TYPES OF RISKS WITHIN PROJECTS

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Abstract:
The realization of a project requires the application of stages, which are often prone to the appearance of risks. They can affect, negatively or positively, the evolution of a project, from all points of view. A good identification and framing of risks can lead to their effective management, throughout the life of a project, in order to implement an effective project. Through the present research, we consider the global framing of risks, to support their effective management, for the benefit of projects.

Keywords: project, risks, identification, management, steps.

1. Introduction

The implementation of a project involves going through some stages, starting from the project idea, until its completion. Throughout the life of the project, certain impediments may appear, which affect its smooth progress. Events, uncertain conditions, impediments or barriers, which can affect the success of a project, are called risks.

So, the process of starting or developing a project implies, permanently, the assumption of some risks. That is why it is important to identify, analyze and specifically control for a good management of these risks, which is achieved through a well-designed risk management. It aims at a series of coordinated activities for directing and piloting, depending on the emerging risks, the different possible policies for risk management.

Each type of risk has a specific standard, which describes the general principles and guidelines for risk management, with application throughout the life of a project and to a wide range of activities, such as different strategies, decision-making, operational activities, processes, products, services, etc. (Băjenescu, 2016, p. 10)

Regardless of the increased attention and compliance with all the steps of a project, it is predisposed and faces risks, which must be taken into account for the efficient and timely implementation of each individual project.

2. Literature Review

The project is defined as a unique process, combining a series of coordinated and controlled activities, with start and end dates, to achieve an objective according to certain specific requirements, based on a strictly limited time, costs and related resources. (Iordache, 2012, p. 75)

The risk is seen as an event that can lead to an undesirable or negative result, i.e. the failure to meet the established objectives of a project. This is formed of two elements, which indicate the level of risk exposure, elements such as the probability of an event occurring and its impact if it occurs. Thus, risk management is the appropriate method of minimizing the negative effects produced by the occurrence of risks and maximizing the benefits resulting from the measures taken. (Cojocaru, Cuciureanu, 2012, p. 80)

The process of identifying risks arising within the projects requires the use of certain methods, such as:

- *general*, resulting from other areas of activity (risk table, control lists, event tree, defect tree, brainstorming, Delphi technique);
- *specific* to project management, such as the decomposed structure of risks.

Thus, a risk management plan must be created, which includes the necessary procedures for risk management, the responsible persons, the necessary resources, as well as the method of implementing the plan. It can be formal or informal, detailed or schematic, with strict compliance with the requirements of the targeted activity. Following the implementation of the plan, a list of possible risks is reached, after consulting all the people involved in the development of a project, considering the factors that could influence, directly or indirectly, the activities or the desired results. (Iordache, 2012, pp. 76-77)

Also, during the evaluation of the resources and the time allocated to the activities, possible risks can be identified, which leads to the evaluation of the size and probability of the occurrence of risks, in order not to postpone some activities and not to increase the costs of the entire project. It is well known that some risks can be avoided, others can be reduced, but for others, measures are needed to manage them in case of occurrence. (Timco et al., 2016, pp. 419-420)

Risk can have negative and positive effects on a project, hence the fact that it can lead to certain opportunities (uncertainties with positive effects on the objectives), as well as to certain threats (uncertainties with negative effects on the objectives). (Iovan, Ioniță, 2011, p. 260)

The risks that appear, in general, are part of the category of general environmental (external) risks in which research is carried out (in an institutional and economic context), financial, related to the project team, related to informational assurance, related to infrastructure, equipment, consumables, of compromising research related to natural and man-made phenomena, related to the participation of people in research, related to the specifics of the research-development activity. (Cojocaru, Cuciureanu, 2012, pp. 81-82)

Other types of risks are risks related to the conception and execution of projects, operational risks, risks of the project environment (activity sector, technology, financial resources, political or governmental influences), risks related to the project with an impact on the cost, deadlines or quality of the projects. (Simion, Radu, 2009, p. 20)

In another opinion, location risks, financial risks, commercial risks, political/legislative risks, environmental risks, risks related to force majeure, managerial risks are also identified. (Călugăreanu, 2022, pp. 118-119)

Risks can be classified into a multitude of categories and can appear at any moment of the project, throughout its life, and their efficient management is strictly determined by a well-designed risk management, according to the needs of each project stages and activities.

3. Research objectives

Risk is a constant element that occurs within a project, with negative or positive effects on the objectives, activities and results of a project. Therefore, it must be well identified and framed, in order to establish concrete steps for its remedy or solution.

3.1 Methodology of research

The sample targeted a number of 155 people, women and men, with experience in projects, assigned to the position of project manager or member of the project team, and the projects targeted are of several categories (national, regional, international, etc.).

The data subject to analysis were collected by means of an online questionnaire, through which the respondents were asked to answer, individually and voluntarily, predetermined questions related to the categories of risks identified within the project, using the Likert scale (with values from 1 = to a very small extent, 2 = to a small extent, 3 = neutral, 4 = to a large extent, 5 = to a very large extent).

3.2 Research question.

The present research proposed the following:

- what are the risks that influence a project?
- what are the key steps to remediate or resolve the risks?

4. Results and discussion

Of the 155 questionnaires sent, 130 responses were received, with a balanced demographic breakdown as follows.

Table 1

Answers to demographic questions

Questions	Answer/Percent
Gender	Women / 60%
	Men / 40%
The position in the project	Project Manager / 10,8%
	Team member / 72,3%
	Both positions / 16,9%

Source: Adapted by the author

Regarding the categories of risks identified within the project, following the analysis of the specialized literature, a series of categories were proposed, to which the responses of the respondents were as follows:

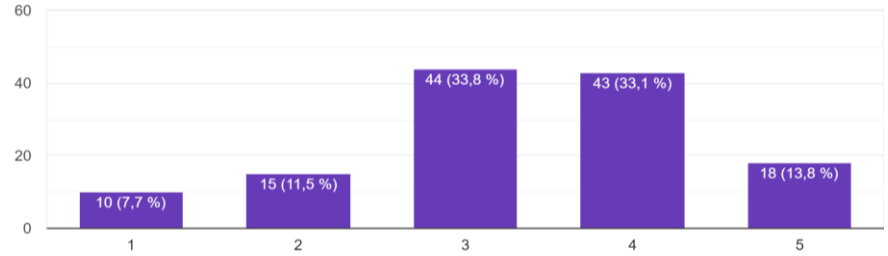

Figure 1. Strategic risks
Source: Adapted by the author

Thus, 33.1% of the respondents identified, to a large extent, this category of risks within the projects they were part of, 33.8% neutral, 13.8% to a very large extent, 11.5% to a small extent measure and 7.7% to a very small extent.

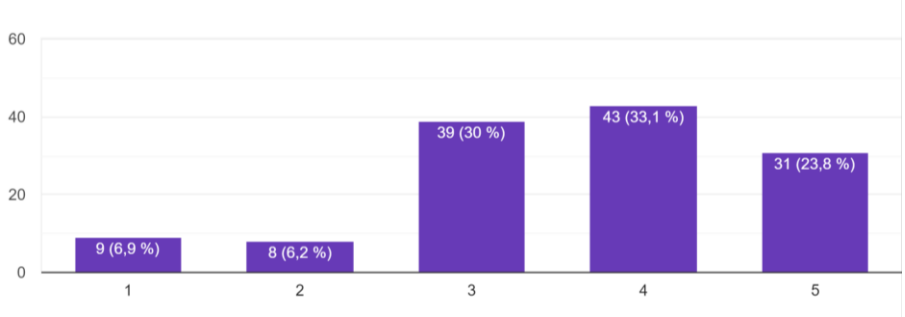

Figure 2. Financial risks
Source: Adapted by the author

As can be seen, 33.1% of the respondents identified, to a large extent, the financial risks within the projects they were part of, 30% medium, 23.8% to a very large extent, 6.9% to a very small extent , and 6.2% to a lesser extent.

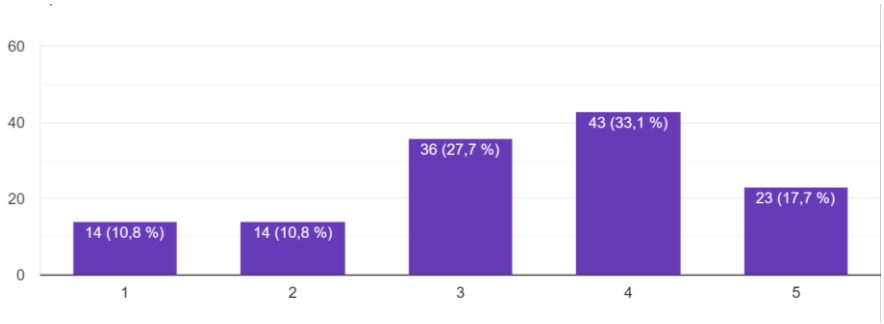

Figure 3. Contractual and legal risks
Source: Adapted by the author

As can be seen, 33.1% of the respondents identified, to a large extent, contractual and legal risks in the projects they were part of, 27.7% medium, 17.7% to a very large extent, 10.8% to a small extent, and 10.8% to a very small extent.

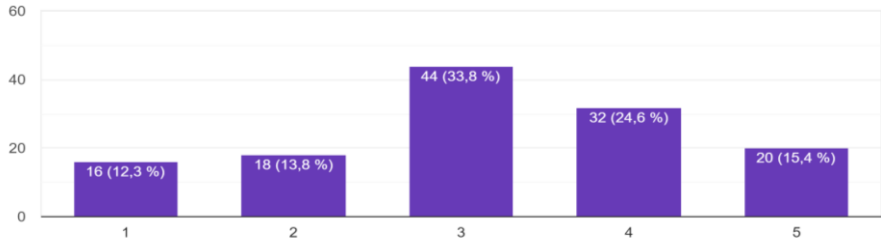

Figure 4. Safety and social risks
Source: Adapted by the author

As can be seen, 24.6% of respondents identified, to a large extent, safety and social risks in the projects they were part of, 33.8% medium, 24.6% to a very large extent, 13.8 % to a small extent, and 12.3% to a very small extent.

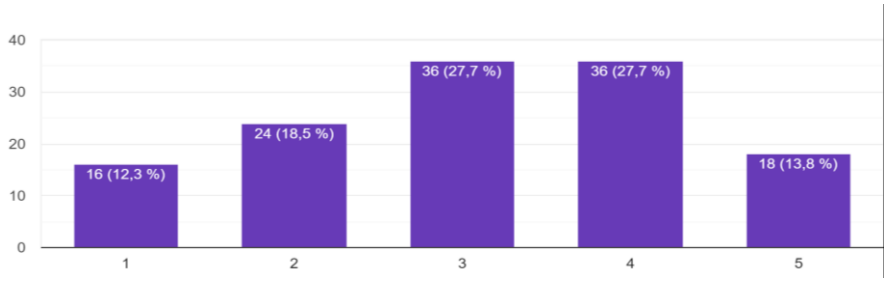

Figure 5. Design risks
Source: Adapted by the author

As can be seen, 27.7% of the respondents identified, to a large extent, the design risks in the projects they were part of, 27.7% medium, 13.8% to a very large extent, 18.5% in to a small extent, and 12.3% to a very small extent.

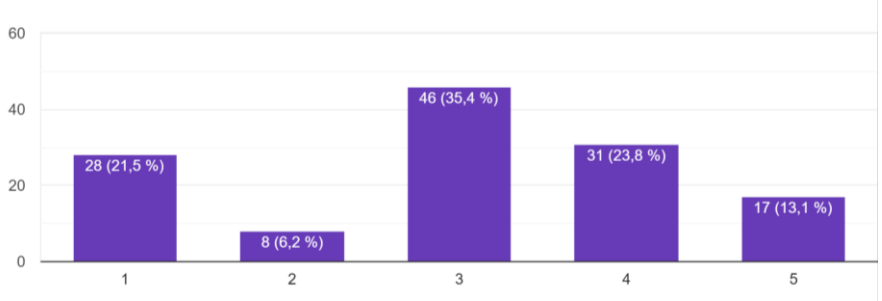

Figure 6. Technological risks
Source: Adapted by the author

As can be seen, 23.8% of the respondents identified, to a large extent, the technological risks within the projects they were part of, 35.4% medium, 13.1% to a very large extent, 6.2% to a small extent measure, and 21.5% to a very small extent.

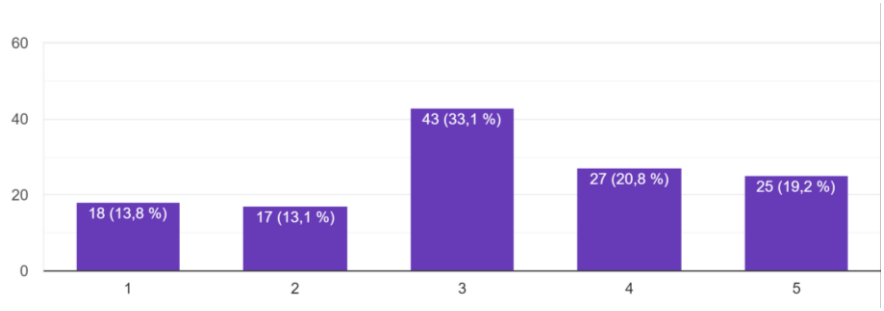

Figure 7. Communication risks
Source: Adapted by the author

As can be seen, 20.8% of the respondents identified, to a large extent, the communication risks within the projects they were part of, 33.1% medium, 19.2% to a very large extent, 13.1% in to a small extent, and 13.8% to a very small extent.

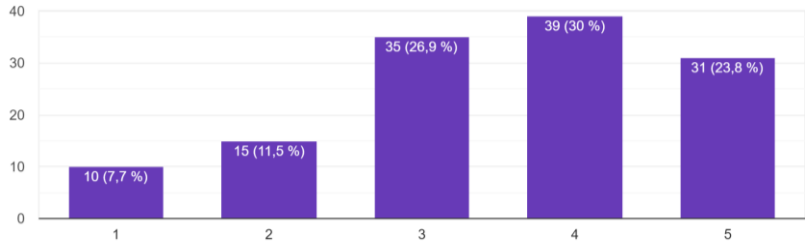

Figure 8. Risks related to time
Source: Adapted by the author

As can be seen, 30% of the respondents identified, to a large extent, time-related risks in the projects they were part of, 26.9% medium, 23.8% to a very large extent, 11.5% in to a small extent, and 7.7% to a very small extent.

5. Conclusions

The project is a tool, which offers solutions to certain problems, however, so-called risks may appear throughout its life. They require the application of certain steps to determine the negative or positive effects on a project.

Following the research carried out, both the analysis of the specialized literature and the applied research, it emerged that the risk is present and constant, and it must be framed and remedied or solved according to the needs of the stage of the project in which it appears.

First of all, it should start from the popularization of the concept of risk and risk management, in order to better familiarize these notions, respectively their

monitoring and development, also being offered specialized training to team members.

Secondly, the stages of identifying, evaluating, managing, remedying and possibly solving the risks arising in the projects should be strictly and constantly completed.

Thirdly, at the completion of each project, the work plan of the management of the risks identified throughout the life of the project should be created, in which the stages in which the risks appeared, the effects they had, as well as the steps are exposed follow to fix or resolve them. Optionally, certain recommendations could also be proposed for better risk management in future projects.

The research carried out, in addition to many other similar researches, pointed out that attention must be paid to risks as they can constantly appear within a project and a more careful monitoring is necessary throughout a project, in order to achieve the desired results, through a project, in accordance with the proposed objectives.

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