Devaux, *Total Project Control: A Manager's Guide to Integrated Project Planning, Measuring, and Tracking*, Wiley & Sons, New Jersey 1999; F. Drigani, *Computerized Project Control*, CRC Press, Boca Raton 1988; J. Pinto, J. Trailer, *Essentials of Project Control*, Project Management Institute, Philadelphia 1999; S. Mubarak, *Construction Project Scheduling and Control*, Wiley & Sons, New Jersey 2010; W. Del Pico, *Project Control: Integrating Cost and Schedule in Construction*, Wiley & Sons, New Jersey 2013.

6.2. Definition and Genesis of Project Controlling

Term **project controlling** is used in organizations to describe a set of methods and techniques that assist the project management process supplying relevant information necessary at each level of project management in order to make rational decisions. It is an example of adapting organizational systems to the specificity of projects. The most common areas of project controlling application are[2]:

- budget, costs and financial liquidity,
- schedule, duration of the work and milestones,
- planned and actual scope of work,
- business justification for the project,
- the availability of resources and the resource-intensiveness of activities,
- project risk management, especially in the stages of implementation,
- issues of quality of semi-finished products and final products of the project.

The primary factors forcing the use of specific solutions in this field for project management include[3]:

- a single project target and its non-routine nature,
- a specific organizational structure (the project team, which most often is terminated after the project),
- focus on the project – in business operations controlling system presents the results primarily in the appropriate time systems, e.g. a month, quarter, year, while with projects more important are the results, e.g. from the various stages of work,
- less credible standards – the uniqueness of the projects reduces the possibility of utilization of historical data stored for other projects,
- frequent changes in plans, which necessitates frequent modifications, among others, financial plans of the project,
- different rhythm of activity – the organization's commitment to the project is variable in different phases of their cycle, but with repetitive business operations is relatively constant,
- lower credibility of the scope planning, time and costs of project activities, which could substantially affect the predictability and the level of the final financial results of project activities,
- usually weaker connection of project activities with the accounting system of an organization working primarily in a reproducible manner.

---

[2] Own study based on: E. Bukłaha, *Controlling i budżetowanie projektów – wybrane zagadnienia*, in: *Controlling – wiedza i narzędzia praktyczne, poradnik*, 17 November 2008, Forum Press, Poznan 2008, pp. 1–11.

[3] Based on M. Łada, *Budżetowanie projektów*, "Przegląd Organizacji" 2007, no. 3, p. 37.

R. Bertsche indicates, among others, the following reasons for using control procedures in the projects[4]:

- uncritical drawing on the documentation of similar projects completed in the subsequent project planning,
- disregard of differences in the implementation of specific actions in relation to the level of competences and experience of their operators,
- imposition by the customer of deadline for the project before performing detailed analyzes of the scope and progress of work,
- constant changes in the course of the project implementation,
- unavailability of pre-contracted workers in the various phases of the project (the holiday factor).
- delays due to overload of project team members performing multiple tasks simultaneously.

In summary, the main task of controlling is an integration of control activities into a coherent whole, taking into account the above mentioned management challenges, which distinguishes them from the control processes, often carried out by autonomous individuals and organizations concerning a limited area of its operation.

6.3. Types of Project Controlling

In the literature one distinguishes the different methods of project controlling. The first is the division according to the moment of carried out control:

- prospective (preliminary) – assessment of the degree of preparation to performing tasks that in the time of the control has not started yet,
- current – analysis of the current progress of work on the day of control or work which should have already gone on as planned,
- retrospective (consecutive) – a comprehensive assessment of the tasks which had ended before the day of control or should end as planned.

Another way of division is due to the carried out functions for the process of managing information about the project[5]:

- simplified – a comparison of the desired (designated) state with the current one,
- complex – a system of mutually identified projects, principles, methods and techniques for internal control system, oriented to achieve the target result,

[4] R. Bertsche, *A Low Tolerance for Error*, "PM Network", April 2015, vol. 29, no. 4, pp. 58–63.

[5] *Zastosowanie arkusza kalkulacyjnego w controllingu*, eds. A. Kardasz, Z. Kęsa, AE Press, Wroclaw 2004, p. 11.

- image – a process of navigation and economic control with the use of plan designating a destination,
- abstract – an integrated system of management, planning, control and information, supporting adaptation and coordination of the entire management system.

An important supplement of the mentioned directory is a coordination function. Coordination refers to the basic systems in the area of controlling, i.e. the information supply system and the system of planning and control.

Another form of division, chosen by the author as a leading in the research part of this chapter, is the one that takes into account planning horizon of the project activities and the level of detail of the acquired information, i.e. division into **strategic** and **operational** controlling[6]. **Strategic project controlling** makes an assessment of the strengths and weaknesses of projects in relation to the current development strategy of the organization. It examines the preliminary feasibility of projects, it assess their cost-effectiveness and efficiency from the point of view of the adopted guidelines, creates ranking lists of projects, analyzes the convergence of their goals with the strategic objectives of the organization. Here are applicable tools such as[7]:

- strategic evaluation of the project (multi-faceted evaluation of the effectiveness of the project, taking into account external and internal conditions),
- analysis of the project value for the customer (used to determine the final price of the project according to the "market" method),
- final costing of the project (specifying the scope, quality and timing of the project based on the cost of the project and its target price),
- life-cycle costing of the project (project cost analysis, taking into account, in addition to the implementation phase, the phase of use of the products of the project),
- project portfolio analysis (value and costs analysis taking into account projects as part of the complete portfolio of related projects),
- analysis of risk related to the program or portfolio of projects, as well as individual projects, strategically important for the organization.

Tools of strategic controlling allow a better development of implemented project portfolio, realizing the real expectations of clients as to the scope, quality and cost of the most important projects, determining the impact of stakeholders, risk analysis, etc. From the tools and techniques used in strategic project controlling one expects the increase of capabilities and opportunities to provide stable implementation of projects under the programs or portfolios of projects and making accurate strategic decisions.

---

[6] see among others: H. Vollmuth, *Controlling*, Placet, Warsaw 1997; A. Preißner, *Projekte budgetieren und planen*, Carl Hanser Verlag, Muenchen 2003.

[7] based on: M. Łada, A. Kozarkiewicz, *Rachunkowość zarządcza i controlling projektów,* C.H. Beck, Warsaw 2007, pp. 32–33.

Operational project controlling is oriented to regulate the implementation of projects in short timeframes (usually maximum a year). It focuses on the planning, execution and control of projects selected for implementation at the stage of strategic controlling. In the project it is mostly represented at the level of project manager. Collected information is primarily used to improve decision-making process related to the current management of project phases. Appropriate tools for operational project controlling include[8]:

- planning progress and costs of the project (determining the expected financial impact resulting directly from the implementation of the project),
- evaluating the financial performance of the project (analysis of the costs and financial benefits of the project),
- reports for decision-making (a set of information to assist in making decisions about the acquisition and allocation of resources to the project),
- recording and accounting of project costs (systematic measurement of the actual financial effects of executed projects),
- project risk analysis, especially important at the stage of its implementation, with reference to desired dimensions (e.g. financial, technical, human, quality, time, etc.),
- preparation and control of the implementation of the project budget (analysis of the actual financial implications of the projects compared to the base budget),
- post-completion analysis of the project (the so-called post-audit, analysis of the actual costs and benefits of the implementation of the project, both financial and non-financial; gathering post-project experience).

Operational project planning is a continuation of the strategic planning process. It refers to the implementation phase of the project, acting as a starting point for the implementation of project's operational plans, in line with the strategic objectives of the organization. It focuses not on effectiveness but on its implementation (feasibility) consistent with strategic objectives, taking into account the internal and external constraints (stakeholder and risk analysis, etc.).

Guidelines for strategic controlling primarily lie within competences of the management of the organization or departments authorized by them, while operational controlling depends on project managers and (rarely) project team members.

[8] Ibidem.

6.4. Operational Project Controlling in Polish Organizations

The chapter will present the results of the author's research on operational project controlling in organizations operating in Poland. The data will be presented in the form of aggregated results with an analysis. The entire study will be preceded by a detailed description of the research sample and selected research methods and its scope.

6.4.1. Research Sample

The research was done in 2014 as a targeted research – the target group consisted of only participants of projects implemented in Polish organizations, primarily in positions of project managers, project team members, but also the project boards and project advisors, i.e. students and graduates of Postgraduate Studies in Project Management carried out in Warsaw School of Economics. Distribution of the research sample is shown in Table 6.1.

Table 6.1. Distribution of the Research Sample According to Positions Held in Implemented Projects

Position held	Team member	Project manager	Project board member	Expert/advisor	Another position
Indices (in %)	48.84	32.56	4.65	11.63	2.33

Source: own study.

Another reason for choosing precisely that research target group was the fact that they are practitioners of project management, equipped with the necessary knowledge in project controlling, whose the level of detail, allows providing credible answers to the questions in the research survey.

The study included 353 people, while the returned surveys (**research sample**) amounted to 33 complete sets of answers, which gives approx. 9.35% of responses in the surveyed population. Although interesting results were obtained, in the author's opinion, they should only be a contribution to the further testing because too small sample size did not give the basis to stretch the findings to the entire research population.

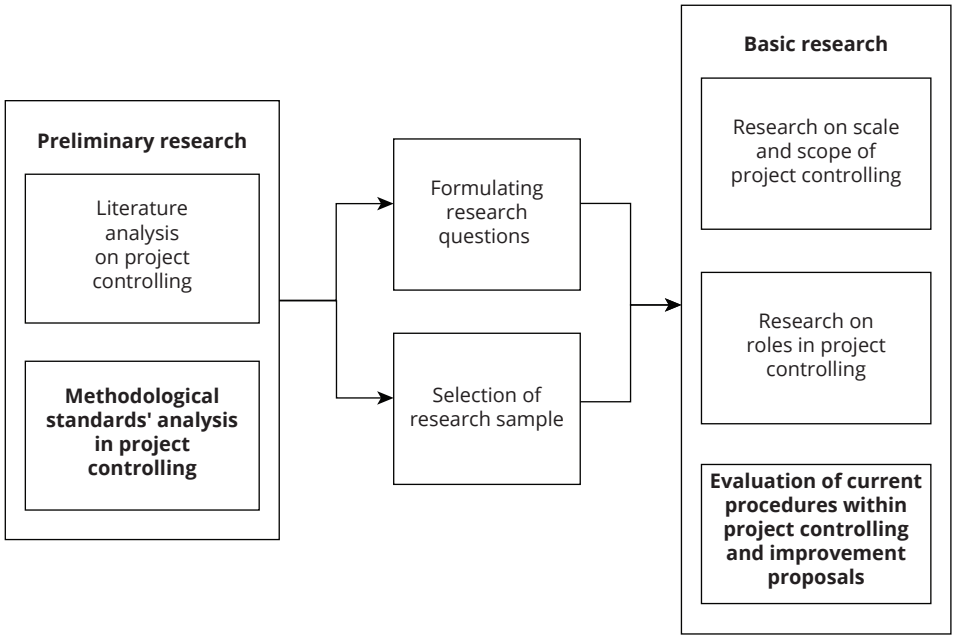
6.4.2. Research Methods and Research Model

The study consisted of carrying out a standardized survey at the above-described group of respondents with respect to operational and strategic controlling. The data

underlying the development of aggregated results included mainly the analysis of forms and types of controlling used in the practice of project management in relation to the projects implemented in Polish organizations. The studies also covered the reasons for the use and methods of introducing procedures for project controlling and the pros and cons of accepted forms of control. The studies also identified the positions playing an important role in project controlling and their main responsibilities. The current and future needs for improvements in project controlling have been analyzed. The author also made a research on approach to control of implemented projects at every stage of their life cycle, comparing the obtained results with the recommendations of project management methods worldwide, such as PMBoK, PRINCE2, PCM and Scrum.

Based on the analysis of literature and methodological standards, author formulated 20 research questions that are grouped according to the following criteria: scale and scope of project controlling, roles in relation to project controlling and the evaluation of existing procedures for project controlling and proposals for improvement.

Figure 6.1. Research Model Within Project Controlling in Organizations Operating in Poland



Source: own study.

The conducted research on practical aspects of project controlling in organizations operating in Poland is also highly innovative, because there is a complete lack of studies on this subject and world's literature with regard to a research of practical dimension of project controlling is extremely scarce. The intention of the author is therefore to fill this gap in knowledge, in particular with regard to the Polish realities.

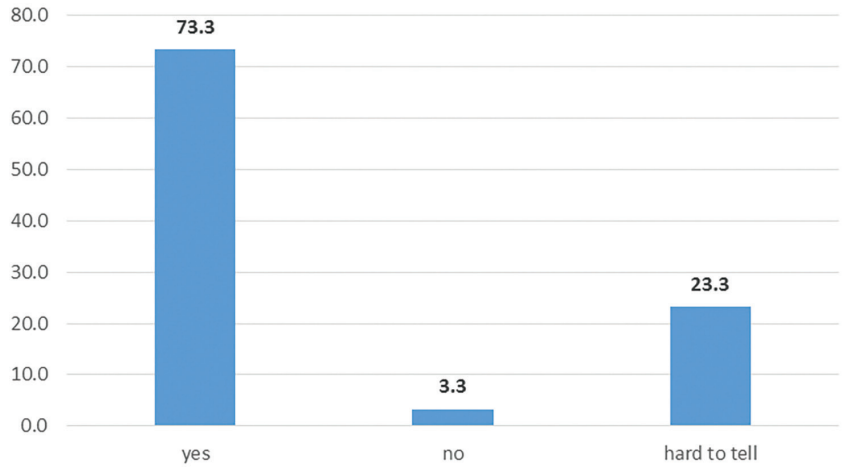
6.4.3. Research Results Within the Scope of the Current Project Controlling in Organizations Operating in Poland

The chapter will present selected results of analysis in regard to operational project controlling, taking into account each of three areas of research described in the basic research from the model (Fig. 6.1).

Question 1. Do established procedures for operational project controlling exist in your organization?

Respondents in more than 70% of the cases pointed to the existence of established procedures regarding the application of the rules of operational project controlling, while almost every fourth respondent was not sure of the existence of such rules. According to the author it indicates a high awareness of the need to include ways of the current project control into specific procedures.

Figure 6.1. The Existence of Operational Project Controlling Procedures in the Surveyed Organizations (in %)

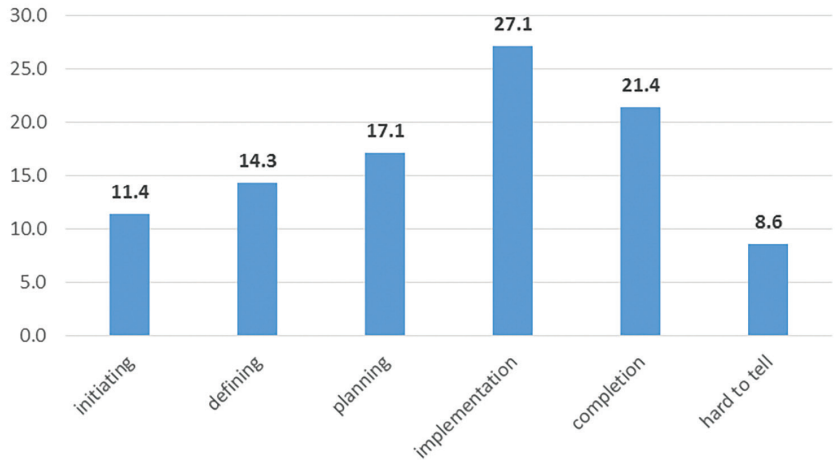


Source: own study.

Question 2. On what stages of project management does one apply tools and techniques of operational controlling in the surveyed organizations?

Most indications as to this research question related to the planning, implementation and completion stages. This means that it is then when one most intensively uses operational controlling procedures, which – given its specific character and place in the organizational structure of the project (primarily the project manager and team members) – is perfectly understandable.

Figure 6.2. Operational Project Controlling and Stages of the Project Management Cycle (in %)



Source: own study.

The author compared the responses with recommendations for project controlling included in the documentation of recognized project management methodologies (PRINCE2, PMBoK, PCM, Scrum) used in projects around the world. It turned out that the areas of project life cycle to the greatest extent covered by the operational and strategic controlling correspond with the provisions of these methodologies, each of which describes the problems of controlling with the varying intensity.

British methodology PRINCE2 (Project In Controlled Environment) and the American PMBoK methodology (Project Management Body of Knowledge) recommend the use of current controlling procedures mainly at the stages of: planning, implementation and completion of the work, and strategic also at the defining of the project stage. A special section devoted exclusively to the issues of project monitoring and control at the indicated stages of its life cycle has been set aside in the construction of two methodologies.

European methodology PCM (Project Cycle Management), especially recommended for the EU projects, focuses primarily on strategic controlling from the point of view of the sponsor and the principal of the project. In its terms, "high level" controlling elements exist primarily at the stages of initiating and defining the project (the project's compliance with the objectives of the principal, e.g. the EU aid programs), planning (relevance and effectiveness of the planned works) and the completion (evaluation and audit of the project). During the implementation stage this type of controlling occurs primarily as conclusions from control of the milestones of the project. With regard to the current controlling methodology focuses primarily on the implementation stage of the project, recommending respectively frequent monitoring of the progress of works planned in the schedule of the project.

The recommendations of the American Scrum methodology focus primarily on monitoring the implementation stage of the project (operational controlling) and the implementation and completion (stage of strategic controlling). Due to its specificity, the controlling procedures at the stage of initiating and defining are limited to a minimum, but are developed during the implementation and a summary of the work stages, when the collection of the finished product of a project takes place.

In summary, respondents' indications coincide with the recommendations of the individual project management methodologies with respect to operational project controlling. The obtained results show the greatest compatibility with the approach to controlling described in the PRINCE2 and PMBoK methodologies and partial compliance with the other mentioned methodologies.

Question 3. What were the main reasons for introducing operational project controlling in the surveyed organizations?

The respondents as the most important reasons for applying the principles of operational project controlling recognized ensuring a better flow of information, obtaining additional information about the time and cost of projects and greater engagement from the employees in the project management process. The least important reason was, according to them, contribution of controlling procedures to reducing costs and/or to improving the financial liquidity of the organization.

Notably, despite the fact that all of the above cited reasons for using operational controlling reduce the level of risk related to the conduction of projects, only one in ten of the respondents pointed to the risk as an independent reason for introducing the rules and procedures for controlling into project management. This may prove either a "blurry" treatment of the issue of risk related to the conduction of projects (divided into its individual components, presented in Table 6.2) or not realizing the role controlling plays in risk management.

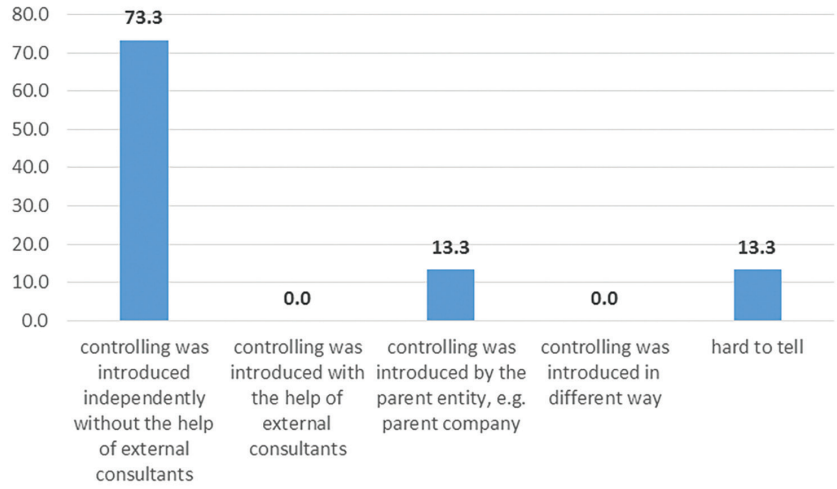
Table 6.2. The Main Reasons for Introducing Operational Project Controlling in the Surveyed Organizations

Reason	Indications (in %)
Decreasing risk of conducting project activities	9.80
Obtaining additional information about the costs of the projects	11.76
Obtaining additional information about the quality of the implemented projects	10.78
Obtaining additional information about the scope of conducted works	10.78
Obtaining additional information about the available resources	9.80
Obtaining additional information about the time of the implementation of the projects	11.76
Ensuring a better flow of information	13.73
Reduced costs and/or improved financial liquidity of the organization	7.84
Greater engagement from the employees	11.76
Hard to tell	1.96

Source: own study.

Question 4. How were the procedures for operational project controlling implemented in the surveyed organizations?

Figure 6.3. The Ways of Implementation of Operational Project Controlling Procedures in the Surveyed Organizations (in %)



Source: own study.

With regard to operational project controlling, respondents indicated that the introduction of controlling procedures took place primarily through independent implementation of them in the conducted projects without the involvement of external

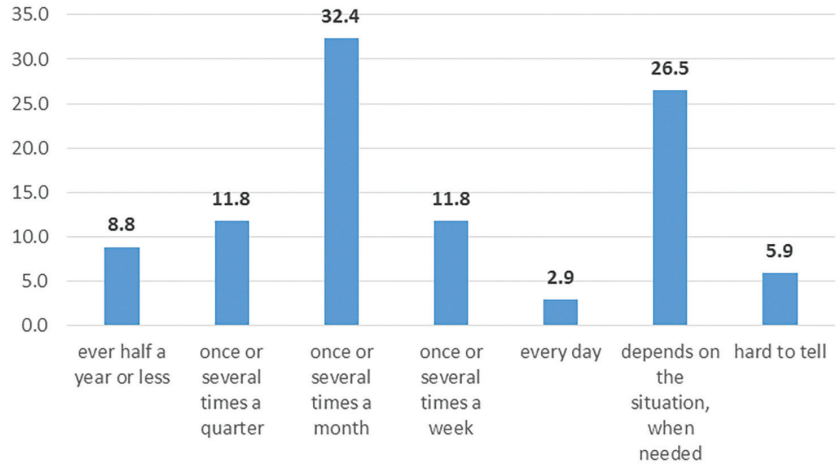
consultants (seven out of ten respondents). In comparison with the information that the respondents were mainly project managers and project team members, this means that in the implemented projects they had the greatest influence on the procedures and rules of the current control.

In the case of implementation of projects in the capital structures also arose a situation in which the operational project controlling rules were introduced to the organization by the parent entity. Such a situation was indicated by more than 13% of respondents.

Question 5. How often is usually operational project controlling carried out in the surveyed organizations?

Respondents pointed to the fact that the controls during the realization of projects are mostly carried out once or several times a week and every month (over 32% of responses) or ad hoc, depending on the situation (26.5% of responses). This is consistent, first and foremost, with the specifics of the implementation stage of the project, during which controls are often determined by the needs arising from the current situation of the project or result from arbitrarily established procedures relating to the collection and processing of management information.

Figure 6.4. The Frequency of Operational Project Control in the Surveyed Organizations (in%)



Source: own study.

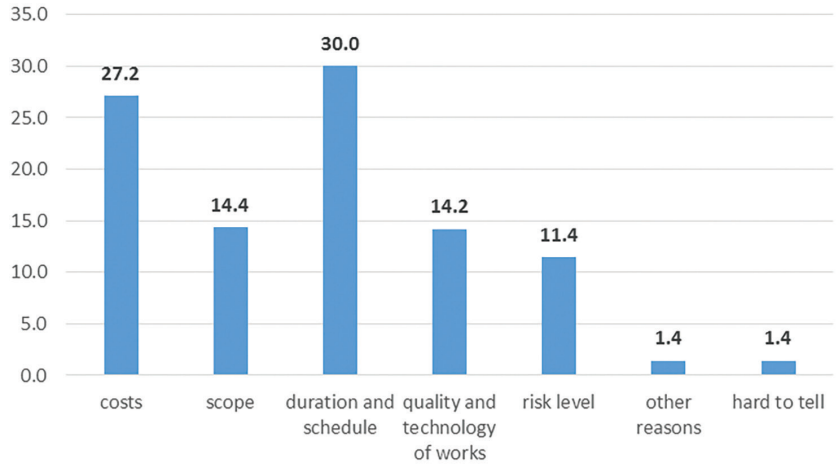
The least frequent were incidents of current controls carried out every day (less than 3% of responses), and ever half a year or less (almost every tenth of responses). According to the author in the latter case one may consider a lack of control over the

team of contractors during the project, which is certainly a situation that requires changes.

Question 6. What mostly falls under the operational project control in the surveyed organizations?

Time of realization, work schedule and costs were the most common scope within the operational control in surveyed organizations. These issues were pointed by one in three respondents. Another area of control was the scope of work to be done and the quality and technology of works. This means that project controlling applied during the current execution of works clearly refers to a project triangle constraints because on the degree of fulfilment of all its dimensions (time, cost, scope and quality of work) depends the success of the project. It is therefore necessary to control all these elements, which is understandable from the point of view of defining the success of the project by the project manager.

Figure 6.5. The Scope of Operational Project Controlling in the Surveyed Organizations (in%)



Source: own study.

It should also be noted that the actual scope of the project controlling in the vast majority coincides with the reasons for the introduction of controlling procedures described above. This may prove the effectiveness and consistency in creating procedures for monitoring and applying them in project practice.

Question 7. Do the surveyed organizations use tools to support project controlling?

With regard to operational controlling a spreadsheet was the dominant IT tool used in project management (over 40% of responses). Further in order tools were custom made, corporate programs supporting the process of controlling and dedicated software supporting project management (such as Microsoft Project, Primavera, P2Ware or similar).

Table 6.3. IT Support for Operational Project Controlling Procedures in the Surveyed Organizations

Type of support	Spreadsheet	Dedicated software for project management	Part of the organization's IT system	Custom made program	No software is used	Hard to tell
Indications (in %)	40.91	18.18	13.64	22.73	4.55	0.00

Source: own study.

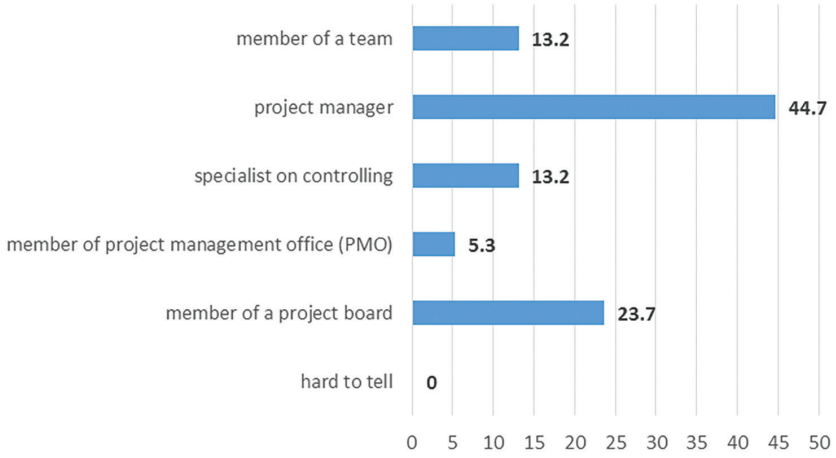
Only approx. 5% of respondents indicated the implementation of control procedures without the use of any software.

Question 8. Who usually plays the role of an operational project controller in the surveyed organizations?

In the surveyed group, project managers were usually the main people playing the role of the project controllers (almost 45% of responses) and specialists on controlling and project team members (one in ten responses). These results raise no surprise, since it is the project manager who should care to have real-time information about the progress of the project, since it is he who has greatest responsibility for the success or failure of the project.

Noteworthy is the second rank in the table above of a Project Board member as person operationally controlling projects. This answer was pointed by almost every fourth respondent. It is quite puzzling, since this group most commonly conducts strategic controlling facilitating making the most important decisions about the fate of the project in key moments of its control. It is true that the analyses performed at the level of strategic controlling stem from data collected during the project, but the Project Board should not replace the manager and the team, and especially should not make decisions in their place regarding the ongoing work carried out in the project.

Figure 6.6. The Role of Operational Project Controller in the Surveyed Organizations (in %)



Source: own study.

Question 9. What tasks is the project controller responsible for in the surveyed organizations?

With regard to operational project controlling respondents pointed out three basic tasks for which the project controller is responsible. They included: analysis of the progress and variance analysis, budgeting and cost control (both had 23% of answers) as well as internal reporting, including executives (every fifth respondent). It should be noted, however, that the other tasks included in the survey were also frequently indicated by respondents.

Table 6.4. Project Controller's Tasks in the Surveyed Organizations

Tasks	Indices (in %)
Analysis of the work progress and variance analysis	22.89
Budgeting and cost control	22.89
Planning and control coordination	9.64
Internal reporting, including executives	20.48
External reporting (e.g. to the client, sponsor)	7.23
Project risk analysis	4.82
Supplying information from the environment	7.23
Other, not mentioned above	2.41
Hard to tell	2.41

Source: own study.

The least important tasks of the project controller were project risk analysis and supplying information from the environment of the project for the purposes of making decisions arising from operational controlling.

Question 10. On whom or what do the choice of scope, techniques and procedures of operational project controlling depend in the surveyed organizations?

The choice of the scope, techniques and procedures for controlling to the greatest extent depended on the decision of the project manager (one in three respondents) and superior of the project manager and practices of the surveyed organizations (over 15% of responses). This is consistent with the above-described part of the research on the role played by project managers in operational controlling, their meaning for the ultimate success of the project and the degree of freedom in decision-making, among others, about the frequency of current control of works. Decisions of this type were less likely to be taken by the members of the Project Board and under the current project management methodologies.

Table 6.5. Decision-Makers on Scope, Techniques and Procedures for the Operational Control of Projects in the Surveyed Organizations

Decision-makers	Project manager	Superior of the project manager	Project Board members	Project management offices (PMO)	Project management methodologies	Practices in the organization	Hard to tell
Indications (in %)	32.69	15.38	11.54	5.77	13.46	15.38	5.77

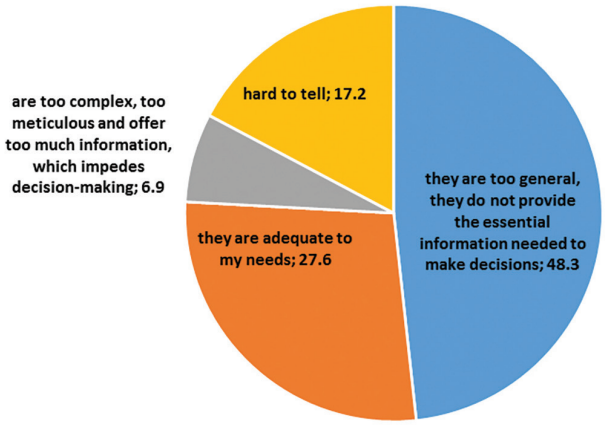
Source: own study.

The least important source of shaping decisions about operational controlling procedures are project support departments of PMO type (Project Management Office).

Question 11. To what extent do the current solutions of operational project controlling meet the expectations of the respondents in the surveyed organizations?

With regard to the usefulness of the existing procedures for operational project controlling respondents are clearly divided. Nearly half of the respondents believe that they are too general and do not provide the essential information needed to make decisions with respect to projects, while almost every third respondent argues that these procedures are adequate to meet their needs. Less than 7% of the responses indicated that current controlling procedures are too complex, too meticulous and offer too much information, which impedes decision-making, while almost every fifth respondent did not have opinion on this topic.

Figure 6.7. The Degree of Meeting the Expectations of the Respondents in Relation to the Current Operational Project Controlling Procedures in the Surveyed Organizations (in%)



Source: own study.

According to the author, this means that the current operational controlling procedures are not "exaggerated" and if they cause some discomfort, it is only in reference to the excessive generality of control information flowing from the controlling reports and entailing difficulties in unambiguous assessment of the project than their over-complexity and over-formalization. The observed phenomenon of information chaos and the need to make decisions about the fate of projects in a situation of shortage of information correlates with opinions of the respondents on the scope and frequency of controls (see research question no. 14).

Question 12. What benefits could be observed from operational project controlling in the surveyed organizations?

Respondents pointed to a number of significant benefits of the controlling procedures. They included: increase of the efficiency of the implemented projects and a better flow of information (15.5% of responses) and increase of the speed of decision making on the projects and reduction of the risk of ongoing projects (approx. 14% of responses). Somewhat less important for respondents was the reduction of the costs of the projects and obtaining additional information for decision-making, increased engagement and/or motivation of employees during the projects (one in ten respondents), and obtaining additional information in order to make management decisions.

The least significant benefit from the use of operational project controlling procedures turned out to be the increase of liquidity or profitability of the organization

through a more efficient use of resources and access to information. The lack of benefits from the application of the current controlling systems with regard to the ongoing works on the project was pointed by only one respondent.

Table 6.6. The Benefits from Current Operational Project Controlling System in the Surveyed Organizations

Benefits	Indications (in %)
Reduction of the costs of the projects	10.57
Increase of liquidity or profitability of organization	6.50
Increase of efficiency of actions	15.45
Better flow of information	15.45
Increase of the speed of decision making	13.82
Obtaining additional information for decision-making	9.76
Reduction of the risk of ongoing projects	13.82
Increased engagement and/or motivation of employees	10.57
Another, not mentioned benefits	2.44
I see no benefits	0.81
Hard to tell	0.81

Source: own study.

Question 13. What disadvantages of the current project controlling system could be observed in the surveyed organizations?

According to survey, respondents see more advantages than disadvantages of current rules and procedures for operational project controlling. However the perceived disadvantages of this system concerned mainly the increase of unnecessary bureaucracy (almost every fifth respondent), the fact of additional costs generated by the controlling procedures in the project (17% of responses) and the necessity of providing to detailed information about the project to those responsible for ongoing monitoring of the project (16% of responses). Prolonged work time in the project due to the necessity of using controlling procedures (every tenth respondent) and the involvement of too many people in the process of controlling (15.8% of responses) were further on the list.

Only approx. 6% of respondents did not see any disadvantages in the evaluated operational project controlling systems or did not have strong opinion on this subject.

Table 6.7. The Disadvantages of the Use of the Current Operational Project Controlling System in the Surveyed Organizations

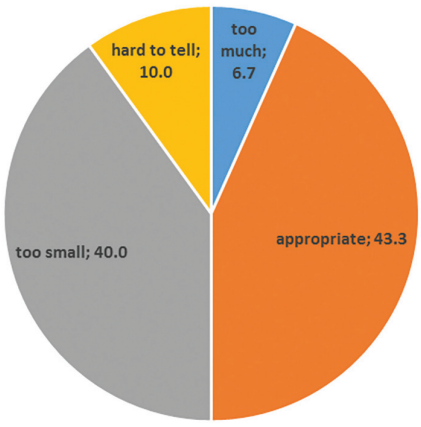
Disadvantages	Increase of unnecessary bureaucracy	Prolonged work time in the project	Involvement of too many people in the process of controlling	Providing too detailed information about the project	Additional costs generated by the controlling	Another, not mentioned before	I see no disadvantages	Hard to tell
Indications (in %)	23.53	11.76	9.80	15.69	17.65	9.80	5.88	5.88

Source: own study.

Question 14. Are the scope and frequency of operational control in the projects sufficient for their effective implementation in the surveyed organizations?

In the case of operational project controlling opinions of respondents in relation to the scope and frequency of controls in relation to the ongoing projects were divided mainly between two alternatives. According to the largest number of respondents (43.3% of responses) the extent and frequency of controls in relation to the realized projects are appropriate. However, as much as a quarter of the respondents indicated that it is too small in relation to their needs. This may prove on the one hand a clear demand for more accurate, more frequent and more detailed control information on the current project control process, and on the other hand inefficient system of access to such information at all.

Figure 6.8. The Scope and Frequency of Operational Project Control and Its Impact on the Efficiency of Their Implementation (in %)



Source: own study.

Only up to every tenth respondent thought that the current control procedures in relation to the smooth implementation of ongoing works in the project are too poorly developed; a similar number of people had no clear opinion on this issue.

6.5. Conclusions

In the conducted studies the author attempted to answer many research questions. They concerned the scope of project controlling in organizations operating in Poland, functions within it and assessment of the project controlling process. Research in project controlling shows that there are commonly used elements of operational controlling, primarily supporting the project manager and project team with information in the management process of individual tasks in the project.

Respondents indicated that the project controlling procedures are most intensively used in the stages of planning, implementation and completion of projects. Such an approach is consistent in most of the PMBoK and PRINCE2 methodologies in relation to operational controlling.

Studies have shown that the main reasons for the introduction of rules and procedures for current controlling were not only the need to obtain additional information about the costs of projects, but also their scope, schedule, duration and quality, and ensuring a better flow of information and increased engagement from employees and also reduction of risk of conducted project activities.

With regard to operational project controlling, respondents indicated that introduction of controlling procedures was done primarily through independent implementing them in the projects without the involvement of external consultants.

Respondents pointed to the fact that the controls during the project realization are mostly carried out once or several times a week and each month or on ad hoc basis, depending on the situation. The least frequent were incidents of controls carried out daily.

As a part of the operational project control in the surveyed organizations one mostly controlled costs, scope of work, duration and schedule, quality and technology or works affecting projects as well as their level of risk.

The dominant IT tool used in project management was a spreadsheet (over 40% of responses). Further in order there were custom made, corporate programs supporting the process of controlling and dedicated software supporting project management.

In relation to the functions exercised in the process of operational project controlling, the function of the project controller is usually held by a person mostly associated with this kind of controlling, i.e. a project manager. In this process they are often supported by the project team members and specialists on controlling.

It is worth noting the high, second place in this ranking occupied by members of the Project Board, formally responsible for the strategic project controlling. Least likely support in this area, according to the respondents, is provided by the project management offices.

The project controller in the surveyed organizations was most often responsible for:

- analyzing progress of works and analyzes of deviations,
- budgeting and cost control,
- internal reporting, including executives,
- coordination of planning and control,
- external reporting (including the principal, sponsor),
- providing information from the environment of the project.

Decisions on the choice of scope, techniques and procedures for project controlling depend primarily on project managers and their superiors and customs in this area in the surveyed organizations. Project management offices are the least important sources of decisions on the design of operational controlling procedures according to the respondents.

In relation to the assessments of the current operational project controlling system, opinions of the respondents on the usability of the existing operational project controlling procedures are clearly divided. Nearly half of the respondents believe that they are too complex and do not provide the essential information needed to make decisions with respect to projects, while almost every third respondent argues that these procedures are adequate to meet their needs in this regard. Such a polarization of attitudes correlates with respondents' views on the scope and frequency of controls within the operational project controlling.

Benefits of project controlling procedures in the surveyed organizations include, among others:

- increase of the efficiency of action,
- better flow of information,
- increase of the speed of decision-making,
- reduction of the risk of implemented projects,
- reduction of the cost of the projects,
- obtaining additional information in order to make decisions,
- greater engagement and/or motivation of employees in the works carried out within the projects.

Respondents also pointed to disadvantages of the current system of project controlling. While most of them were satisfied with the functioning of the operational project controlling procedures, there were some inconveniences related primarily to the increase of unnecessary bureaucracy, additional costs generated by the controlling procedures and the necessity of providing detailed information on ongoing

projects. Significant shortcomings also included extended working time in the project because of the need for using controlling procedures and the involvement of too many people in operational controlling procedures.

Respondents' opinions on the scope and frequency of controls in relation to the ongoing projects were divided mainly between two alternatives. According to the largest number of respondents scope and frequency of controls in relation to ongoing projects are appropriate. However, as much as one in four respondents indicated that control is too small in relation to the needs. This may prove, on the one hand a clear demand for more accurate, more frequent and more detailed control information on the current project controlling process, and on the other hand inefficient system of access to such information at all.

In the opinion of the author, conducted studies reveal regularities that – in regard to operational project controlling – can be seen in the context of the collected research sample. Certainly one should continue and deepen this research in the future in order to expand knowledge in this area of project management.

6.6. Bibliography

Bertsche R., *A Low Tolerance for Error*, "PM Network", April 2015, vol. 29, no. 4.

Bukłaha E., *Controlling i budżetowanie projektów – wybrane zagadnienia*, in: *Controlling – wiedza i narzędzia praktyczne*, poradnik, 17 listopada 2008, Wydawnictwo Forum, Poznań 2008.

Del Pico W., *Project Control: Integrating Cost and Schedule in Construction*, Wiley & Sons, New Jersey, USA 2013.

Devaux S., *Total Project Control: A Manager's Guide to Integrated Project Planning, Measuring, and Tracking*, Wiley & Sons, New Jersey, USA 1999.

Drigani F., *Computerized Project Control*, CRC Press, Boca Raton, USA 1988.

Łada M., Kozarkiewicz A., *Rachunkowość zarządcza i controlling projektów*, C.H. Beck, Warsaw 2007.

Łada M., *Budżetowanie projektów*, „Przegląd Organizacji" 2007, no. 3.

Mubarak S., *Construction Project Scheduling and Control*, Wiley & Sons, New Jersey, USA 2010.

Pinto J., Trailer J. *Essentials of Project Control*, Project Management Institute, Philadelphia, USA 1999.

Preißner A., *Projekte budgetieren und plannen*, Carl Hanser Verlag, Muenchen 2003.

Vollmuth H., *Controlling*, Placet, Warsaw 1997.

Zastosowanie arkusza kalkulacyjnego w controllingu, eds. A. Kardasz, Z. Kęsa, AE, Wroclaw 2004.

PROJECT MANAGEMENT

– Challenges and Research Results

Edited by Michał Trocki Emil Bukłaha

110 1906 2016 SGH

WARSAW SCHOOL OF ECONOMICS PRESS
WARSAW 2016

Reviewer
Szymon Cyfert

English translation
MG Partner

First Edition

ISBN 978-83-8030-079-8

Warsaw School of Economics Press
162 Niepodległości Ave., 02-554 Warsaw, Poland
www.wydawnictwo.sgh.waw.pl
e-mail: wydawnictwo@sgh.waw.pl

Cover design and production
Monika Trypuz

Cover photo
©iStockphoto.com/shironosov

DTP
DM Quadro

Print and binding
QUICK-DRUK s.c.
e-mail: quick@druk.pdi.pl

Order 116/VII/16