

ROLE AND PLACE OF MONITORING AND CONTROL IN PROJECT MANAGEMENT IN ORGANIZATIONS

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Abstract. Project management is a large-scale process comprising many smaller ones that must be coordinated and harmonized in the most efficient way possible. Because of this nature, there is a need for constant monitoring of the main aspects, which monitors for deviations, so that the work is fruitful and, accordingly, the results are optimal and achieve the set goals.

The article aims to highlight the role and place of monitoring and control for successful project management. This post reviews the nature of project monitoring and control. The indicators are indicated as a necessary requirement in the monitoring process, the types of monitoring. This provides a basis for subsequent control. It examines the control and results in project activity that are achieved in combination with monitoring in the overall process. To achieve this, practical research has also been explored in addition to reviewing existing theoretical perspectives. The method of research through literature review and discussion is used.

Keywords: monitoring; control; project management

1. Introduction

The successful, high-quality and sustainable implementation of a given project's set goals and activities requires the coordination of many factors and processes, which is a responsible task for the manager and his team. The need to monitor and correct project activities during their implementation arises from the fact that compliance with the conditions for economy, efficiency and effectiveness is key in relation to projects. Implementing the set goals within strictly defined deadlines and resources is a challenging undertaking, which is often threatened by the emergence of various risks. The ability to monitor and track these factors gives an advantage in terms of predicting possible extreme situations. Timely and adequate intervention in the case of deviations that have already occurred is able to balance the condition with as few resources as possible. Monitoring and control for a project has a fundamental role and importance to ensure quality and precise management. This

directly impacts the harmonized and successful implementation and, subsequently, the completion of a given project.

2. Literature review

Nature of project monitoring and control

Monitoring is a universal tool that is applied not only in the context of project management, but also in other spheres. The data that is extracted thanks to it is useful in building an idea about the real state and progress that the given organization has. Monitoring is defined as the main approach to effective management, and to ensure that funds are spent for the purposes for which they are intended and to achieve results (Alexandrova 2021).

Monitoring as a comprehensive review of the implementation of a given project certifies that the planned project activities are carried out as planned and are effective in time, through the achievement of the set goals and desired effects of a given intervention. Monitoring is the most objective way to compare progress against set goals, using quantitative financial and physical indicators, and is applied at every stage of project preparation and implementation, with the active participation of both the beneficiary and the competent authorities administering the relevant operational program or other funding source. The undertaken project activities and the costs incurred for their implementation, the achieved previously set goals and the expected results are subject to monitoring. The basis of any monitoring is the logical framework – the connection between general and specific goals, results, activities and budget with objectively verifiable indicators for monitoring, sources of information for verification, assumptions and prerequisites. The logical matrix is a method that allows to prepare: the detailed budget for each project, the description of the responsibilities of each of the team, the time schedule and the monitoring plan. Therefore, it is recommended that every project starts with the preparation of the logic matrix. In the implementation phase, where the beneficiary's responsibility is particularly high, monitoring is a barometer for the degree of effective and quality management of the available resources. (The practical manual "European funds and municipalities – opportunities, problems, solutions", pp. 39 – 40.)

Project monitoring is one of the basic principles of project management. It is considered the fourth stage of project management and is important in that it comes after the stages of project initiation, project planning and project execution. There are many metrics that require monitoring, such as budget, completion time, and quality standard. Project monitoring also includes looking to the future. Thus, an important part of the monitoring phase of a project is to identify potential problems that may arise and how the team involved can avoid them. (Project monitoring: importance and how to do it effectively, 2023)

Monitoring is an ongoing analysis of progress in achieving the expected results of a particular project (Shikova 2015, p.251).

Monitoring registers the progress and reports the quality of the process, compares the planned with the achieved without putting pressure on the environment (Parashkevova 2013, p. 2).

The monitoring process is a type of project status analysis. This is done on the basis of the collected information from various sources. These can be a project plan, project documentation, project progress data obtained by comparing what was planned and what was done, information about the organization's administrative capacity, etc. (A Guide to Project Management Body of Knowledge 2017, pp. 107 – 110). Accordingly, the collected data provides a multi-component picture regarding all the details that affect the execution of the project. This makes monitoring an extremely useful tool for the project manager, as it provides information on actual progress, which is therefore responsible for achieving the set goals. The basis of any monitoring is the comparison of what is planned in the project proposal with what has been achieved up to the relevant moment of its implementation (Shikova 2015, p. 254). Interpretation and discussion of the data lead to correct decisions regarding the imposition of corrections, as well as contribute to the optimization of project management. Therefore, one of the tasks of monitoring is to ensure that things are under control and that the activities carried out do not contradict the developed plans. And this ensures that the work process is carried out effectively and fruitfully. The data that the monitoring provides are the basis for making adequate and correct decisions by the management. This has a key role especially in terms of time and financial resources, which reduces the risks of delay or failure. The opportunities that the collected information provides give the manager an advantage to optimize the implementation of the project by anticipating potential consequences and deviations and preventing them at an early stage, before they have a negative impact. Through the monitoring process, a wide range of information about the project is reviewed and analyzed, and thanks to this, problems and deviations from the planned path are detected. Based on these data, the necessary corrections and changes are applied to normalize the work process of project implementation. Performance monitoring activities will serve to assess: (The practical manual "European funds and municipalities – opportunities, problems, solutions", p. 40)

- compatibility – how well the project's objectives are met to meet the defined problems that the project aims to solve, as well as in relation to the physical environment in which it should be solved;

- the efficiency – how well the input resources were transformed into activities, in terms of quality, quantity and time of the achieved results;

- effectiveness – a specific assessment of the benefits received by the target groups and the effect of the project on the wider environment;

- sustainability – the likelihood that the benefits will continue to exist after the termination of external financing.

The implementation of control in combination with monitoring is necessary for the performance of a qualitative analysis of the project's status, as well as for the implementation of concrete specific actions through which to optimize the work on achieving the project goals. Taken as a whole, the overall process is the tracking, review and reporting of overall progress to match the performance objectives set out in the project management plan. By its nature, control is primarily concerned with the processes that occur inside the project. Accordingly, internal monitoring plays a key role in its implementation. The control should cover the two main moments of the project - the financial and the physical, relying on the project documentation, but also on regular meetings and on-site inspections (A Guide to Project Management Body of Knowledge 2017, pp. 105 – 111).

3. Discussion

Indicators as a necessary requirement in the monitoring process

Carrying out a monitoring process naturally necessitates the determination of specific requirements by which to determine whether there is any deviation or not. This role in this case has the so-called indicators that are actually the fundamental tool that 'measures' progress. The indicators are used to assess the costs and how they correspond to the activities set out in the project. Indicators have a major role in monitoring. Therefore, their selection and formulation should be done with special care and consideration. Accordingly, this makes them precise in terms of the information collected, which contributes to and ensures the performance of a quality monitoring process. It is important that the formulation and selection of the indicators comply with the so-called SMART – model, which means that they meet the following conditions (Alexandrova 2021, pp.122 – 123):

- be concrete/specific for the given project, which means that they must be unambiguous and reflect the characteristics of the set goals;
- be measurable, which means they must be quantitative;
- to be acceptable, which requires the achievement of consensus by all who are involved in them;
- be realistic, which requires that they represent actual achievements;
- to reflect whether the activities are in accordance with the project schedule/programme.

It is important that indicators are comprehensive and precise in terms of the information they analyze, so that they can contribute to quality monitoring, hence subsequent control and action. Above all, they measure both sides of the project – both financial and physical. On the one hand, they look at how effectively the funds are used, and on the other – what is the progress in relation to the work activities being carried out. These details provide a comprehensive and clear picture regarding the overall status of the project.

Four main types of indicators are distinguished. They concern the basic elements of a project that influence the implementation and achievement of its goals. They

are the following groups: resource indicators; performance indicators; performance indicators; impact indicators. The first group pays attention to resources, especially financial resources. They are, accordingly, used to monitor the progress of the financial implementation (negotiation and payment of each operation related to eligible costs) (Daskalova 2015). Adequate and transparent spending of funds is one of the fundamental conditions for efficient project management and implementation.

Performance indicators relate to the achievement of operational objectives and measure the direct results of the program (Alexandrova 2021, pp.123). Therefore, they provide information about the contribution and progress of the given project. This, on the one hand, allows the manager to get a detailed view; on the other hand, the collected information provides insight into the project's overall status. Effective and efficient project management requires a thorough insight into the details, because every omission and deviation is a prerequisite for potential risks that threaten the final success.

The sixth edition of PMI's PMBOK Guide introduces a significant shift in how project teams approach risk. Instead of focusing on "controlling" risks, the PMBOK suggests focusing on "monitoring" them. Accordingly, it describes the project risk monitoring process as: implementing established risk response plans; tracking of identified risks; identifying new challenges as they arise (PMI's 6th Edition of the PMBOK Guide 2024).

Ten techniques stand out as best practices for monitoring and controlling projects in project management practice. It has been found that the most successful projects occur when the focus is on the people aspects of implementing these techniques. These are the following techniques (Jersak 2024):

- Planning, monitoring, and control of the project.
- Implementation of key performance indicators (KPI).
- Early action on deviations.
- Scope of monitoring.
- Maintaining communication with stakeholders.
- Management by contract.
- Managing quality expectations.
- Preparation of reports on the status of the project.
- Risk monitoring and management.
- Controlling project costs.

Project execution often requires a fully focused approach to directing and managing project work. Controlling and reporting on project implementation is as important as the implementation itself.

Types of monitoring

There are two types of monitoring - internal and external. Internal monitoring monitors the implementation of planned activities, the use of resources, compliance

with budget restrictions, and the management of identified risks. Tracking all these factors makes internal monitoring an indispensable part of project management, favoring awareness and awareness regarding the status of each aspect. The performance of monitoring is influenced both by the specifics of the project and by its size. The so-called internal monitoring procedures, which are usually regular meetings and inspections, preparation of financial statements and progress reports (Shikova 2015, pp. 251–252).

The two forms of monitoring rarely occur independently of each other. Ideally, practice requires their parallel interaction within a single overall process to achieve the optimal effect of their essentially corrective function (The practical manual “European funds and municipalities – opportunities, problems, solutions”, p. 41).

When carrying out external monitoring, emphasis is placed on on-site inspections, which give objectivity to the monitoring process and guarantee transparency regarding project activities and the utilization of financial resources. The monitoring process is complex, wide-ranging and requires the combined efforts of all persons involved in the project. For the purposes of European funds and supporting the daily work of the managing bodies, intermediate units and the central coordination unit, the Information System for Management and Monitoring of the Managing Bodies of the Operational Programs was developed in Bulgaria. The beneficiary may set up an internal information system to support project work. In this way, the availability of an electronic archive of the projects with the possibility of traceability, analysis and summarization of key data is ensured. It is recommended that the beneficiary develop more universal procedures and rules for the operation of the control environment and process management at the organization/operational program level. Project implementation is an integral part of the monitoring and measurement of the processes taking place in a given municipality, carried out as an element of a comprehensive Quality and Financial Management and Control System. (The practical manual “European funds and municipalities – opportunities, problems, solutions”, pp. 42 – 43) Its introduction in municipalities is mandatory in order to fulfill the requirements of the Law on Financial Management and Control in the Public Sector (Law on Financial Management and Control in the Public Sector), The Law on Internal Audit in the Public Sector (The Law on Internal Audit in the Public Sector), as well as the subordinate normative documents.

Project control

Project control consists of the applications of processes and analysis to predict, optimize and influence the outcome of the project. It is an aspect of project management that provides managers with the necessary tools to complete projects and achieve effective results that can win the client’s approval. Project control is essential because it is usually directly related to the success of project development. Project control is critical to accommodate a dynamic work schedule

and manage possible budget constraints. Project teams focused on managing risk and contingencies can use project controls to develop structures to manage contingencies that may delay the project (What Is Project Control in Project Management, 2024).

Control is the last phase of the management process and it establishes how effective and efficient the projects and their overall implementation have been in relation to the objectives and the established administrative and financial procedures. Control can be applied at all levels and on all aspects for which it received information from monitoring. Therefore, it is possible to consider and classify different types of control depending on the point of view and the field of application. However, two main varieties are distinguished - preliminary and subsequent. There is also ongoing control, based on the time of implementation of the control activities (Alexandrova 2021, pp. 125 – 128). These formulations emphasize the need for parallel implementation of the two processes – monitoring and control, because they complement and rely on each other to achieve a complete and fruitful process that will bring benefits to the implementation and management of the project. What monitoring contributes to is the organization and determination of the necessary actions to be taken in order to resolve the problems the monitoring has previously registered. Therefore, there is an interconnection between them, and separately they are not able to achieve a sufficiently complete and fruitful result. The need to undertake specific activities is dictated above all by the degree of seriousness of the deviation that has occurred, and a quick and adequate response is crucial. The project manager should regularly inform himself about all these aspects, applying monitoring and control activities, in order to be able to ensure good management and implementation of the project activities, which will contribute to the achievement of a successful result. Implementing effective control is a complex process requiring, in addition to quality monitoring, implementation and compliance with policies and procedures to ensure reliability that all aspects are optimally covered and managed in the most adequate and good manner.

The introduction of the Financial Management and Control System in the municipalities in Bulgaria was dictated by the desire of the municipal managements to respond to the growing demands of the population for better quality of the services provided by the municipalities. It includes policies and procedures aimed at ensuring that all processes are carried out in accordance with legislation and internal acts, reliability and comprehensiveness of financial and operational information, economy, efficiency and effectiveness of activities, protection of assets and information (The practical manual “European funds and municipalities – opportunities, problems, solutions”, p. 43).

Both monitoring and control are essential to ensure the success of a project and the achievement of expected results within defined constraints. Practices show that monitoring activities include: (Johansson 2023)

- monitoring of stages and results;
 - tracking the allocation and use of resources;
 - verification of achieved goals, tasks, development of reports on performance indicators;
 - checking the schedule and timeline;
 - assessment of actual budget and costs compared to forecasts;
 - confidence that everything is within the original scope;
 - performing a comprehensive assessment for quality control and creating reports;
 - creation of a register of problems;
 - risk assessments and preparation of risk management plans;
 - progress meetings and preparation of status reports.
- In the control stage of the project, it is recommended:
- analyzing all data and information collected during the monitoring stage of the project;
 - assessment of deviations from the original plan and the impact of these deviations on the project;
 - prioritization of activities according to their potential impact on the project;
 - making decisions about the best way to bring the project back within limits;
 - updating documentation.

Project monitoring and control is an important stage in the life cycle of any project. Formal project management approaches, such as project monitoring and control, were found to result in successful project completion 73% of the time (Johansson 2023).

4. Conclusion

The complexity of project management requires awareness of all aspects, as well as quick and accurate intervention in emerging critical situations, in order to maintain the effective, efficient and economical implementation of the set goals and activities. Project monitoring and control is an essential tool that is applied in the implementation phase, which requires particular precision and attention to details, plans, schedules in order to achieve all set goals on time. All these fundamental conditions for a project require regular monitoring, due to the risks of deviations that can jeopardize the management process. These interconnected processes provide a basis for making some of the most responsible decisions that have a direct bearing on achieving the set goals. The quality and sustainability of the project's final results is due to these processes. The conclusions we can draw are the following: 1) The overall process requires the pooling of efforts and resources; 2) The success of the project is due to a complex of factors, among which the main role is played by monitoring and control, without which the management could not be efficient and precise; 3) The advantage these processes

provide provides certainty and assurance regarding the successful completion of the project undertaking on time, budget and quality.

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