

Value of Integrated Risk and Issue Management – Paper #17516

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ABSTRACT

Risk management is a tool that has been used by project managers for several decades to help manage scope, cost, and schedule baselines and to improve the likelihood of project success. More recently, the risk management process has been applied to the management of companies and corporations under the designation of Enterprise Risk Management (ERM) where it is used to help ensure success in meeting strategic objectives. All of this focus on risk (related to events or conditions that may occur) is normally done without considering how issues (related to events or conditions that will or has occurred) may impact the allocation of resources required to address risks, and perhaps more importantly, how resources required to support normal work scope may be impacted.

This paper suggests the use of an integrated risk and issue management process, where risks and issues are managed concurrently using similar but separate and distinct processes. The benefit of using an integrated process is the organization and centralization of data related to risks and issues that becomes available for decision makers to use in prioritizing and allocating limited resources between performing normal work, addressing risks, or resolving issues. Applying integrated risk and issue management to any activity will lead to better decisions, whether the activity is personal, project, program, or enterprise.

INTRODUCTION

Risk management (RM) has been one of the staple processes used to improve performance of projects and programs for over two decades, its most prominent proponent in the U.S. being the Project Management Institute (PMI). Chapter 11 in *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*¹ has been providing risk management guidance to project and program managers around the globe over the years through the various editions of the *PMBOK Guide*. More recently, the principles of risk management have been applied on a broader scope for entities with longer term goals and objectives than limited-life projects and programs. The principles of risk management have been expanded to include activities that support the successful management of companies and corporations under the designation of Enterprise Risk Management (ERM). Probably the most visible proponent of ERM in the U.S. is The Committee of Sponsoring Organizations of the Treadway Commission (COSO), with the issuance of their *Enterprise Risk Management – Integrated Framework* in September, 2004² and the recent issuance for public comment of a draft *Enterprise Risk Management – Aligning Risk with Strategy and Performance* in June, 2016³ that will be replacing the earlier integrated framework document.

An ERM Workshop was held at the National Nuclear Security Administration (NNSA) Kansas City Plant (KCP) on November 8, 2012 with participants from each of the eight Nuclear Security Enterprise (NSE) sites. During that meeting, Success Staging

International, LLC (SSI) proposed the 'next generation' of ERM, designated ERM+, that called for integrated management of risks and issues at the NSE level. This proposal was later documented by SSI in their *Enterprise Risk Management Framework for the Nuclear Security Enterprise*.⁴ While this proposal was never adopted by the NNSA, the wisdom of including risk management and issue management together in one guidance document was recognized by the Department of Defense (DoD) when they published *Department of Defense, Risk, Issue, and Opportunity Management Guide for Defense Acquisition Programs*⁵ in June, 2015. However, the new DoD guide did not call for integrated risk and issue management, which is the subject of this whitepaper.

DESCRIPTION

Before proceeding it is important to define a few terms used throughout this paper that may have different meanings outside the realm of risk and issue management. Specifically, what is meant by risk and issue?

- *Risk* – Event or condition with uncertainty that may have either detrimental (threat) or beneficial (opportunity) impacts on one or more objectives
- *Issue* – Event or condition with certainty that will have either detrimental or beneficial impacts on one or more objectives

These definitions, while not verbatim from any specific reference, are universal enough to be differentiated for the purposes of this paper. Note that the definition for risk encompasses both threats (negative outcomes) and opportunities (positive outcomes) as promulgated by the PMI in their *PMBOK Guide*,¹ and that the primary difference between a risk and an issue is the uncertainty of the event or condition. For a risk, the likelihood of occurrence is less than 100%, whereas the likelihood of occurrence for an issue is equal to 100%, meaning the issue either has or will occur, while the risk may or may not occur. As we will see later, both can be managed in a similar manner which facilitates an integrated approach for risk and issue management. This leads to our final definition of integrated risk and issue management:

- *Integrated Risk & Issue Management* – The concurrent management of risks and issues using similar but separate and distinct processes

Why Integrate?

Table 1 provides a depiction of the most compelling reason to integrate the management of risks and issues—to determine where to allocate limited resources—and this reason is based upon the premise that the primary purpose for risk and issue management is to facilitate decision-making. Even though risk and issue management processes are normally very qualitative, decision-making will depend upon 'data' that are generated during the execution of the two processes.

Table 1. Determine Where to Allocate Limited Resources

WORK SCOPE	CHANGE DRIVERS			
	ISSUES		RISKS	
	Events/conditions that <u>must</u> be addressed		Events/conditions that <u>should</u> be addressed	
Preferably: <ul style="list-style-type: none"> • Planned • Resource-loaded • Requirements-based 	- Impact (when occurs)	+ Impact (when occurs)	Threats - Impacts (if occurs)	Opportunities + Impacts (if realized)

Referring to Table 1, assume that Work Scope represents what must be accomplished, whether it be at an individual or corporate level, and that ideally this work scope has been planned, resource-loaded, and is requirements-based. Based on experience, things rarely go exactly as planned, but instead they are affected by what we denote here as Change Drivers. These Change Drivers are a combination of Issues and Risks, where typically issues must be addressed and risks should be addressed. Note also that issues will have negative or positive impacts while risks may have negative or positive impacts, based upon the certainty or uncertainty, respectively, of the issue or risk event/condition.

A Basic Risk Management (RM) Process (Figure 1) and a Basic Issue Management (IM) Process (Figure 2) are very similar in that they have essentially the same process steps but with slightly different execution. The RM process considers what 'could' occur and how likely that occurrence is, while the IM process focuses on what 'has' or 'will' occur. Both processes also consider the impacts 'if' or 'when' the risk or issue event/condition occurs.

What is the activity trying to achieve? What is the risk tolerance?

What 'COULD' happen that would hinder or help? What 'COULD' impact the plan?

How likely to occur? How bad (or good) are the impacts? Which of these risks are most important?

What shall be done about it? What are the options? What is the best option? What are resource impacts of selected response? Is it worth doing?

Is selected response plan execution effective? Is it having the expected results? What are trends indicating? Any new risks or issues to consider?

At what point may the risk be closed?

Who needs to be informed throughout the process?

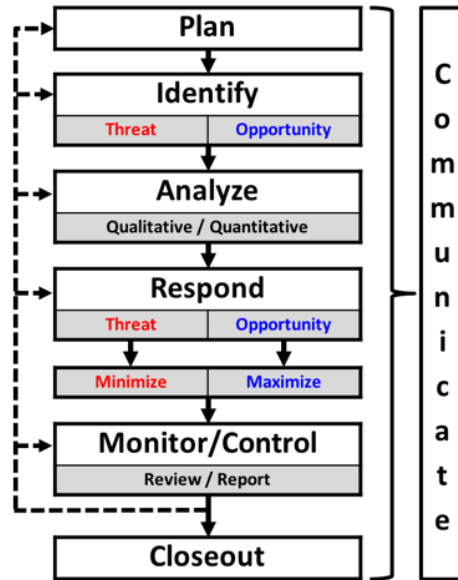


Figure 1. Basic Risk Management Process

What is the activity trying to achieve?

What 'HAS' happened or 'WILL' happen that would hinder or help? What 'HAS' or 'WILL' impact the plan?

When 'DID' it or when 'WILL' it occur? How bad (or good) are the impacts? Which of these issues are most important?

What shall be done about it? What are the options? What is the best option? What are resource impacts of selected response? Is it worth doing?

Is selected response plan execution effective? Is it having the expected results? What are trends indicating? Any new risks or issues to consider?

At what point may the issue be closed?

Who needs to be informed throughout the process?

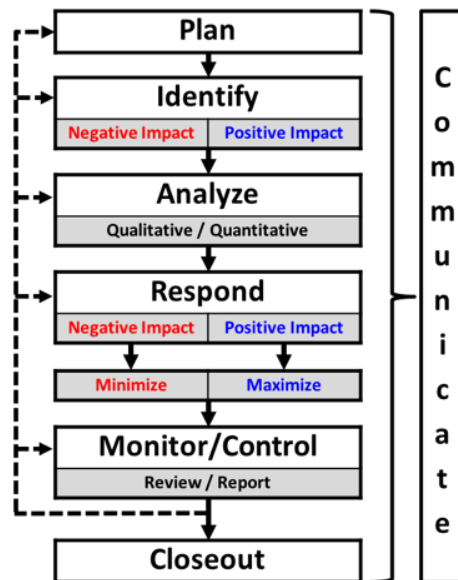


Figure 2. Basic Issue Management Process

More importantly, both processes include a Respond process step where options are considered for what should be done to address the risk or issue and estimates are developed for what resources (typically time and money) are required to execute selected response plans. Typically, these resource requirements are above and beyond those that have already been allocated to the existing work scope, so decisions must be made on how to either reallocate existing resources or obtain

additional resources, if that is an option. At this point the question becomes how to prioritize allocation of resources to address work scope, issues, and risks.

Prioritization

Prioritization of issues and risks is normally accomplished during the Analyze step of each process, where identified risks or issues are evaluated against criteria developed for Likelihood and Impact (for risks) or Urgency and Impact (for issues). These criteria, especially the Impact criteria, are normally developed based upon what is important for the activity for which risks and issues are being identified. Impact criteria developed for a specific project would likely be significantly different from the impact criteria developed for an enterprise. Regardless, the process is the same.

Figure 3 below shows a typical risk and issue qualitative analysis where risks or issues are judged against five levels of Impact criteria and against five levels of Likelihood or Urgency criteria specific for risks or issues, respectively. The judged level of Impact combined with the judged level of Likelihood or Urgency for each risk or issue, respectively, results in a grading of Low, Medium or High as plotted on the appropriate grading matrix. As may be seen in the grading matrixes shown in Figure 3, there are varying degrees of Low, Medium, or High within these three levels that may be used for further prioritization.

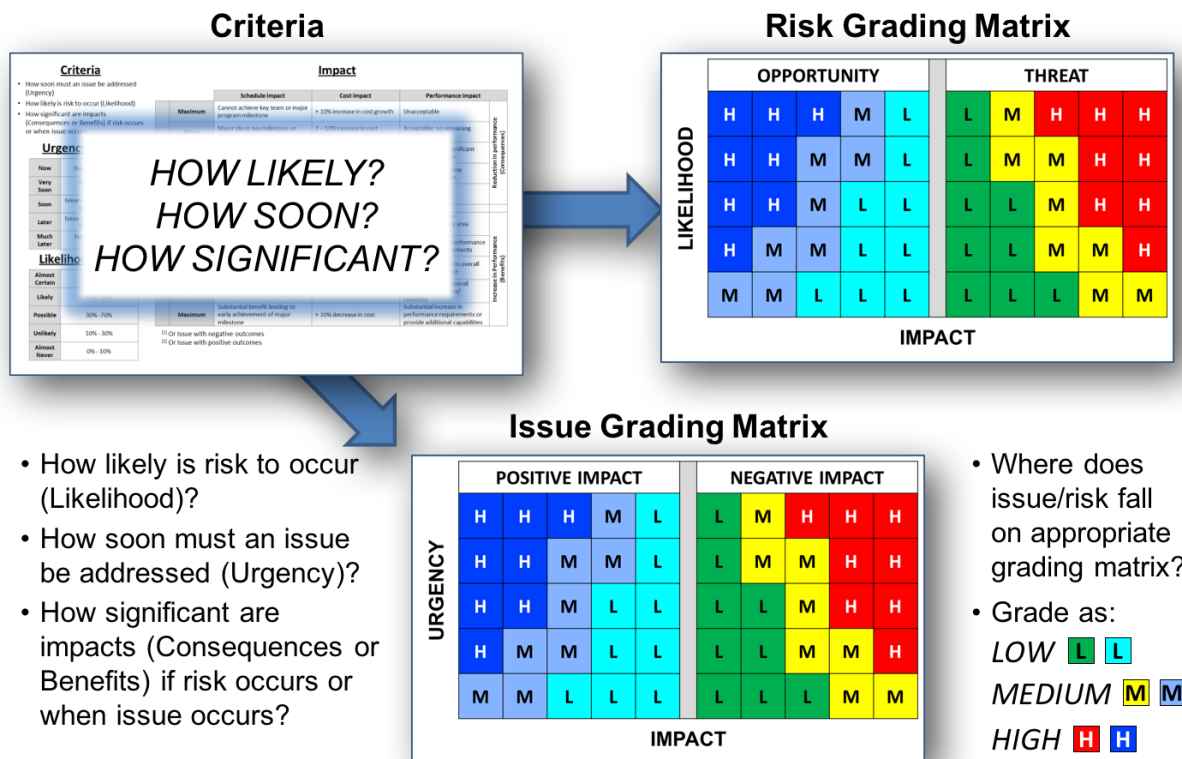


Figure 3. Risk & Issue Qualitative Analysis

Table 2 shows an example of how prioritizing issues and risks alongside work scope activities could be used to make decisions on allocating resources to all three elements. All of these elements require resources—for executing work scope activities or executing issue or risk response strategies—that must be considered in allocating available resources. This example shows how the decision was made to ‘draw the line’ at the break between the High and Medium levels for issues and risks, which meant that work scope activities had to be limited to Activities 1 through 14.

Table 2. Resource Allocation A

Work Scope	Change Drivers			
	Issues		Risks	
Activities	- Impact	+ Impact	Threat	Opportunity
Activity 1	Issue 3	Issue 4	Risk 4	Risk 12
Activity 2	Issue 6	Issue 13	Risk 10	Risk 8
Activity 3	Issue 2	Issue 7	Risk 6	Risk 3
Activity 4	Issue 8		Risk 15	Risk 18
Activity 5	Issue 5		Risk 1	Risk 19
Activity 6	Issue 1		Risk 7	
Activity 7	Issue 12		Risk 13	
Activity 8	Issue 11		Risk 2	
Activity 9	Issue 9		Risk 9	
Activity 10	Issue 10		Risk 5	
Activity 11			Risk 11	
Activity 12			Risk 17	
Activity 13			Risk 14	
Activity 14			Risk 16	
Activity 15			Risk 20	

Table 3 shows a different allocation of resources for the same elements shown in Table 2. In this case the decision was made to resource not only High, but selected Medium issues and risks, which meant that resources were no longer available to execute work scope Activities 13 and 14.

Table 3. Resource Allocation B

Work Scope	Change Drivers			
	Issues		Risks	
Activities	- Impact	+ Impact	Threat	Opportunity
Activity 1	Issue 3	Issue 4	Risk 4	Risk 12
Activity 2	Issue 6	Issue 13	Risk 10	Risk 8
Activity 3	Issue 2	Issue 7	Risk 6	Risk 3
Activity 4	Issue 8		Risk 15	Risk 18
Activity 5	Issue 5		Risk 1	Risk 19
Activity 6	Issue 1		Risk 7	
Activity 7	Issue 12		Risk 13	
Activity 8	Issue 11		Risk 2	
Activity 9	Issue 9		Risk 9	
Activity 10	Issue 10		Risk 5	
Activity 11			Risk 11	
Activity 12			Risk 17	
Activity 13			Risk 14	
Activity 14			Risk 16	
Activity 15			Risk 20	

Obviously there are many reasons for selecting what should be resourced—e.g., importance of work scope activity, value of resolving issue or risk, how soon the issue/risk will/may occur—which will not be addressed in this paper. However, the important thing is having all of this information available for the decision-maker to consider and use in justifying resource allocation decisions.

CONCLUSIONS

The examples provided in this paper reflect the integration of risk and issue management processes as they may be applied at a project, program, or even enterprise level. However, the same concepts apply at a more personal, individual level. Each of us has 'things' that must get done for which issues and risks must be considered. We all use the basic risk or issue management processes presented in this paper on a daily basis without being conscious of 'following a process' that provides insights for making decisions. Applying integrated risk and issue management to any activity will lead to better decisions, whether the activity is personal, project, program, or enterprise.

REFERENCES

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