



Risk Management & the PMBOK

John H. Dittmer, VI
PMP, CISSP-ISSMP

Disclaimer

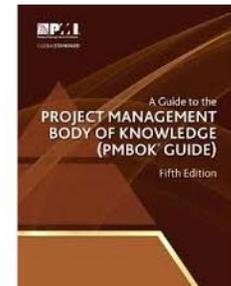
- Please note that the views expressed in this presentation are the presenter's only.
- These views do not represent any official position by Booz Allen Hamilton or its clients, including any governmental agencies.

Bottom Line Up Front (BLUF)

- Project Managers need to recognize the following:
 - All projects entail a certain degree of risk
 - Risk Management Plans needs to be incorporated in Project Plans

Introduction to Risk

- Chapter 11 of the 5th Edition of the PMBOK® Guide deals with the knowledge area of Risk Management, a subject of increasing importance for project managers.
- Before I discuss in detail the six project management processes involved in this knowledge area, I wanted to take some time out to discuss some of the basic concepts of risk management that are discussed at the beginning of this chapter.

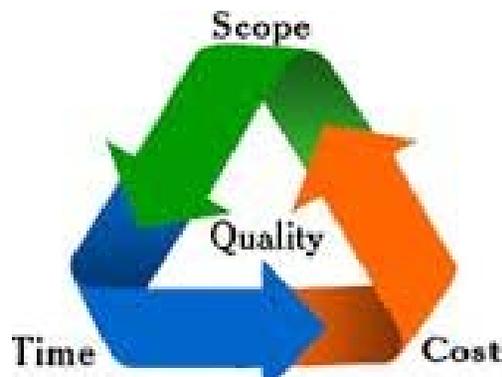


ISO's Definition of Risk

- The [ISO 31000](#) (2009) / ISO Guide 73:2002 definition of risk is the 'effect of uncertainty on objectives'. In this definition, uncertainties include events (which may or may not happen) and uncertainties caused by ambiguity or a lack of information.
- It also includes both negative and positive impacts on objectives.
- Many definitions of risk exist in common usage, however this definition was developed by an international committee representing over 30 countries and is based on the input of several thousand subject matter experts.

PMI's Definition of Risk

- According to the 5th Edition of the PMBOK® Guide, project risk is “an uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives such as scope, schedule, cost, or quality.”



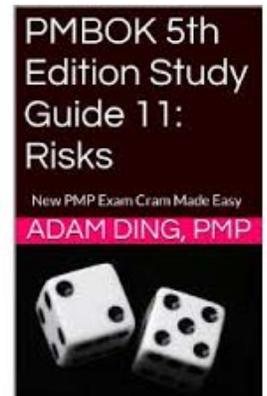
Keys to the PMI Definition

- So, the words uncertain event are key to the definition.
- Another set of key words is “positive or negative.”
 - Uncertain events can have a positive or negative impact on the project objectives.
 - This technical use of the word “risk” differs from the ordinary, everyday definition of risk which tends to mean only those events which have a negative impact.
 - PMI recognizes that there is some difference between the technical definition and the ordinary definition of the word “risk”, because in the 5th Edition of the PMBOK® Guide there are a lot of instances where they will use “reduce risks and enhance opportunities”, the opportunities, of course, being the events which impact the project positively and the risks being those which impact it negatively.
 - They are conceding the everyday usage of the word “risk” in order to emphasize the point being made, that you have to reduce the impact or likelihood of negative events and enhance those of positive events if you are truly doing risk management.
- The third key part of the definition is the phrase “if it occurs”. If a risk that has been forecast actually occurs, it is no longer a risk, it is an issue. We will discuss a way to quantify it later.

Definition of Risk Management

- **Risk Management** is the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities.
- **Project Risk Management** is an important aspect of project management. Risk management is one of the ten knowledge areas defined in PMBOK. Project risk can be defined as an unforeseen event or activity that can impact the project's progress, result or outcome in a positive or negative way. A risk can be assessed using two factors: impact and probability.

- If the probability is 1, it is an issue. This means that risk is already materialized. If the probability is zero, this means that risk will not happen and should be removed from the risk register.



Causes of Risk

- The causes of risk can come from various sources, such as:
 - A requirement, such as legal requirement imposed by laws or regulations
 - An assumption, such as the conditions in the market (which may change)
 - A constraint, such as number of personnel available to work on any given phase of the project, or
 - A condition, such as the maturity of the organization's project management practices

Known Versus Unknown Risks

- Known risks are those which can be identified and analyzed beforehand in such a way as to be able to a) reduce the likelihood of their occurrence, or b) plan a risk response to reduce their impact in the event that they occur.
 - These risk responses, as we will shall say, are paid for out of a contingency reserve which is normally under control of the project manager.
- An unknown risk, on the other hand, are those that are not identified beforehand.
 - If they are not identified, they cannot be analyzed, and of course cannot be managed proactively.
 - If these kind of risks occur, the response is called a workaround and is paid for out of a management reserve which is normally not under control of the project manager, but rather of senior management (hence the name “management reserve”).

Risk Attitude

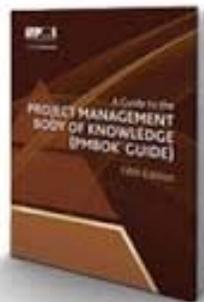
- Remember that risk has two components, the uncertainty of an event, which is measured by its probability, and its potential impact on the project.
 - Amount of uncertainty that an organization can accept is measured by its risk appetite
 - Amount of impact the organization can accept is measured by its risk tolerance.
- The combination of the uncertainty and the probability can give you the amount that needs to be put aside to handle that risk, sometimes referred to as the reserve, and the amount of reserve that the organization can accept is measured by its risk threshold. It is this latter concept which will determinate what kind of risk response the organization may take.

Risk Response

- There are four possible responses to a risk, depending on whether there is low or high probability of its occurring, and whether the financial impact if it does occurs is either high or low.
 - **Avoid:** For high probability, high impact events
 - **Transfer (such as purchasing insurance):** For low probability, high impact events
 - **Mitigate:** For high probability, low impact events
 - **Accept:** For low probability, low impact events
- These are some of the concepts that are used when planning risk management on a project.

Introduction to the PMBOK (Part 1)

- To cure the disconnect between multiple project management models vying for an organization's attention in 1981 the Project Management Institute (PMI) commissioned a standard by which organizations could standardize on how to manage their projects, taking advantage of their industry neutral experience in the area.
- Whether the organization was public or private, small or large, and regardless of the industry sector the organization could utilize a common standard of practice for all of the projects in their portfolio.



Introduction to the PMBOK (Part 2)

- In their own words, the PMI states that, The "Project Management Body of Knowledge" (PMBOK®) is an inclusive term that describes the sum of knowledge within the profession of project management. This full body of knowledge includes knowledge of proven, traditional practices, which are widely applied, as well as knowledge of innovative and advanced practices, which may have seen more limited use."

Introduction to the PMBOK (Part 3)

- Therefore by establishing one common body of knowledge an organization can rely upon proven industry standards for project management and focus their resources on implementing a project (in this case an audit), rather than reinventing a process that has proven itself to be effective.
- Relying on industry standards this again allows organizations to focus on their core business objectives, rather than be distracted by the development of yet another independent standard.

Introduction to the PMBOK (Part 4)

- PMBOK also recognizes that there are ten knowledge areas that must also be considered as a part of this project development process. These nine knowledge areas influence the project's direction and guides the decision making process for all key stakeholders involved in the project. The ten knowledge areas are:
 - Project Integration Management
 - Project Scope Management
 - Project Time Management
 - Project Cost Management
 - Project Quality Management
 - Project Human Resource Management
 - Project Communications Management
 - Project Risk Management
 - Project Procurement Management
 - Project Stakeholders Management (**NEW! Added in 5th edition**)



Introduction to the PMBOK (Part 5)

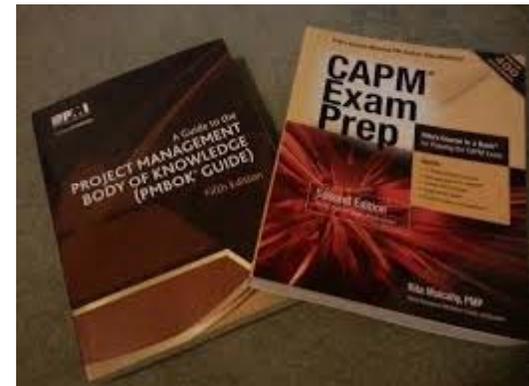
- Each of the ten knowledge areas contains the processes that need to be accomplished within its discipline in order to achieve an effective project management program. Each of these processes also falls into one of the five basic process groups, creating a matrix structure such that every process can be related to one knowledge area and one process group.
- The *PMBOK Guide* is meant to offer a general guide to manage most projects most of the time. There are currently two extensions to the *PMBOK Guide*: the *Construction Extension to the PMBOK Guide* applies to construction projects, while the *Government Extension to the PMBOK Guide* applies to government projects.

Summary of Major Changes with the PMBOK 5th Edition

- The content from Section 3 “*The Standard for Project Management of a Project*” has been moved to Annex A1. The new Section 3 addresses project management processes and Process Groups.
- The addition of a new Knowledge Area - Project Stakeholder Management - increases the Knowledge Areas from nine to ten.
- Each major knowledge area has been reinforced in terms of their planning processes.

PMBOK & Credential Exams

- ***How will the new PMBOK® affect exams?***
- *The PMP® and CAPM® exams will be updated to reflect changes in the PMBOK 5th edition.*
- ***When will PMI® update the credential exams?***
 - *PMP®: 31 July 2013*
 - *CAPM®: 01 July 2013*
 - *PMI-SP®: 31 August 2013*
 - *PMI-RMP®: 31 August 2013*
 - *PgMP®: 31 July 2013*



One Method to Quantify Risk

- The **annualized loss expectancy (ALE)** is the product of the annual rate of occurrence (ARO) and the single loss expectancy (SLE). It is mathematically expressed as:
 - Suppose that an asset is valued at \$100,000, and the Exposure Factor (EF) for this asset is 25%. The single loss expectancy (SLE) then, is $25\% * \$100,000$, or \$25,000.
- The annualized loss expectancy is the product of the annual rate of occurrence (ARO) and the single loss expectancy.
ALE = ARO * SLE
 - For an annual rate of occurrence of one, the annualized loss expectancy is $1 * \$25,000$, or \$25,000.
- For an ARO of three, the equation is: $ALE = 3 * \$25,000$.
Therefore: $ALE = \$75,000$

Questions?

Thank You!
John Dittmer

Dittmer_John@bah.com

