

**MANAGEMENT OF THE RISKS PROCESSES IN PROJECTS
ACCORDING TO ISO 10006:2017**

**UPRAVLJANJE PROCESIMA RIZIKA U PROJEKTIMA PREMA
SMJERNICAMA ISO 10006:2017**

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ABSTRACT

Project management is a complex process in which it is necessary to adequately manage the activities and processes contained in the project in order to achieve positive business results. Each project contains processes that are necessary to make in order to achieve the project product. This paper analyzes the risk management process defined according to the guidelines of the ISO 10006: 2017 standard.

The quality management of the risk process analyzed in the paper can be applied to different projects regardless of their nature and size.

Based on the defined and analyzed activities within the risk process, it is possible to design procedures for managing the quality of the risk process in projects. The scheme, which is derived from the guidelines given according to the ISO 10006: 2017 standard, provides a clear overview of the complete risk management process, from planning to the final phase of the project.

Key words: Risk management, ISO 10006:2017, procedures

REZIME

Upravljanje projektima predstavlja složen proces prilikom kojega je potrebno adekvatno upravljati aktivnostima i procesima koje projekat sadrži kako bi se pri tome ostvarili pozitivni poslovni rezultati. Svaki projekat sadrži procese koje je neophodno izvršiti kako bi se ostvario projektni proizvod. U ovom radu analiziran je proces upravljanja rizicima definisan prema smjernicama standarda ISO 10006:2017.

Upravljanje kvalitetom procesa rizika analizirano u radu može se primjenjivati za različite projekte bez obzira na njihovu prirodu i veličinu.

Na osnovu definisanih i analiziranih aktivnosti unutar procesa rizika moguće je projektovati procedure za upravljanje kvalitetom procesa rizika u projektima. Šema koja je izvedena iz smjernica datih prema standardu ISO 10006:2017 omogućava jasan uvid u kompletan proces upravljanja rizicima, od planiranja do završne faze projekta.

Ključne riječi: Upravljanje rizicima, ISO 10006:2017, procedure

1. INTRODUCTION

Execution of projects entails a large number of risks and opportunities that may occur during implementation. Risks need to be managed to avoid undesirable effects on the project that could negatively affect the results of the project in the form of unforeseen waste of capital. Risk process management is a set of activities whose common goal is to identify all potential risks and treat them until the end of the project. On the other hand, if all risks are identified in the planning phase, it is possible to make decisions that will mitigate them, avoid them or even turn them into business opportunities. Risks and their effects should be observed in all key decision-making positions in the project and through all participants involved in the decision-making process [1]. Responsible persons for decision making should identify, analyze and assess risks throughout the project life cycle and use their organizational structure and administrative practices to address the risks in favor of the project [2]. In order to ensure the quality of risk process management, it is necessary to provide all the necessary information and use it for decision making. The best way to do this is to record and archive all significant information that has occurred during the execution of the project. Project complexity and organizational tradition are viewed as important factors that can influence project success [3]. Therefore, it is necessary to record all acquired knowledges, archive them and make decisions based on them in next projects, which will bring benefits in the future. The procedures define the key stages in which all relevant data and information are recorded and which serve to manage the quality of the risk process.

2. PROJECT MANAGEMENT

The project is a one-time and complete process, special and unique (due to different goals, scope, deadlines, costs, required staff, etc.), targeted, with a specific beginning and requires the organization of execution during its duration until the final target is achieved [4].

A single process, consisting of a set of coordinated and controlled activities with a start and end date, undertaken to achieve a final goal that is in line with specific requirements, including time, costs and opportunities constraints [5].

Each project has certain features and they depend on a number of parameters, such as the scope of a work, duration, complexity, number of participants and other similar parameters. Especially with complex projects, it is difficult to predict all the problems and inconsistencies that may arise during project execution. But it is possible to constantly improve the knowledge of project implementation, experiential and scientific, in order to reduce negative effects to a minimum, ie to adequately manage the project goal. Due to its complexity, it is the best to divide projects into implementation phases and as such simplify its management and achieve more control points of success.

According to [6] the phases of the life cycle that each project goes through are:

- launching the project,
- organization and preparation,
- execution of the project task and
- project closure.

Each of the phases is characterized by certain specifics and as such represents an important segment of project management. Considering that this paper analyzes the risk processes, it is important to emphasize that according to [6] they are the biggest in the initial phase of the project because based on the decisions made and identified risks, other phases of the project are planned.

2.1. Documenting decisions and acquired knowledge

For correct project management, it is necessary to adopt procedures for project implementation at all stages. Procedures define a set of instructions for use by a person or persons performing

a specific task on what to do, how to do it, when and how to archive it [7].

Procedures should maintain business continuity and quality as they are based on good business practice and expertise [8].

Writing procedures requires a lot of experiential and scientific knowledge on the basis of which the project management steps will be defined. According to the defined steps in the procedures, clearer, faster and more reliable decision-making on current projects is achieved, and the decisions made need to be recorded and used when making new ones in new projects. This means that the defined project management steps must be clear, simplified and easy for use and understand in order to achieve better management efficiency.

Each area of the project should have defined management procedures, ie documentation on the basis of which monitoring and management is performed.

According to [5], in order to carry out a project, it is necessary to perform the following seven groups of processes:

- interdependent processes,
- scope-related processes,
- time-related processes,
- cost-related processes,
- communication-related processes,
- risk-related processes,
- procurement processes.

Not all processes defined according to ISO 10006: 2017 are necessary for a particular project, while some projects may require additional processes [5]. Therefore, each project needs to be analyzed before its implementation, and the company must define procedures for their management in order to better manage quality.

As this paper covers the risk processes, the following work will analyze them in detail, and the guidelines can be used to manage risk processes in projects where companies can adapt them to their needs and capabilities.

3. RISK PROCESS MANAGEMENT ACCORDING TO ISO 10006: 2017 GUIDELINES

Risk management is the process of identifying and processing risk, considering the context and goals of the organization, stakeholder requirements, as well other issues and requirements of the quality management system, defining control activities as measures aimed at avoiding negative effects and monitoring their implementation [9]. In order to ensure the identification and management of risks, the organization must first of all have developed tools for risk management and methods for their identification. Procedures are crucial for risk management because, based on defined steps, important decisions are made in critical points that will affect the execution of the project in all its phases. Risks are often considered as a negative phenomenon, but if they are recognized in time, it is possible to manage them or treat them in some other way. The company's experiential knowledge and tradition enable the identification of all risks and the manner of their management.

Risk processes according to the guidelines of ISO 10006: 2017 are divided into [5]:

- risk identification,
- risk assessment,
- risk management i
- risk control.

Defined processes according to the ISO 10006: 2017 standard provide guidelines for treating risks from the recognition phase to their control. Each of the phases is important for the success of the project and according to [10] the risk and uncertainty are the biggest in the initial phase of project launch.

The risk management process quality scheme, which is adjusted according to the guidelines of the ISO 10006: 2017 standard, is presented below. In this way, it is easier to understand the risk processes that are illustrated, and based on the scheme it is possible to organize business and create business procedures and through them improve the quality management system of the risk process and thus avoid unwanted consequences. Understanding the risk process highly reduces the number of unforeseen situations, so it is desirable to devote as much time as possible to these processes in the project.

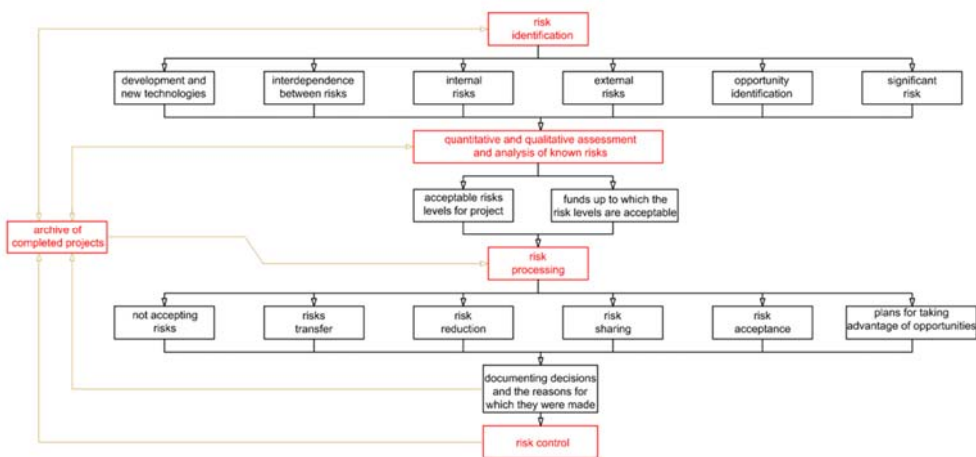


Figure 1. risk process quality management scheme (adapted according to [5])

Recognition or identification of risks - is the stage in which all potential risks that may be a threat when performing work on the project should be identified. At this stage, experiential knowledge and archives are the best solution for decision making. Risks can be numerous and difficult to identify without a detailed analysis by professionals and risk behavior in the same or similar situations. At this stage, it is necessary to identify risks, internal and external, and their interdependence in order to be able to predict possible adverse events during the execution of works on the project. In addition to the risks expressed in time and money, the risk should include wider areas such as health and safety of employees, environmental pollution, product quality, etc. [5]. Recognizing all the risks also means recognizing all the opportunities that can be used on the project. Special attention should be paid to the phases in which new technologies are introduced because this is an unknown area and there is uncertainty during implementation. After all the decisions made and conclusions, it is necessary to archive them so that they can be used for decisions making on future projects and in case it is necessary to check the validity of the made decision on the current project.

Risk assessment - all identified risks must be assessed in order to be able to adequately treated in the continuation of the project. When assessing the identified risks, it is possible to use various assessment methods, quantitative and qualitative methods. Their goal is to assess the possibility of the identified risk occurring and its impact on the project if it occurs. In this process, the archive of completed projects should be used because it contains useful information

and knowledge that can be used in order to make the right decision and assessment. In case of identified risks that can have a significant impact on the results of the project, it is necessary to assign responsible persons who will be in charge of its monitoring and management [5]. After that, all decisions made need to be archived so that they can be controlled during the project and can be used as experiential knowledge in future projects.

Risk management - after identifying all risks and their assessment, it is necessary to make a decision on their treatment or management. There are many types of risks, and they can be: unacceptable, undesirable, acceptable and negligible. Each type contains the characteristics of the risk and based on its impact on the project, a decision is made on its treatment. Some risks can be accepted and some cannot, some can be mitigated and some risks can be transferred to business partners. Therefore, it is very important to recognize them and treat them in the right way to ensure the efficiency of the project. When making decisions in this phase, it is recommended to use the archive from completed projects because it contains useful information and experience and the decision must also be archived so that it can be monitored in the implementation phase of the project and can be used as a basis for decision-making on future projects. .

Risk control - all risks present in the project should be controlled in order to ensure that they do not go beyond the intended limits. Employees must always monitor the identified risks and be prepared if an adverse effect occurs. Also, if there are new risks that are not recognized, they need to be treated and then archived so that they can be identified in future projects.

4. CONCLUSION

Risk processes are key to project success because they prevent unforeseen situations from occurring or reduce them to an acceptable level for the organization. The impact of risk can have a double effect on the success of the project because if recognized in time the consequences will be less or negligible and in some situations may even turn into advantages, while on the other hand if not recognized in time they can have very adverse effects. project results.

Regarding to this, it is necessary to hire qualified staff to manage the quality of the risk process in order to achieve better efficiency of the final result of the project.

In addition, it is necessary to use experiential knowledge from finished projects because they contain a lot of useful information about risk behaviors when they appear, and also all decisions made on a new project must be archived for the same purpose.

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