Analysis of Project Risk Management Challenges from the Perspective of Process Approach [1]

Dr. Roman Titarenko

Abstract

Lately projects have demonstrated an increase in diversity and complexity, which makes effective risk management obligatory to carry out projects successfully. But doing so might prove to be difficult, because organizations tend to face unique challenges that require adequate solutions. This paper made progress towards finding such challenges by studying survey responses from 51 managerial/senior-level staff on a list of open-ended questions related to the project risk management processes. Data analysis was done based on process approach with the application of systematic coding. The research allowed us to conclude that managing projects brings challenges that can be inspected through the lens of project risk management processes such as risk management planning, risk identification, performing risk analysis, risk response planning, risk response implementation, and risk monitoring. The study made it possible for us to discover a set of project risk management challenges, come to a definition of their origins and effects, and develop possible countermeasures. Implications and recommendations for future research are suggested

Keywords: *Project risk management, Challenges, Process approach.*

1. Introduction

The last years have shown a considerable growth of attention paid to project management. Project management appears to be developing further, and this idea is supported by the increasing importance of project work in the global economy (Harvey & Aubry, 2018). Nonetheless, the majority of researchers share an opinion that managing projects is a complicated and challenging task (e.g., Amer, 2020; Kahvandi et al., 2018; Niederman et al., 2018). Project managers are expected to overcome a variety of challenges every day, and these challenges appear to be common among different projects despite of their specifics (Walkowska, 2020). Although new studies on the topic are published every year, attention paid to project management challenges appears to be below necessary.

Mossalam (2018) said, that the probability of a project being carried out without facing roadblocks during its lifecycle from the concept and until closure is negligible. This put the topic of "project issue management" under the spotlight, but it was not the case in the literature, the project management standards or use in practice.

[1] How to cite this paper: Titarenko, R. (2025). Analysis of Project Risk Management Challenges from the Perspective of Process Approach, featured paper; *PM World Journal*, Vol. XIV, Issue IX, September.

© 2025 Roman Titarenko

The hardest challenge lies in the uncertainty of the specific time and the way risks are going to appear (Sachan et al., 2016). The considerable level of uncertainty is what makes it unachievable for managers to predict possible risks (unknow unknowns) and eliminate the problems that concern teams, level of motivation, and organization of work (Raydugin, 2014).

The professional expertise is in demand, and it seems to be rising continuously. This tendency has appeared due to environmental processes that are becoming more and more complicated around the world, and the ways various organizations function together with developing problems in the process of project execution (Bukłaha et al., 2016).

Projects of all types are exposed to risks and uncertainty because of the high-speed changes in the external environment of organizations. This also is the reason why stakeholders understand the importance of application of project risk management to evade legal or financial repercussions. Developing an effective risk management framework is crucial for any project organization (Doval, 2019; Fang & Marle, 2012). Risk management must be done successfully in any project to avoid making a compromise on the several constraints of scope, cost, schedule, and quality (Yazid et al., 2014).

The risks are discovered by the managers, and that allows them to study negative and positive outcomes and create a proper solution for arising problems and ensure the success of the entire project (Fernando et al., 2018). To enhance the chances of projects' success project risk management activities, tools and techniques, and organizational processes can be used to manage risks proactively (de Araujo Lima & Verbano, 2019). Risk management has established itself as a core part of organizational practice and is one of the areas that is being actively researched now. Developing risk management policies that will allow organizations to find better solutions for problems and give them a competitive edge in their corresponding industry is most certainly one of their key interests at the moment (Thapa et al., 2021).

Implementation of proper risk management approach, knowledge of different obstacles that appear in risk management and the strategies to confront them is what enables effective project risk management (Dandage et al., 2018; Harner, 2010; Hwang et al., 2014). The risk management practices are affected by the inability to predict and remove possible problems in risk management by project managers, which in turn leads to project failure. It can create many negative consequences, such as financial problems, loss of customer trust and competitive advantage, etc. (Yim et al., 2015). The key components of project risk management are identifying, analyzing, responding and mitigating the risks to prevent them from causing any significant damage to the project, and that makes it crucial to discover risk management challenges and opportunities (Thapa et al., 2021).

Challenges take the form of "dissatisfactions" (Monyane et al., 2018) and indicate complicating factors, for which it is highly possible to find solutions (Kembro et al., 2017). The study identified risk management challenges in a similar way as "dissatisfactions", "matters of difficulty" or "problems", which can influence the overall effectiveness of project risk management.

Though a variety of studies have been focused on identifying project risk management challenges in different projects, we discovered that no such studies employed process approach to analyze

© 2025 Roman Titarenko

them, and that resulted in the lack of development of coherent knowledge and a limited number of strategies to overcome the challenges. The research made its mission to bridge this knowledge gap and took a theoretically informed approach to develop an understanding of project risk challenges by applying the following research question:

In the framework of process approach, what are the challenges that exist in project risk management, and what causes them to appear?

The focus group is made of Russian managerial managerial/senior-level staff involved in project management. Theoretical and practical implications are discussed in Section 7 below.

2. Literature Review

Project success is predicted by many variables that cannot be controlled by project management. Success of the project management and the end-product are the main indicators of project success. However, it is necessary to mention that the definition of the term "project success" is not so clear yet. Moreover, the literature on project management has not come to a common agreement on its definition, and that makes achieving it even harder (Al-Hajj & Zraunig, 2018; Ika, 2009).

Project success is considered a subjective evaluation that is separate from individual success criteria and factors. The investigated projects have not managed to achieve project success without introducing project management tools and techniques (Al-Hajj & Zraunig, 2018). In addition to that, the definition of success varies depending on the specificity of the organization, the stakeholders, and the project (Takagi & Varajão, 2019).

It is mandatory to establish the feasibility and results of any project according to the customer requirements while not meeting any challenges that can lead to potential chaos in the project environment (Sachan et al., 2016; Walkowska, 2020). One of the core challenges for project management lies in finding the right combination of time, risk and quality. Because of that project success is reliant on the possibility of achieving the balance of these key elements in the project (Amer, 2020; Kahvandi et al., 2018). Management is responsible for analyzing these challenges and be prepared to overcome them when and as they show up with necessary measures ready to be used to battle them and do it in effective and time-efficient way (Sachan et al., 2016).

Lately a large number of researches investigated project management challenges that manifest both internationally, e.g., Al-Hajj & Zraunig (2018); Amer (2020); Isern (2015); Patil (2016); Parizotto et al. (2020); Teubner (2018); Walkowska (2020); Zhang et al. (2015), as well as in specific regions and countries, e.g., Bukłaha et al. (2016); Ekanayake et al. (2019); Kahvandi et al. (2018); Luacky et al. (2014); Ray et al. (2019); Saukko et al. (2020).

Projects are risky by definition, so the key responsibility of the project manager is to identify, plan and manage risks (Doval, 2019). Risk management is a crucial activity to guarantee project success; this project practice is widespread and often used in the field of project management (Perrenoud et al., 2018; Willumsen et al., 2019). Titarenko (1997) identified the term "risk" as a multiple characteristic of any decision in the project in the uncertain situation that can be classified as a combination of risk event, risk probability, and function of risk losses.

© 2025 Roman Titarenko

The end goal of project risk management is to define, assess and regulate the risks that affect project success (Lee et al., 2009). Doing so can allow project managers to predict delays that lead to late delivery of the projects (Grant et al., 2006). Risk management does not terminate risks, on the contrary, it manages risks related to operations of various firms, which makes it possible to lever opportunities and minimize threats (Fadun, 2013). Risk management and project success are tightly connected to each other – employing better approaches to project risk management makes the project more likely to be successful, particularly in reaching necessary targets regarding scope and quality, schedule, and cost. The way of reacting to risk factors during project execution is a vital part of risk management (Bhoola et al., 2014).

It is a common practice that managers in the majority of organizations spend their efforts on addressing problems related to risk (Fernando et al., 2018). In the field of project management, high risk levels are viewed as an important issue on the way to project success (Zwikael & Sadeh, 2007). To carry out risk management successfully in any project, risk management team has to determine risks distinctly and find ways to eliminate them during the project. Project managers have to be mindful of a variety of problems that can reduce the efficiency of their actions aimed at mitigating the risks. Recognizing the obstacles and how they are connected to each other is an incredibly important skill in the field of project risk management. The obstacles that prevent successful risk management if discovered in time can be very useful to the company to create strategies to solve them (Dandage et al., 2018).

A large number of publications in the modern age addresses the topic of project risk management challenges, and the vast majority of these publications focus only on specific types of projects, among which many address challenges in the construction industry, e.g., Banaitis & Banaitiene (2012); Chileshe & Kikwasi (2013); Chileshe et al. (2016); Fischer (2015); Goh & Abdul-Rahman (2013); Hwang et al. (2014); Iqbal et al. (2015); Keçi & Mustafaraj (2013); Perrenoud et al. (2018); Tummala et al. (1997); Yornu & Ackah (2019); Zou et al. (2015).

Many different risk management challenges appear to pertain to construction industry. It includes deficient knowledge, hard to use analytical tools, insufficient time, shortage of manpower, and low budget (Fischer, 2015); unproductive culture, undefined policy and procedures, insufficient organization support, insufficient transparency among stakeholders, deficient ongoing project information employed to make decisions, informal risk management, shortage of historical data, etc. (Keçi & Mustafaraj, 2013); inexperienced practitioners, unavailability of risk management consultants, insufficient knowledge and required skills, as well as inability to come to consensus among project stakeholders on the question of risk management execution (Chileshe et al., 2016); vagueness and unpredictability of change, pressure, intersection of interests, and lack of desire to acquire new knowledge, insufficient formal training of employees on the topic of project risk management (Tummala et al., 1997).

Muthuveeran et al. (2020) found risk management challenges that exist in the field of landscape architecture projects, such as improper stakeholder support, shortage of formal risk management guidelines, roadblocks in information and communication, late risk management, insufficient understanding of risk management, restricted scope of risk management, opposition to change, deficit of risk experience, etc.

© 2025 Roman Titarenko

A large number of studies, e.g., de Araujo Lima & Verbano (2019); Nehari Talet et al. (2013); Odzaly et al. (2009) investigated risk management challenges in the context of information technology projects. To cite as instance, de Araujo Lima & Verbano (2019) defined these challenges as the necessity of managing risks during the job, the provision of inaccurate information by the client, as well as the desire to include the client in the project risk management process, the absence of a risk register, the unorganized risk acceptance threshold description, the reluctance of the top management to spend more time on project risk management, the unplanned cost of risk response, and the shortage of a document listing the lessons learned.

Mathuthu (2017) described risk management challenges in the field of infrastructure projects, such as a continuous change of project scope and the incapability of the manager to match the changes, unfinished technical specifications in the process of project scope determination, unpredictability of stakeholders which influenced the ability to make decisions, economic and political changes, insufficient satisfactory historical data, improper change management systems, and unsatisfactory skills set.

Dandage et al. (2018) investigated challenges of managing risks in projects connected to heavy industries, which include piping engineering and construction, power generation plants, steel industry, mining, etc. This research has demonstrated a variety of challenges, among which key challenges are the shortage of support from top management, insufficient formal training, and improper discourse of cultural differences.
The concern aimed at risk management challenges that pertain to different types of projects, and the notion that systematic approach was not used to investigate these challenges gave the authors an opportunity to implement process approach to research risk management challenges in a wide selection of projects of many sizes and difficulty levels. The definition and explanation of the application of process approach in this research is described in Section 3.

3. Theoretical Framework: Process Approach

All organizations employ processes to reach their goals (ISO, 2015). In recent years the process approach has transformed into a substantial part of managerial practice, which allowed it to further underline business processes. Focusing on processes and improving them in companies is a tedious task, and to accomplish it organizations have to elevate the quality of response to varying customer requirements and open new paths to boost overall performance and enhance competitiveness of business (Papilova, 2020).

The term process is described as a set of interacting and interrelated activities that take inputs to achieve a specific result. From the viewpoint of process approach the organization's processes are structured as an integrated system and can be employed in any organization despite of its size, type, or complexity (ISO, 2015). At large, process theory aims to study the way specific outcomes come out from a sequence of actions and events, while taking into consideration specific inputs, explain it and develop a comprehensive understanding on the topic (Niederman et al., 2018).

The field of project management has been standardized to a great extent, considering the examples of well-established bodies of knowledge and the ISO standard (Harvey & Aubry, 2018; Stellingwerf & Zandhuis, 2013). The concept of processes as the center of the integration and creation of knowledge is clearly visible in the PMBOK® Guide (Niederman et al., 2018), which

© 2025 Roman Titarenko

proposes that project management is carried out by the means of proper use and integration of rational and predictable project management processes that are grouped based on logic and can be applied to a variety of industries all over the world (PMI, 2017; Sergi et al., 2020).

Project management processes produce outputs from certain inputs with the use of appropriate project management tools and techniques. With the application of processes overlapping activities can be integrated throughout the project, the number of interactions between processes relies on the requirements of the project. There are five project management groups, each of which consists of a set of project management processes: initiating process group, planning process group, executing process group, monitoring and controlling process group, and closing process group. Project management processes are categorized on the basis of project management knowledge areas, which are defined in relation to the component processes, inputs, outputs, etc. (PMI, 2017).

Project risk management, regarded as one of the knowledge areas, includes the following processes: risk management planning, risk identification, performing qualitative risk analysis, performing quantitative risk analysis, risk response planning, risk response implementation, and risk monitoring. The mentioned processes are interrelated and connected to processes in other knowledge areas (PMI, 2017). Project risk management processes and the conditions for selecting a specific risk technique have been thoroughly investigated and applied in both practice and literature (Cagliano et al., 2015).

The processes such as risk identification, performing qualitative risk analysis, performing quantitative risk analysis, and risk response planning share a close connection, which supports the idea to group them together within this study. On that account, we decided to concentrate on the following processes or sets of processes while creating the survey and exploring the results: (1) risk management planning, (2) risk identification, performing risk analysis, and risk responses planning, (3) risk response implementation, and (4) risk monitoring.

4. Research Methodology

4.1 Research Method

The format of the research implied that a large-scale collection of data by the means of a survey that includes qualitative and quantitative questions aimed at the project management experts is needed. The qualitative questions served to collect responses to the open-ended questions on project risk management challenges, which we used to demonstrate the results in the study. It is consistent with the approach that was employed in previous studies (e.g., van den Heuvel & Bondarouk, 2017).

We developed a survey that incorporates several types of questions, such as open-ended and multiple-choice questions. The purpose of the questionnaire is to get in-depth information on profiles of respondents, extending to their job title, work experience, key duties, organizational size, type of industry, and information connected to the projects included in the survey. The questionnaire also offered the respondents with the open-ended questions that explore their opinion on the topic of project risk management challenges (Kaminsky, 2021). The employment of the open-ended questions gave the respondents an opportunity to provide us with flexible responses, and that made the respondents less likely to give preconceived replies.

© 2025 Roman Titarenko

The respondents were prompted to answer the following questions:

> Q1. Please describe the project risk management challenges you encountered in the process of carrying out any project in your organization.
>
> Q2. Please elaborate on the main reason or reasons that caused the appearance of those challenges.

This ensured that the open-ended questions are aligned with process approach, as it was stated in the theoretical underpinning section, and that gave us an opportunity to question participants on the topic of each of the risk management processes or sets of processes: (1) risk management planning, (2) risk identification, performing risk analysis, risk response planning, (3) risk response implementation, and (4) risk monitoring. In conclusion, respondents were presented with 8 open-ended questions to answer. To secure that the comparison will be unbiased, all respondents were prompted to analyze one complete project, which was employed in the framework of traditional project management approach, that is aligned with that of previous studies (e.g., Ekanayake et al., 2019).

The remaining questions (which include the open-ended questions, as well as the multiple-choice questions) are not connected to project risk management challenges in any manner, which separates them from the results displayed here. Since that was the case, we decided to explain the answers given by the respondents to the open-ended questions related to the subject of project risk management challenges.

4.2 Sample Selection and Data Collection

The problem that was analyzed in the study was related to specific expert knowledge, which made us employ purposive sampling to find possible respondents. The said approach gave us an opportunity to establish a connection with respondents who possess large amount of relevant knowledge on the topic (Patton, 1990).

The respondents were prompted to join the survey at local seminars and meetings carried out by Russian Project Management Association SOVNET and a few Russian universities. Overall, we collected 51 responses. The sample size was considered to be appropriate since it provided us a chance to collect a considerable amount of data from knowledgeable respondents to carry out qualitative content analysis. The received data was evaluated to be of high quality due to the wide selection of challenges described by the respondents.

The participants of the survey were from Russia, and among them we found a large variety of professionals involved in project management.

The selection of this study can stand a comparison, for instance, with the sample Yornu & Ackah (2019) of 41 respondents; moreover, other studies as well had a similar number of samples (e.g., Chileshe & Kikwasi, 2014; Keçi & Mustafaraj, 2013). A big selection of respondents with varying amount of experience, the majority of which at the time of research were working in

© 2025 Roman Titarenko

predominantly senior positions, was proven to be advantageous in the search of new insights in an area with scanty research.

4.3. Data Analysis

A qualitive content analysis technique was employed to analyze data gathered by the means of receiving responses to the open-ended questions (Hsieh & Shannon, 2005), as it was conducted in a similar manner in the previous studies (e.g., Ninan et al., 2020). First, we made sure that our data is complete. Among 51 respondents, 8 did not give responses to the open-ended questions, which leaves response rate at 84%.

That number provided us 43 complete responses to investigate. Since the questions were open-ended and quantitative, it became evident that 43 responses still gave us enough data to carry out content analysis of high quality; that is especially so, because missing data seem to be more problematic in cases when the date are quantitative.

In the early stages of the investigation, we focused on creating "themes and subthemes" structure aimed to categorize the most important problems discovered in data. This was achieved by employing the directed content analysis approach proposed by Hsieh and Shannon (2005). Therefore, we studied all 43 suitable responses and created first themes and subthemes (Hsieh & Shannon, 2005), that correspond to the theoretical underpinning of process approach.

The first step was to code challenges connected to the main theme, "Project risk management challenges". After doing so, we thoroughly read and analyzed the comments of our respondents, for example, "Incomplete list of risks", "Poor quantitative risk analysis", and "Insufficient work performance data".

Then we put the said subthemes into themes of high order. The results of the analysis gave us a logical underpinning to form a hierarchy of 41 subthemes inside of 11 higher-order themes, some of which are "Improper project status updates" and "Poor project documents actualization", which correspond with process approach. Table 1 demonstrates the initial coding and refinements.

Table 1. Themes and subthemes coding aligned with the process approach

Initial coding	Refined coding causing the appearance of sub-themes	Project risk management processes	Final coding demonstrating the structure of main and sub-themes	Total number of references
Absence of important components in the contents of the plan	Inadequate quality of the risk management plan	**Risk management planning**	**Risk management planning** Inadequate quality of the risk management plan Delays in development of the	22
Inferior quality of the contents of the plan				
Inadequate representation of the project risk management approaches				
Imprecise definition of risk management roles and responsibilities				
Poor structure of the plan				

© 2025 Roman Titarenko

Mistakes and inconsistencies in the contents of the document			risk management plan	
Changes in starting date of document development	Delays in development of the risk management plan			
Prolonged definition of project risk management activities				
Drawn out delineation of risk management methodology				
Protracted approval of the document				
Incomplete list of risks	Incorrect list of risks	**Risk identification, performing risk analysis, risk response planning**	**Risks identification, performing risk analysis, risk response planning** Incorrect list of risks Deficient risk data Inappropriate risk prioritization Poor assessment of overall project risk exposure Inadequate risk responses	51
Repetition of the same risks in different wording				
Incorrect wording of risks				
Insufficient risk categorization				
Incorrect assessment of risk probabilities	Deficient risk data			
Inaccurate assessment of risk impacts				
Risk owners nominated improperly				
Insufficient additional risk data				
Incorrect definition of the most significant risks	Inappropriate risk prioritization			
Inadequate development of project risk priority levels				
Insufficient number of parameters used for risk prioritization				
Inappropriate application of data analysis techniques	Poor assessment of overall project risk exposure			
Poor quantitative risk analysis				
Insufficient contingency reserves				
Lack of risk responses	Inadequate risk responses			
Incomplete correspondence of risk responses to identified risks				
Inaccurate definition of risk responses				
Unrealistic risk responses				
Absence of risk responses for opportunities				
Incomplete risk response implementation	Poor implementation of risk responses	**Risk response implementation**	**Risk response implementation** Poor implementation of risk responses Delays in implementation of risk responses	25
Insufficient quality of the risk response plans execution				
Unsystematic risk response implementation				
Prolonged implementation of risk responses	Delays in implementation of risk responses			
Untimely implementation of risk responses				
Insufficient work performance data	Improper project status updates	**Risk monitoring**	**Risk monitoring** Improper project status updates	37
Mistakes in work performance reports				
Irregular updates of the status of project risks				
Untimely update of the risk register				
Poor actualization of the risk report				

© 2025 Roman Titarenko

Incorrect representation of information in the risk report Improper updates of lessons learned register	Poor project documents actualization		Poor project documents actualization	

After that we investigated the coded data and put it in each theme and subtheme further to discover differences, similarities, and patterns to understand them. For instance, the finished version of the section named "Deficient risk data" has the following problems in it: "incorrect assessment of risk probabilities", "inaccurate assessment of risk impacts", "risk owners nominated improperly", as well as "insufficient additional risk data". The said approach to data coding is aligned with that of prior studies (e.g., Hsieh & Shannon, 2005; Ninan et al., 2020). The detailed findings are shown in the Analysis of Results section.

We repetitively checked results to the best of our ability to ensure that they are as valid and reliable as possible. The first condition for this was to make sure that we have highly knowledgeable respondents in the field of project management and data from various types of projects that supported the reports of the mentioned experts. The second condition was the independent nature of data analysis, after one author investigated the data, the other had to independently verify the coding and offer some improvements. This process made it possible for the authors to recode data to a certain point until they were able to arrive to a consensus on the naming of themes. The third condition was to ensure that detailed, systematic, and replicable data was present, which guaranteed high validity and reliability of findings. The coding and applied analysis are aligned with the recently published studies that were presented in a similar context (e.g., Ninan et al., 2020).

5. Analysis of Results

The results of the analysis are summarized in Table 2. We reiterate that the results are consistent with process approach in accordance to the PMBoK® Guide.

Table 2. Summary of project risk management challenges and possible countermeasures

Identified challenges	Causes of the challenges	Suggested countermeasures
1. Risk management planning		
1.1. Inadequate quality of the risk management plan	(1) Poor quality of planning, (2) insufficient attention paid to project management planning, (3) overloading the project manager with work, (4) short amount of time allocated to implementation of the project, (5) flawed project documentation process, (6) correction of project objectives on the planning stage.	Project management planning standardization (guidelines, templates, etc.); partial delegation of the responsibilities of the project manager; improving document management.
1.2. Delays in development of the risk management plan	(1) Low priority set to the development of the risk management plan, (2) imperfections in the plan review and approval procedure, (3) insufficient motivation of the project team members, (4) insufficient focus on planning.	Regulating the duration of the risk management plan development; optimization of its review and approval procedure; clear definition of roles and responsibilities in the risk management plan development.
2. Risk identification, performing risk analysis, risk response planning		

© 2025 Roman Titarenko

2.1. Incorrect list of risks	(1) Periodic changes in the list of project participants working on risk identification activities, (2) inaccurate planning, (3) inadequate qualifications of risk management experts, (4) poor application of data gathering techniques, (5) low quality of documenting the results of expert evaluation, (6) lacking application of experience from previous projects.	Careful selection of experts by the project manager; proper project management planning; increasing the efficiency of risk workshops facilitation; application of lessons learned.
2.2. Deficient risk data	(1) Overloading the project manager with work on other projects, (2) extensive level of project innovation, (3) late expert involvement, (4) limited focus on estimation of specific risks, (5) insufficient qualifications of the project manager.	Improving risk analysis procedures; employing expertise of the project team members; increasing qualifications of the project manager.
2.3. Inappropriate risk prioritization	(1) Inadequate risk identification, (2) poor project risk analysis, (3) low quality estimation of risk probability and impact, (4) high subjectivity of expert evaluations, (5) bad risk data quality assessment.	Regulating the risk identification procedure; employing the assistance of experts; application of proper data analysis techniques; regular assessment of risk data quality.
2.4. Poor assessment of overall project risk exposure	(1) Low quality execution of quantitative risk analysis, (2) insufficient application of specialized risk software, (3) poor development of risk models, (4) lack of time to carry out a detailed risk analysis, (5) incorrect application of the sensitivity analysis technique, (6) incorrect documentation of quantitative risk analysis results.	Careful risk analysis planning; employing the assistance of experts; introducing staff to project management software; structured delegation of responsibilities for documenting results of quantitative risk analysis.
2.5. Inadequate risk responses	(1) Insufficient list of risks, (2) incorrect definition of risk priorities, (3) insufficient amount of time dedicated to planning, (4) incorrect risk estimation, (5) insufficient qualifications of experts, (6) limited application of lessons learned.	Optimization of the risk identification and prioritization procedures; careful selection of experts by the project manager; application of lessons learned.
3. Risk response implementation		
3.1. Poor implementation of risk responses	(1) Incorrect definition of risk owners, (2) unproductive project communication system, (3) short deadlines for project execution, (4) inadequate risk response plans, (5) high level of the project's complexity.	Standardization of risk response planning; increasing the efficiency of communication inside the team.
3.2. Delays in implementation of risk responses	(1) High workload of project team members, (2) late updates of risk response plans, (3) lack of efficiency in actions of the risk owners, (4) poor organization of working process by the project manager.	Optimizing workload of project team members; clear definition of risk owner responsibilities; raising the skill level of the project manager.
4. Risk monitoring		
4.1. Improper project status updates	(1) Lack of efficiency in the project monitoring system, (2) insufficient involvement of the risk owners, (3) incorrect project risk priorities, (4) insufficient quality of reporting, (5) absence of structured risk report template, (6) different places of work of project team members.	Increasing the quality of the project performance monitoring system; risk prioritization enhancement; regulating reporting system; introduction of remote work technologies.
4.2. Poor project documents actualization	(1) Insufficient coordination in the project team, (2) late updating of the status of project risks, (3) poor document management, (4) late feedback from the risk owners, (5) changing the project manager on the execution stage of the project, (6) lacking qualifications of the project manager.	Motivating project participants to timely update project documents; increasing the quality of system to collect and control work performance data; raising the skill level of the project manager.

© 2025 Roman Titarenko

5.1 Risk management planning

5.1.1 Inadequate quality of the risk management plan

The analysis results allow us to state that inadequate quality of the risk management plan is one of the central challenges of project risk management. The following components influence the quality of risk management plan: absence of crucial parts in the contents of the plan, lacking quality of the document, incomplete representation of the project risk management approaches, imprecise definition of risk management roles and responsibilities, poor structure of the plan, as well as inconsistencies and mistakes in the contents of the document.

One of the crucial reasonings for inadequate quality of the risk management plan was said to be the lack of attention targeted at project management planning (respondents 3, 11, 20, etc.)

Respondent 11 said the following:

The risk management plan was developed to a very limited extent. That happened due to the little attention paid to planning, and the fact that project team members dedicated most of the efforts to project implementation stage.

Respondent 41 named correction of project objectives on the planning stage as the reason:

Due to some changes in the business requirements, project objectives were being corrected in the beginning of project planning stage, which negatively affected the quality of the risk management plan.

Among other reasons respondents named – poor planning quality (respondents 5, 23, 30, etc.), extensive workload placed on the project manager (respondents 8, 35), limited time dedicated to carrying out the project (respondents 26, 43), and flawed project documentation process (respondent 2).

5.1.2 Delays in development of the risk management plan

Delays in the development of the document is the next challenge that is often seen in risk management planning. We can observe this challenge manifesting in the form of changes in the starting date of document development, protracted definition of project risk management activities, prolonged delineation of risk management methodology, as well as drawn out document approval.

The delays were induced by the low priority given to the development of the risk management plan (respondents 6, 25) as well as the imperfect plan review and approval procedure (respondents 4, 10). As stated by respondent 10:

The risk management plan review and approval procedure were not standardized enough, which led to prolonged duration of final plan approval.

© 2025 Roman Titarenko

Respondent 37 stated that the reason behind the delays is the lack of motivation of the project team members, and respondents 28 and 40 named it to be the insufficient focus directed on planning.

5.2 Risk identification, performing risk analysis, risk response planning

5.2.1 Incorrect list of risks

Based on the answers from the respondents, one of the key challenges appears to be incorrect list of risks, which extends to deficient list of risks, rephrasing the same risks, wrong word choice for risks, as well as lacking risk categorization.

Several factors contributed to its appearance – periodic changes in the list of project participants employed on risk identification activities (respondent 7), imprecise planning (respondents 9, 15, 21, etc.), insufficient qualifications of risk management experts (respondents 12, 29), inadequate implementation of data gathering techniques (respondents 10, 27). Respondent 10 said the following:

The project manager did not organize brainstorming aimed to create a complete list of risks in an efficient way. He involved a very little number of project participants to complete this task, and the organization of relevant events cannot be of high quality.

Other reasons were stated to be the lacking quality of documenting the results of expert evaluation (respondent 24) and improper implementation of experience obtained on previous projects (respondents 1, 34).

5.2.2 Deficient risk data

The next challenge was discovered to be deficient risk data. This research shows that risk data deficiency is manifested as improper evaluation of risk probabilities and impacts, incorrect nomination of risk owners, and incomplete additional risk data.

Tasking the project manager with excessive work on other projects appears to be one of the reasons of the problem (respondents 31, 42). Respondent 42 said:

Due to excessive workload the project manager could not organize the project risk analysis well, and that resulted in risk matrix containing mistakes, which in turn caused inappropriate risk prioritization.

The participants have also named other reasons that can cause deficient risk data. They have mentioned excessively high level of project innovation (respondent 13), postponed involvement of experts (respondents 6, 38), lack of focus put on estimation of specific risks (respondents 11, 16), as well as inadequate qualifications of the project manager (respondents 14, 22, 32). Respondent 32 stated:

Inadequate qualifications of the project manager caused the appearance of cases in which the role of risk owners in relation to specifics risks was not determined appropriately.

© 2025 Roman Titarenko

5.2.3 Inappropriate risk prioritization

The next discovered challenge is considered to be the inappropriate risk prioritization. It is demonstrated in a variety of ways – imprecise definition of the most significant risks, low quality of development of project risk priority levels, and insufficient number of parameters employed in risk prioritization.

The said challenge appears due to improper risk identification (respondent 39), inadequate evaluation of risk probability and impact (respondents 12, 18), as well as lacking project risk analysis (respondents 3, 9, 33). Respondent 3 said:

The amount of attention paid to risk analysis was little, and the list of the most significant risks did not contain all the necessary examples that prevented effective project risk management.

Respondents 19, 36 stated that expert evaluations were overly subjective, while respondent 17 pointed to the bad risk data quality assessment as the source of the problem.

5.2.4 Poor assessment of overall project risk exposure

Poor assessment of overall project risk exposure was identified as another challenge. It pertains to improper implementation of data analysis techniques, lacking quantitative risk analysis, and deficient contingency reserves.

The problem was caused by inadequate quality of implementation of quantitative risk analysis (respondents 7, 21), insufficient employment of specialized risk software (respondent 29), unsatisfactory quality of development of risk models (respondent 40), as well as shortage of time to perform detailed risk analysis (respondents 4, 41). Respondent 41 stated the following:

Performing detailed risk analysis requires a large amount of time and large involvement of project participants, and these requirements were not met during implementation of the project.

The respondents named other reasons, such as inappropriate implementation of the sensitivity analysis technique (respondent 1) and inadequate documentation of quantitative risk analysis results (respondent 17).

5.2.5 Inadequate risk responses

The next challenge is determined to be inadequate risk responses. That includes the lack of risk responses themselves, such as absence of risk responses for opportunities, deficient correlation between identified risks and risk responses, imprecise definition of risk responses, and unrealistic risk responses.

A few participants have named the shortage of time allocated to planning (respondents 8, 38) and lacking qualifications of experts (respondents 13, 16, 37, etc.) to be the cause of the problem. Quoting respondent 16:

© 2025 Roman Titarenko

Project participants with insufficient level of expertise were involved in the process of developing risk responses on the project, which in turn led to the development of unrealistic risk responses.

In addition to that, some of the participants consider the problem to be improper definition of risk priorities (respondent 18), short list of risks (respondent 6), inadequate risk estimation (respondents 14, 20), as well as narrow application of lessons learned (respondent 43).

5.3 Risk response implementation

5.3.1 Poor implementation of risk responses

The first discovered challenge in this field is poor implementation of risk responses, which extends to deficient and unsystematic risk response application as well as lacking quality of employment of risk response plans.

The participants considered the reason for this to be improper definition of risk owners (respondents 25, 36) as well as ineffective project communication system (respondents 2, 19, 35). Respondent 2 stated the following:

Poor organization of communication system in the project made it so risk response implementation was not conducted in a timely manner, which increased the probability of extending project duration and increasing its budget.

Other reasons were named to be the cause of the problem – short deadlines set for carrying out the project (respondents 3, 23), low quality of risk response plans (respondents 5, 14, 28, etc.), and an extensive level of complexity in the project (respondent 42).

5.3.2 Delays in implementation of risk responses

The second challenge was identified to be the delays in implementation of risk responses, and that includes the prolonged and late risk response plan execution.

Respondents 22, 30 said that delays in implementation of risk responses occurred due to the inadequate organization of working process by the project manager. Respondent 30 described the problem:

The project manager did not have enough experience in managing risks and could not organize implementation of risk responses effectively.

Some of the project participants pointed to extensively high workload of project team members (respondents 5, 15, 26, etc.) and untimely risk response plans updates (respondents 27, 34), while respondents 19 and 31 mentioned low efficiency in actions of the risk owners.

© 2025 Roman Titarenko

5.4 Risk monitoring

5.4.1 Improper project status updates

We identified one of the challenges of risk monitoring as an improper update of the project status. The problem unites such deficiencies in the risk monitoring as lacking data on work performance, inaccuracies in work performance reports, and untimely updates of the project risk status. Some of the participants view the inefficiency of the project monitoring system (respondents 7, 25, 36), low reporting quality (respondents 1, 9, 16, etc.), limited involvement of the risk owners (respondents 29, 40), and improper project risk priorities (respondents 6, 33) as the key reasons for the appearance of this challenge. Respondent 6 stated the following:

Incorrect risk priorities made it so project risk status updates were conducted only for a part of the important risks, meaning that risk monitoring was not performed on a large enough scale.

Respondents also mentioned such reasons as absence of structured risk report template (respondent 4) and remote locations of work of project team members (respondents 8, 21, 32, etc.)

5.4.2 Poor project documents actualization

The next identified challenge of risk monitoring was determined to be poor project documents actualization, which extends to late update of the risk register, poor actualization, and improper representation of information in the risk report, and inadequate updates of lessons learned register.

Respondents 5, 20, 23, etc. proposed that the reason for this was insufficient level of coordination in the project team, and according to respondent 41, that caused untimely updating of the current status of project risks.

Respondents also paid significant attention to lacking document management (respondents 10, 18, 30, etc.), late feedback from the risk owners (respondents 11, 38), replacing the project manager during the execution stage of the project (respondent 2), as well as insufficient qualifications of the project manager (respondents 12, 15, 22, etc.).

6. Discission and Conclusion

In this research we have studied project risk management challenges underpinned by process approach in accordance to these processes or sets of process: (1) risk management planning, (2) risk identification, performing risk analysis, and risk response planning, (3) risk response implementation, and (4) risk monitoring.

Efficient planning is considered to be a crucial part of a successful project (Serrador, 2013). The analysis in this research demonstrated that project risk management planning involves a considerable number of challenges. PMI (2017) outlines risk management planning process as a form of explanation on how to perform risk management activities for a project. The main output of this process is the risk management plan that defines the way risk management activities will be structured and performed.

© 2025 Roman Titarenko

Low quality of the risk management plan can possibly decrease the effectiveness of the plan, that in turn can cause inadequate project risk management, and prolongations in the creation of the risk management plan can poorly affect the start of the following risk management processes and prolong the duration of the project. The results of the analysis gave us a chance to offer a few measures that are required to mitigate or reduce these challenges – standardization of project management planning, delegation of some responsibilities of the project manager, increasing the quality of document management, optimization of the risk management plan review and approval procedure, and definition of roles and responsibilities in the risk management plan development. Risk identification is the process of discovering and defining both individual project risks and possible sources of all project risk, as well as recording their characteristics (PMI, 2017).

Elkington and Smallman (2002) defined risk identification as the most vital stage of risk analysis, since the risks that no one has discovered cannot be mitigated or reduced. After risk identification, they are investigated to discover the qualitative and quantitative influence of the risk on the project (Doval, 2019). Qualitative risk analysis involves categorizing individual project risks and choosing them for further analysis by evaluation the probability of the risks, possible impact and other characteristics, while quantitative risk analysis includes numerical analysis of the mutual effect of identified individual project risks on overall project objectives. Risk response planning involves extending options, choosing strategies, and coming to a consensus on actions to address overall vulnerability of project to risk, as well to handle individual project risks. The risk register and the risk report are the main results of these processes (PMI, 2017).

Improper list of risks, lacking risk data, inaccurate risk prioritization, poor assessment of overall vulnerability of project to possible risks, as well as the fact that inadequate risk responses can contribute to prolonging the duration of specific activities and the entire project, and in addition to that cause cost overruns. In this study we propose that the crucial countermeasures to reduce or mitigate the consequences of the said challenges are as following: controlling the risk identification procedure, involvement of experts to assist on the project, meticulous selection of experts by the project manager, proper application of expertise of the project team members, improving the qualification of the project manager, adequate project management planning, employment of lessons learned, raising the quality of risk analysis procedures, regular assessment of quality of risk data, and education staff on the topic of applied project management software.

As was stated in PMI (2017), employment of risk response is the process of execution of previously developed risk response plans. It guarantees that agreed-upon risk responses are carried out according to the plan in order to decrease overall vulnerability of the project to risks, minimize individual threats to the project, and increase the number of individual project opportunities. Change requests and project documents updates connected to such documentation as the risk register, and the risk report are the main results of this process.

Improper and late risk response implementation can potentially lead to risk events, that in turn induce delays in the execution of the project, make the project budget exceed the set limit, as well as lower the quality of the end product of the project. The said challenges have to be addressed by standardizing risk response planning, improving the efficiency of communication between the members of the team, regulating workload of project team members, strictly defining risk owner responsibilities, and increasing the skill level of the project manager.

© 2025 Roman Titarenko

Risk monitoring is the process of controlling the employment of previously developed risk response plans, keeping track of risks, locating and analyzing new risks, as well as estimating the effectiveness of risk process in the project (PMI, 2017).

Inadequate project status updates and lacking project actualization of project documents can potentially cause difficulties or mistakes in the process of decision making, insufficient coordination in finishing project tasks, overload of information and its misinterpretation, and that will negatively affect project delivery. To find a solution to the mentioned problems, organizations can make the quality of the project performance monitoring system higher, improve prioritization, control reporting system, apply remote work technologies, give project participants motivation to update project documents on time, increase the quality of system aimed to control and collect data on work performance, as well as raise the qualifications of the project manager.

This means that systematic analysis of challenges connected to project risk management, as well as their triggers, effects and employment of possible countermeasures will allow for a more effective planning of project risks, highly efficient decision-making process, reduce risk exposure, and prevent the appearance of various mistakes and difficulties in the project life cycle.

7. Implications, Limitations and Future Research Direction

The research makes various contributions to theory and practice. First, the research, based on the process approach, expounds on a large number of project risk management challenges, the causes of the said challenges, as well as their effects, and offers possible countermeasures to mitigate them. Our discoveries can be employed to support the project risk management knowledge area of the process-based project management standards, for example, PMBOK® Guide (2017). The classification of challenges connected to the project risk management processes will allow managers to perform systematic and holistic analysis of the most troublesome challenges, and facilitate a comprehensive plan to respond to the challenges and increase the quality of the project work.

Second, to the best of our knowledge, this research is the first to analyze investigated project risk management challenges based on process approach, which will also create a better understanding of challenges in other project management knowledge areas. This will give an opportunity for researchers to create a common perspective of the analyzed challenges by employing process approach and formulate theory on strategies that will allow to face analyzed challenges and increase the quality of planning and implementation of projects.

Nonetheless, it is important to note that the research has several limitations. First, despite the fact that its results provide deep knowledge on the topic, which makes it comparable to other qualitative studies, the results can be recognized as subjective, since they are achieved based on the perspectives of experts in the project management field. Second, the research is related only to projects that were carried out in the framework of the traditional project management approach. Third, the respondents come from a single country – Russia, and because of that application of the results on an international context should be done with proper awareness.

© 2025 Roman Titarenko

Despite this, the study offered a wide range of new ideas for further research. First, it would be beneficial to carry out more in-depth (e.g., qualitative and quantitative) studies aimed to analyze inter-relationships among challenges to form a comprehension of such challenges. Second, future studies can examine challenges in other knowledge areas of project management, for instance, project scope management, project stakeholder management, project quality management, etc. Third, conducting new research is necessary to inspect challenges from a different, international or industry-specific perspective, in order to create specific knowledge. Fourth, there appears to be a demand to develop studies that examine projects executed with the application of agile methodology. Last, future studies can utilize a variety of approaches and employ them to analyze such challenges.

References

Al-Hajj, A. & Zraunig, M.M. (2018). The impact of project management implementation on the successful completion of projects in construction. *International Journal of Innovation, Management and Technology*, 9(1), 21-27.

Amer, J.A. (2020). Challenges in construction project management as faced by millennials in developing countries. *PM World Journal*, 9(7), 1-11.

Banaitis, A. & Banaitiene, N. (2012). Risk management in construction projects. A chapter from the book "Risk Management - Current Issues and Challenges", InTech, 429-448.

Bhoola, V., Hiremath, S.B., & Mallik, D. (2014). An assessment of risk response strategies practiced in software projects. *Australasian Journal of Information Systems*, 18(3), 161-191.

Bukłaha, E., Wyrozębski, P., Trocki, M., Grucza, B., Metelski, W., Kandefer-Winter, K. et al. (2016). Project management – challenges and research results. Warsaw School of Economics Press, 1-215.

Cagliano, A.C., Grimaldi, S., & Rafele, C. (2015). Choosing project risk management techniques. A theoretical framework. *Journal of Risk Research*, 18(2), 232-248.

Chileshe, N., Hosseini, R. & Jepson, J. (2016). Critical barriers to implementing risk assessment and management practices (RAMP) in the Iranian construction sector. *Journal of Construction in Developing Countries*, 21(2), 81-110.

Chileshe, N. & Kikwasi, G.J. (2014). Risk assessment and management practices (RAMP) within the Tanzania construction industry: Implementation barriers and advocated solutions. *International Journal of Construction Management*, 14(4), 239-254.

Dandage, R.V., Mantha, S.S., Rane, S.B., & Bhoola, V. (2018). Analysis of interactions among barriers in project risk management. *Journal of Industrial Engineering International*, 14, 153-169.

© 2025 Roman Titarenko

de Araujo Lima, P. & Verbano, C. (2019). Project risk management implementation in SMEs: A case study from Italy. *Journal of Technology Management & Innovation*, 14(1), 3-9.

Doval, E. (2019). Risk management process in projects. *Review of General Management*, 30(2), 97-113.

Ekanayake, H., Bin Idar, R., & Fadhil Mohammad, M. (2019). Traditional project management approach, industry challenges and key attributes: A case study of construction project management in Sri Lanka. *Asia Pacific Journal of Advanced Business and Social Studies*, 5(1), 52-64.

Elkington, P., Smallman, C. (2002). Managing project risks: a case study from the utility sector. *International Journal of Project Management* 20, 49-57.

Fadun, O.S. (2013). Risk management and risk management failure: Lessons for business enterprises. *International Journal of Academic Research in Business and Social Sciences*, 3, 225-239.

Fang, C. & Marle, F. (2012). A simulation-based risk network model for decision support in project risk management. *Decision Support Systems*, 52, 635-644.

Fernando, Y., Walters, T., Ismail, M.N., Seo, Y.W., & Kaimasu, M. (2018). Managing project success using project risk and green supply chain management: A survey of automotive industry. *International Journal of Managing Projects in Business*, 11(2), 332-365.

Fischer, R. (2015). Barriers to effective risk management on small construction projects in South Africa. A research report submitted to the University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Science in Building, 1-117.

Goh, C.S. & Abdul-Rahman, H. (2013). The identification and management of major risks in the Malaysian construction industry. *Journal of Construction in Developing Countries*, 18(1), 19-32.

Grant, K.P., Cashman, W.M., & Christensen, D.S. (2006). Delivering projects on time. *Research-Technology Management*, 49, 52-58.

Harner, M.M. (2010). Barriers to effective risk management. *Seton Hall Law Review*, 40(4), 1323-1365.

Harvey, J. & Aubry, M. (2018). Project and processes: A convenient but simplistic dichotomy. *International Journal of Operations & Production Management*, 38(6), 1289-1311.

Hsieh, H.F. & Shannon, S.E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288.

© 2025 Roman Titarenko

Hwang, B.G., Zhao, X., & Toh, L.P. (2014). Risk management in small construction projects in Singapore: Status, barriers and impact. *International Journal of Project Management*, 32, 116-124.

Ika L.A. (2009). Project success as a topic in project management journals. *Project Management Journal*, 40(4), 6-19.

International Organization for Standardization. The process approach in ISO 9001:2015. Geneva, Switzerland.

Isern, G. (2015). Intercultural project management for IT: Issues and challenges. *Journal of Intercultural Management*, 7(3), 53-67.

Iqbal, S., Choudhry, R.M., Holschemacher, K., Alia, A. & Tamošaitienė, J. (2015). Risk management in construction projects. *Technological and Economic Development of Economy*, 21(1), 65-78.

Kahvandi, Z., Saghatforoush, E., Ravasan, A.Z., & Mansouri, T. (2018). An FCM-based dynamic modelling of integrated project delivery implementation challenges in construction projects. *Lean Construction Journal*, 2018 issue, 63-87.

Kaminsky, J. (2021). Who are we talking to? Situating construction engineering and management knowledge. *Journal of Construction Engineering and Management*, 147(2), 06020003.

Keçi, J. & Mustafaraj, E. (2013). Practices, barriers and challenges of risk management implementation in Albanian construction industry. Athens: ATINER'S Conference Paper Series, No: CIV2013-0639, 1-17.

Kembro, J., Näslund, D., & Olhager, J. (2017). Information sharing across multiple supply chain tiers: A Delphi study on antecedents. *International Journal of Production Economics*, 193, 77-86.

Kwon, H. & Kang, C.W. (2019). Improving project budget estimation. *Project Management Journal*, 50(1), 86-100.

Lee, E., Park, Y., & Shin, J.G. (2009). Large engineering project risk management using a Bayesian belief network. *Expert Systems with Applications*, 36, 5880-5887.

Luacky, E.O., Adegoke, O., & Norani, N. (2014). Project management challenges and difficulties: A case study of information system development. *International Postgraduate Business Journal*, 6 (1), 99-113.

Mathuthu, N. (2017). A review of risk management techniques and challenges in harbour and port expansion projects. Master's Thesis, University of Johannesburg, 1-89.

© 2025 Roman Titarenko

Monyane, T.G., Emuze, F.A., & Crafford, G. (2018). An identification of cost management challenges in public sector projects. *Journal of Construction Project Management and Innovation*, 8, 2127-2137.

Mossalam, A. (2018). Projects' issue management. *HBRC Journal*, 14(3), 400-407.

Muthuveeran, A.A., Tahir, O.M., Ibrahim, R., & Zairul, M. (2020). Risk management benefits and challenges in Malaysia's landscape architecture project. *Asian Journal of Behavioural Studies*, 5(19), 25-43.

Nehari Talet, A., Mat-Zin, R., & Houari, M. (2013). The challenges in implementing risk management for information technology projects. SDIWC Organization, 309-316.

Niederman, F., Müller, B., & March, T.S. (2018). Using process theory for accumulating project management knowledge: A seven-category model. *Project Management Journal*, 49(1), 6-24.

Ninan, J. (2020). Online naturalistic inquiry in project management research: Directions for research. *Project Leadership and Society*, 1, 100002.

Odzaly, E., Greer, D. & Sage, P. (2009). Software risk management barriers: An empirical study. *Proceedings of the Third International Symposium on Empirical Software Engineering and Measurement*, 418-421.

Papulova, E. (2020). Promoting process approach to management. *SHS Web of Conferences*, 83, 01050, 1-8.

Parizotto, L. de Almeida, Tonso A., & Monteiro de Carvalho, M. (2020). The challenges of project management in small and medium-sized enterprises: A literature review based on bibliometric software and content analysis. *Gestão & Produção*, 27(1), 1-23.

Patil, G.V. (2016). Project management challenges. *Journal of Multidisciplinary Engineering Science and Technology*, 3(11), 6019-6024.

Patton, M. (1990). Qualitative evaluation and research methods, Sage, London.

Perrenoud, A., Alnassar, J., Lines, B., & Bigelow, B. (2018). A Review of the barriers to implementing project risk management and a study of their impact on electrical contractors' risk maturity levels. *Proceedings of the Construction Research Congress*, New Orleans, Louisiana, 272-281.

PMI (2017). A guide to the project management body of knowledge (PMBOK® Guide), Sixth Edition. Project Management Institute, USA.

Ray, K., Sengupta, G., & Gangly, K. (2019). Project management challenges in India. *International Journal of Emerging Technologies and Innovative Research*, 6(2), 473-476.

© 2025 Roman Titarenko

Raydugin, Y.G. (2014). Holistic view on unknown unknowns in project risk management, in: *Developing Business Strategies and Identifying Risk Factors in Modern Organizations*, IGI Global: Hershey, 82-93.

Sachan, A., Raj, A., & Manjula, R. (2016). Project management – The challenges and their resolutions. *International Research Journal of Engineering and Technology*, 3(11), 1008-1012.

Saukko, L., Aaltonen, K., & Haapasalo, H. (2020). Inter-organizational collaboration challenges and preconditions in industrial engineering projects. *International Journal of Managing Projects in Business*, 13(5), 999-1023.

Sergi, V., Crevani, L., & Aubry, M. (2020). Process studies of project organizing. *Project Management Journal*, 51, 3-10.

Serrador, P. (2013). The impact of planning on project success. *The Journal of Modern Project Management*, 1(2), 28-39.

Stellingwerf, R. & Zandhuis, A. (2013). ISO 21500 guidance on project management: A pocket guide. Van Haren Publishing, Zaltbommel.

Takagi, N. & Varajão, J. (2019). Integration of success management into project management guides and methodologies. *Procedia Computer Science*, 164, 366-372.

Thapa, N., Koirala, P., Chand, A., & Kafle, A. (2021). Risk management challenges and opportunities in survey project management. Technical Report. Kathmandu University, 1-11.

Teubner, R.A. (2018). IT program management challenges: Insights from programs that ran into difficulties. *International Journal of Information Systems and Project Management*, 6(2), 71-92.

Titarenko, B. (1997). Robust technology in risk management. *International Journal of Project Management*, 15(1), 11-14.

Tummala, V.R., Leung, H.M., Mok, C.K., Burchett, J.F., & Leung, Y.H. (1997). Practices, benefits and barriers of using risk management approaches in selected Hongkong industries. *International Journal of Project Management*, 15(5), 297-312.

van den Heuvel, S. & Bondarouk, T. (2017). The rise (and fall?) of HR analytics: A study into the future application, value, structure, and system support. *Journal of Organizational Effectiveness: People and Performance*, 4(2), 157-178.

Zwikael, O. &Sadeh, A. (2007). Planning effort as an effective risk management tool. *Journal of Operations Management*, 25, 755-767.

Walkowska, M. (2020). Challenges to effective project management – Team, motivation, organization – Literature review. Nottingham Trent University, 1-13.

© 2025 Roman Titarenko

Willumsen, P., Oehmen, J., Stingl, V., & Geraldi, J. (2019). Value creation through project risk management. *International Journal of Project Management*, 37(5), 731-749.

Yazid, A., Abdullah, A., & Hussain, M. (2014). A review of infrastructure project risk management. *International Business Management Journal*, 8(6), 342-347.

Yim, R., Jason, C., Doolen, T., Tumer, I., & Malak, R. (2015). A study of the impact of project classification on project risk indicators. *International Journal of Project Management*, 33, 863-876.

Yornu, I.K. & Ackah, D. (2019). Examining project risk management challenges in Ghana. *Project Management & Scientific Journal*, 1(3), 27-38.

Zhang, Y., Marquis, C., Filippov, S., Haasnoot, H.-J., & van der Steen, M. (2015). The challenges and enhancing opportunities of global project management: Evidence from Chinese and Dutch cross-cultural project management. *Harvard Business School Working Paper*, 15-063, 1-28.

Zou, Y., Kiviniemi, A., & Jones, S.W. (2015). BIM-based risk management: Challenges and opportunities. *Proc. of the 32nd CIB W78 Conference*, Eindhoven, The Netherland, 847-855.

About the Author

Dr. Roman Titarenko

International Business School Suzhou,
Xi'an Jiaotong-Liverpool University,
Suzhou, China

Dr. Roman Titarenko is an Associate Professor of Practice at International Business School Suzhou, Xi'an Jiaotong-Liverpool University. He worked extensively in the project management industry before pursuing a career in education. Roman has got a significant working experience as a project manager and a business development director for international companies and private institutions operating in Russia – e.g., Coca-Cola Hellenic, The Stockholm School of Economics as well as Russian companies operating internationally.

He obtained his PhD degree from Russian State University of Management in 2001 where he

© 2025 Roman Titarenko

conducted research related to the development of the conceptual model of the project management certification program. It greatly contributed to the creation of the project management certification system in Russia (IPMA-SOVNET certification).

From 2009 until joining XJTLU, Roman worked as an Associate Professor at some Russian universities, such as Russian State Social University and Plekhanov Russian University of Economics. He also gave lectures as a Visiting Professor at La Rochelle Business School (Excelia Group, France) and Cracow University of Economics (Poland). He is a certified project manager (IPMA Level C) by International Project Management Association.

His research interests lie primarily in project management, risk management, and strategic management. He can be contacted at Roman.Titarenko@xjtlu.edu.cn

© 2025 Roman Titarenko