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Project Risk Register Analysis and Practical Conclusions
by Juris Uzulāns
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Project Risk Register Analysis and Practical Conclusions[1]

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Abstract

The aim of the current research is to examine real project risk registers to find correlations between the project management theory, especially project risk management, and practical results of real project risk management – the risk registers publicly available in the Internet.

In the research the author has analysed the compliance between the project risk management theory which is described in "*A Guide to the Project Management Body of Knowledge*" by Project Management Institute, *Tasmanian Government Project Management Guidelines* and *Risk Management Guide For DoD Acquisition* and the project risk registers.

In the previous research the author concluded that after analysing just 30 risk registers significant differences could be found between the risk register described in the theory and risk registers of real projects. At the end of the identification phase of the risk management process the coincidence between the described risk register and real project risk registers is high. As a result of the research it cannot be concluded what the minimum amount of information in the risk register is to make it comply with the risk register described in the theory. The challenge is to design recommendations for practical use.

Key words: *Risk, project, project risk management, risk register.*
JEL code: M00

Introduction

Project management is a new science characterized by dynamic development. The first editions of *A Guide to the Project Body of Knowledge*, *Tasmanian Government Project Management Guidelines* and *DSMC Risk Management Guide for DoD Acquisition* were launched in 1996. The latest version of *A Guide to the Project Body of Knowledge* – the fifth one – was issued in 2013. The latest – 7th version of the *Tasmanian Government Project Management Guidelines* came out in 2011. The most recent, 7th, interim release version of *Risk Management Guide for DoD Acquisition* is of year 2014. Although a new edition was issued in average every three years, the

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[1] *Second Editions are previously published papers that have continued relevance in today's project management world, or which were originally published in conference proceedings or in a language other than English. Original publication acknowledged; authors retain copyright. This paper was originally presented at the 4th Scientific Conference on Project Management in the Baltic States, University of Latvia, April 2015. It is republished here with the permission of the author and conference organizers.*

author considers that none of them contains references to research results; it can be assumed that the manuals represent theoretical reflection on the authors' experience. However, the development of a science is impossible without research and research-based conclusions and recommendations.

The article describes the research on 30 risk registers. The aim of the study is to assess the compliance of the publicly (in the Internet) available project risk registers with the description of project risk management in three project risk management manuals. For the purposes of the research the author has used both quantitative and qualitative research methods.

Research

According to the 2013 issue of *A Guide to the Project Management Body of Knowledge* or *PMBoK* 2013, the risk register is a kind of project documents. (A Guide to the Project…, 2013). The risk register is used in five out of six subprocesses of Project Time Management, Project Cost Management, Project Quality Management and Project Risk Management (A Guide to the Project…, 2013). In PMBoK the risk register is defined as a document in which the results of risk analysis and risk response planning are recorded (A Guide to the Project…, 2013). PMBoK is not an example of a risk register document. The components of the risk register are described in accordance with the subprocesses of Project Risk Management.

In the "Identify", or the second, subprocess the primary output from the "Identify Risks" is the initial entry into the risk register, where the risk register includes the list of identified risks and list of potential responses (A Guide to the Project…, 2013). As the term "list" is used and assuming that the list of identified risks and list of potential responses have been co-ordinated, it can be concluded that at the end of the "Identify" sub process the risk register represents a table with two columns.

In the "Perform qualitative risk analysis" sub process the risk register is supplemented with the assessments of probability and impacts for each risk, risk ranking or scores, risk urgency information or risk categorization and a watch list for low probability risks or risks requiring further analysis (A Guide to the Project…, 2013). In the 2013 issue of PMBoK there is insufficient information for judging how the watch list for low probability risks or risks requiring further analysis is included in the risk register – as an individual column or separate table.

In the "Perform quantitative risk analysis" sub process the risk register updates could include the probabilistic analysis of the project, probability of achieving cost and time objectives, prioritized list of quantified risks, trends in quantitative risk analysis results. Like in the "Perform qualitative risk analysis" sub process, the 2013 issue of PMBoK does not contain sufficient information for concluding how the information on registered analysis is included in the risk register – as individual columns or a separate table, or whether the information is included in the risk register at all because the phrase "could include" is used.

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In the "Plan risk responses" sub process the content of the risk register becomes still less certain as before listing the risk register components it is said that "updates to the risk register can include, but are not limited to" (A Guide to the Project…, 2013). Table 1 lists the possible columns or separate tables of the risk register.

In the "Control risks" sub process the risk register is not supplemented.

Table 1.
Risk register according to PMBoK 2013 project risk management sub processes

Sub process	Information in the risk register by sub process	Notes
Plan Risk Management		No risk register
Identify	List of identified risks List of potential responses	The risk register can be made as a table with 2 columns
Perform Qualitative Risk Analysis	List of identified risks List of potential responses Assessments of probability Assessments of impacts Risk ranking or scores Risk categorization Watch list for low probability risks or risks requiring further analysis	No unanimous conclusion can be made whether the watch list for low probability risks or risks requiring further analysis is a separate table or just a row in the risk register which was created during the "Identify" sub process.
Perform Quantitative Risk Analysis	Probabilistic analysis of the project Probability of achieving cost and time objectives Prioritized list of quantified risks Trends in quantitative risk analysis results	No unanimous conclusion can be made whether the probabilistic analysis of the project, probability of achieving cost and time objectives, prioritized list of quantified risks, trends in quantitative risk analysis results are a separate table or individual columns in the risk register which was created during the "Identify" sub process or they are project documents of some other kind or their components.
Plan Risk Responses	Risk owners and assigned responsibilities Agreed-upon response strategies Specific actions to implement the chosen response strategy Trigger conditions, symptoms, and warning signs of a risk occurrence Budget and schedule activities required to implement the chosen responses Contingency plans and triggers that call for their execution Fall-back plans for use as a reaction to a risk that has occurred and the primary response proves to be inadequate Residual risks that are expected to remain after planned responses have been taken, as well as those that have been deliberately accepted Secondary risks that arise as a direct outcome of	No unanimous conclusion can be made whether the results of the "Plan risk response" are separate tables or individual columns in the risk register was created during the "Identify" sub process or they are project documents of some other kind or their components.

	implementing a risk response Contingency reserves that are calculated based on the quantitative risk analysis of the project and the organization's risk thresholds	
Control Risks		The structure of the risk register is not changed; the content of the risk register is supplemented or changed.

Source: Author construction

It can be concluded that the risk register of *A Guide to the Project Management Body of Knowledge* cannot be created as a project management document, disregarding the number of tables or number of columns in a table as the phrases "can include" or "can include, but are not limited" are used and there is insufficient description of the results of the risk management sub processes and the method of integrating them in the risk register or other project documents or their components.

The risk register of *DoD Risk Management Guide for Defence Acquisition Programs*, 7th Edition (Interim Release) is a table with 15 columns – Risk number, Linked WBS/IMS ID#, Owner, Type of risk, Status, Tier, Risk event, Likelihood/Consequence rating, Risk reporting matrix, Risk mitigation strategy, Submitted date, Board review, Planned closure, Expected risk rating, and Plan status (DoD Risk Management Guide…, 2014).

The risk register of the *Tasmanian Government Project Management Guidelines*, version 7.0 is a table with 13 columns – Unique identifier for each risk, Description of each risk, Impact on project, Assessment of the likelihood, Assessment of the seriousness, Risk grade, Change (about any change in the risk grading), Date of review, Mitigation actions, Responsibility, Cost, Timeline, and Work breakdown structure (Tasmanian Government Project…, 2011).

We can conclude that *DoD Risk Management Guide for Defence Acquisition Programs* un *Tasmanian Government Project Management Guidelines* are more unanimous sources for risk assessment as they describe the form of the risk register table and define the contents, or the number of columns, of the risk register.

Table 2 provides the comparison of the risk register columns of *DoD Risk Management Guide for Defence Acquisition Programs* and *Tasmanian Government Project Management Guidelines*.

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Table 2
Comparison of the Risk Register Columns of *DoD Risk Management Guide for Defence Acquisition Programs* and *Tasmanian Government Project Management Guidelines*

Heading of the risk register column in *DoD Risk Management Guide for Defence Acquisition Programs*	Heading of the risk register column in the *Tasmanian Government Project Management Guidelines*	Notes
Risk number	Unique identifier for each risk	
Linked WBS/IMS ID#	Work breakdown structure	The location of the columns in the tables does not coincide
Owner		
Type of risk		
Status		
Tier		
Risk event	Description of each risk	There are absolutely no coincidences in the column contents as the sources differ in their treatment of the risk management theory
Likelihood/ Consequence rating	Assessment of the likelihood Assessment of the seriousness	The number of the columns does not coincide
Risk reporting matrix		
Risk mitigation strategy	Mitigation actions	
Submitted date		
Board review	Date of review	
Planned closure		
Expected risk rating	Risk grade	The location of the columns in the table does not coincide
Plan status		
	Responsibility	
	Impact on project	
	Cost	
	Timeline	

Source: Author construction

Research results and discussion

The research comprised analysis of 30 risk registers. The selection of the registers was made in November, 2013 with the Google search engine by requesting "project risk register" and the first 10 web pages with the search results were examined. Taking into account that the aim of the research was not to find regularities in the risk registers, no assessment was made concerning the general set of risk registers and the kind of the selection. The author believes that 30 risk registers constitute a sufficient number for comparing the selected registers with the risk register described in *A Guide to the Project Management Body of Knowledge* or PMBoK 2013ed., *DoD Risk Management Guide* for *Defense Acquisition Programs*, 7th Edition (Interim Release), and *Tasmanian Government Project Management Guidelines*, version 7.0. (J.Uzulans, 2014).

In the previous research the risk registers were described and it was concluded that by analysing just 30 risk registers significant differences can be found between the risk register described in *A Guide to the Project Management Body of Knowledge* and risk registers of real projects. At the end of the identification phase of the risk management process the coincidence between the described risk register and real project risk registers is high, in all registers the following information indicated in all PMBoK editions, except year 2013 one, is present – the name of the risk, risk description, consequences and risk owner. However, this information is not present in all risk registers (see table 3). The coincidence can be considered high only by examining the whole set of the risk registers under the study as there are significant individual differences among the risk registers (J.Uzulans, 2014).

In the case of *DoD Risk Management Guide for Defense Acquisition Programs*, 7th Edition (Interim Release), and *Tasmanian Government Project Management Guidelines*, version 7.0 the assessment of the risk register coincidence is easier. Firstly, how many risk registers out of 30 do not comply if the number of columns is smaller than 13. 2 registers have up to 5 columns, 14 registers have between 7 and 12 columns, 10 registers have between 14 and 19 columns and 4 registers have more than 20 columns. No risk register has exactly 13 columns, 1 register has 15 columns. 6 risk registers have 15 or more columns, 14 risk registers have more than 13 columns.

Table 3
Comparison of the Risk Register Columns in *DoD Risk Management Guide for Defense Acquisition Programs* and *Tasmanian Government Project Management Guidelines* and in Risk Registers

Risk Register of *DoD Risk Management Guide for Defense Acquisition Programs*	Coincidence of the contents of risk register columns	Risk Register of Tasmanian Government Project Management Guidelines	Coincidence of the contents of risk register columns
Risk number	6	Unique identifier for each risk	13
Linked WBS/IMS ID#	0	Work breakdown structure	0
Owner	4		
Type of risk	1		
Status	4		
Tier	0		
Risk event	4	Description of each risk	10
Likelihood/ Consequence rating	6	Assessment of the likelihood Assessment of the seriousness	14
Risk reporting matrix	0		
Risk mitigation strategy	6	Mitigation actions	13
Submitted date	1		
Board review	1	Date of review	1

Planned closure	0		
Expected risk rating	5	Risk grade	13
Plan status	0		
		Responsibility	3
		Impact on project	0
		Cost	0
		Timeline	2

Source: Author construction

Conclusions, proposals, recommendations

The research has not provided the answer on what an accurate risk register is. From the data in Table 3 we can conclude that several columns can be considered essential in the risk register. They are as follows: Risk number, Risk description, Risk likelihood, Risk consequence, and Risk mitigation. According to the risk register definition no risk register can be made without the Risk descriptions column. Without the columns of Risk likelihood, Risk consequence and Risk rating, however, project risk management cannot be effective as there are no criteria on how to manage risks or what actions and when are necessary.

The risk registers are different and the coincidence or difference of column headings does not guarantee that the column contents will be the same or, respectively, different. The analysis of the risk registers solely by column headings is insufficient – a more profound quantitative analysis of the risk registers must be performed by finding the appropriate project management or project risk management theory description for each of the risk registers used in the research.

However, it is not guaranteed that such an analysis will be sufficient. Certainly, a bigger number of risk registers could be analysed than it has been done in the research and then arrive to the conclusion that the more common columns are more accurate than the less common ones. This kind of research results might also be insufficient for drawing conclusions. The effectiveness of project risk management and the risk register as one of the components of effective risk management could be one of the criteria of the risk register accuracy. However, the theory of project management effectiveness has neither been fully designed. The research on risk registers could promote and facilitate the research on the effectiveness of project management.

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Juris Uzulāns possesses more than 15 years of experience in theoretical and practical project management. It includes managing projects in the state governance, health care system, institutions of higher education and IBM Latvia. The author has designed and delivered courses in project management in HEI School of Banking and Finance, Baltic Computer Academy as well as commercial firms specialized in training.

In science the author focuses on risk management, analysis of project processes and documentation. Juris is author of 4 books on project management and 20 scientific publications.

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