Today's Changing Risk Management Landscape: Facing the Challenge

Jack Stein
Member, PMI-INCOSE-MIT Strategic Alliance Team
Co-Chair, INCOSE Risk Management Working Group
Presentation Overview

• Introduction
• Our Changing Risk Management Landscape
• The Challenge
• Facing the Challenge / Championing Change
• Q&A
Presentation Overview

• Introduction
• Our Changing Risk Management Landscape
• The Challenge
• Facing the Challenge / Championing Change
• Q&A
Introduction

Our Strategic Alliance
• **The new mindset recognizes that there cannot be two separate views of the stakeholder problem, but rather a single one that incorporates all elements of the program.**

• **This mindset requires that practitioners have the attitude and desire to engage in the “shared space.”**

Source: Robataille, Thomas and Langley, *Toward a New Mindset*, 2011
“Each discipline would also benefit from an understanding of the other’s discipline. It is imperative that each group have a minor focus in the processes of the other’s — in much the same way many university students in the United States have both major and minor areas of study.”

Source: Robataille, Thomas and Langley, Toward a New Mindset, 2011
Presentation Overview

• Introduction
• Our Changing Risk Management Landscape
• The Challenge
• Facing the Challenge / Championing Change
• Q&A
Presentation Overview

- Introduction
- Our Changing Risk Management Landscape
- The Challenge
- Facing the Challenge / Championing Change
- Q&A
Risk Management Landscape
(Three Trends)

1. Project Complexity – *Increasing*

2. Context Environment – *Changing more rapidly*

3. Risk Mgmt Practices – *Expanding & Diversifying*
Risk Management Landscape (Three Trends)

1. Project Complexity – *Increasing*

2. Context Environment – *Changing more rapidly*

3. Risk Mgmt Practices – *Expanding & Diversifying*
Increasing Project Complexity
Increasing Project Complexity

• Complexity of Technology
  • Tech. used by the project / Tech. delivered by the project

• People and Teams
  • Cultural diversity / More specialized knowledge/skills

• Work Task Complexity
  • More interrelationships / Collaboration between diverse specialties / Globalization
Risk Management Landscape 
*(Three Trends)*

1. **Project Complexity** – *Increasing*
2. **Context Environment** – *Changing more rapidly*
3. **Risk Mgmt Practices** – *Expanding & Diversifying*
Risk Management Landscape
(Three Trends)

1. Project Complexity – Increasing

2. Context Environment – Changing more rapidly

3. Risk Mgmt Practices – Expanding & Diversifying
Fast Changing Context Environment
Fast Changing Context Environment
Fast Changing Context Environment

• Societal and Political
  • Regulations / Work force / Political and economic stability

• Industry / Business
  • Technological advancement / Mergers and acquisitions / Automation / Supply chain stability / Corporate reorganizations

• Markets and Customer Satisfaction/Sales
  • Global competition / Rapid innovation / e-Commerce
Risk Management Landscape (Three Trends)

1. Project Complexity – *Increasing*
2. Context Environment – *Changing more rapidly*
3. Risk Mgmt Practices – *Expanding & Diversifying*
Risk Management Landscape

(Three Trends)

1. Project Complexity – *Increasing*

2. Context Environment – *Changing more rapidly*

3. Risk Mgmt Practices – *Expanding & Diversifying*
Today's Changing Risk Management Landscape: Facing the Challenge

Expanding Diversifying Practices
Risk Management (RM) Practices
(Expansion & Diversification)

Expanding Scope (per ISO 31000, ISO 9001)

• **RM Process** → RM Process + RM Framework + RM Principles

• **Project focus** → Project + Context + Integration with all processes

• **Negative effects** → All effects (positive and negative)
Risk Management (RM) Practices
(Expansion & Diversification)

Diversification (Specialization)

• Enterprise RM / Cybersecurity RM / Safety RM / Financial RM / Etc.

• Industry-specific RM-related “standards” (aircraft, medical devices, space systems, automotive safety systems, etc., etc., etc.)

• On the horizon … RM and safety standards for autonomous vehicles, nanotechnologies, bionics, genetic engineering, etc. etc. etc …
Our Changing Risk Management Landscape

1. Increasing Project Complexity
2. Faster Changing (Dynamic) Context Environment
Presentation Overview

• Introduction
• Our Changing Risk Management Landscape
• The Challenge
• Facing the Challenge / Championing Change
• Q&A
Presentation Overview

• Introduction
• Our Changing Risk Management Landscape
  • The Challenge
• Facing the Challenge / Championing Change
• Q&A
The Challenge

- More complexity
- Faster change
- Breadth and depth RM practices are increasing and becoming more intricate

- More unknowns
- Less stability
- More to know
- More to learn
- More to manage
The Challenge

Risk

The effect of uncertainty on objectives
The Challenge

Higher technological complexity → More uncertainty
+ Higher work task complexity → More uncertainty
+ Faster external change → More uncertainty
+ More diversity/specialization in teams → Higher communication risk
+ More specialization in RM practices → Higher communication risk
+ Expanded scope of RM → More risks to manage

TOTAL OF ALL THE ABOVE = Higher overall project risk and more RM work to do
The Challenge

• Higher overall project risk + More RM work to do

• And, by the way …..
  • Do this project in less time than the last one
  • Do it with less resources
  • Deliver a better product than before (even though it is more complex and more difficult to deliver)
The Challenge

A Possible Strategy

• *Work smarter … not harder*
• *Think differently … have an open mind*
• *Do things differently … i.e., CHANGE*
• *Be a Champion of CHANGE*
Presentation Overview

• Introduction
• Our Changing Risk Management Landscape
• The Challenge
• Facing the Challenge / Championing Change
• Q&A
Presentation Overview

• Introduction
• Our Changing Risk Management Landscape
• The Challenge
• Facing the Challenge / Championing Change
• Q&A
Facing the Challenge / Championing Change

• Systems Thinking (Complexity Management)
• Risk Management Practices
• PM-SE Integration
Facing the Challenge / Championing Change

- Systems Thinking (Complexity Management)
- Risk Management Practices
- PM-SE Integration
System

A set (network, grouping, assemblage) of defined interdependent components (elements, constituent parts, subsystems) that work (function, operate) together (as a whole) to accomplish the aim (purpose, goals, objectives) of the system.
Facing the Challenge / Championing Change

System

• a **network of components**
• that **operate together**
• to **accomplish the purpose of the system**
Systems Thinking

A holistic approach to analysis that focuses on the way that a system's constituent parts interrelate and how systems work over time and within the context of larger systems.

“Systems thinking is an emerging way of looking at, and better understanding, complex issues”
Seek to **Simplify Using Systems Thinking**

**Example:**
The largest, most complex, and challenging project ever undertaken was accurately and effectively described on **ONE PAGE**.
Happy Anniversary!
(1969 – 2019)
Seek to **Simplify Using Systems Thinking**

**Example:**

The largest, most complex, and challenging project ever undertaken was accurately and effectively described on **ONE PAGE**.
Example: Use of Heuristics that Simplify

For Conceptualization, Design, Effective Communication & Understanding, Shared Vision, and Successful Teamwork

Carefully define (and use) 1 and only 1 name for each “thing”

Combine (think of), at most, only 7 +/- 2 “things” at a time

Seek to Simplify Using Systems Thinking
Managing Complexity and High Uncertainty: Complicated bureaucratic management methods can add complexity, making things worse → Use Systems Thinking to Simplify

Facing the Challenge / Championing Change

• Systems Thinking (Complexity Management)
• Risk Management Practices
• PM-SE Integration
Facing the Challenge / Championing Change

• Systems Thinking (Complexity Management)
• Risk Management Practices
• PM-SE Integration
PMI Risk Management Professional (PMI-RMP)®

With your advanced skills in risk management, you perform a specialized function attuned to the needs of a project environment that is increasingly global, virtual and complex. The PMI Risk Management Professional (PMI-RMP)® highlights your ability to identify and assess project risks, mitigate threats and capitalize on opportunities. In this capacity, you enhance and protect the needs of your organization.
ISO 31000 – A Systems Approach to RM

- **RM Process** → RM Process + RM Framework + RM Principles

- **Project focus** → Project + Context + Integration with all processes

- **Negative effects** → All effects (positive and negative)
ISO 9001 – Quality Systems

ISO 9001:2015 “Quality Management System (QMS) – Requirements” advocates “risk-based thinking” as an a primary organization-wide mindset

Excerpts ……

6.1 Actions to address risks and opportunities

6.1.1 When planning for the quality management system, the organization shall consider the issues referred to in 4.1 and the requirements referred to in 4.2 and determine the risks and opportunities that need to be addressed to:

   a) give assurance that the quality management system can achieve its intended result(s);
   b) prevent, or reduce, undesired effects;
   c) achieve continual improvement.

6.1.2 The organization shall plan:

   a) actions to address these risks and opportunities …….. “
Myriad Risk Management Practices
(An Example Potential Strategy)

• Research the risk management and safety/security related standards, regulations, guidelines, and contractual requirements applicable to your project

• Establish stakeholder communications and commitment (policy and goals) regarding an overall “systems” approach to risk management

• Using ISO 31000, develop an integrated approach to risk management, creating a Framework for Risk Management if one does not already exist

• CAUTION: Pay very close attention to variation in the “language of risk” among project team members and other stakeholders! Carefully define (and consistently use) a centralized “risk glossary” for your project. Ambiguous and conflicting risk terminology can lead to catastrophic communication failure. If conflicting and confusing terminology cannot be eliminated, cross-reference and disambiguate!
Facing the Challenge / Championing Change

• Systems Thinking (Complexity Management)
• Risk Management Practices
• PM-SE Integration
Facing the Challenge / Championing Change

- Systems Thinking (Complexity Management)
- Risk Management Practices
- PM-SE Integration
Facing the Challenge / Championing Change

Our Strategic Alliance
(PM-SE Integration)
“Each discipline would also benefit from an understanding of the other’s discipline. It is imperative that each group have a minor focus in the processes of the other’s — in much the same way many university students in the United States have both major and minor areas of study.”
PMI-INCOSE-MIT Alliance Publications

Wiley Publications – PMI Member Discounts Through PMI Bookstore

- Integrating Program Management and Systems Engineering
  - Methods, Tools, and Organizational Systems for Improving Performance
  - $99 List - $74 PMI Members

- MEGA PROJECT MANAGEMENT
  - Lessons on Risk and Project Management from the Big Dig
  - $110 List - $88 PMI Members

Free Download – Winner of Shingo Prize Research Award

- The Guide to LEAN ENABLERS for MANAGING ENGINEERING PROGRAMS
- Free Download – MIT Library Dspace@MIT
  - https://dspace.mit.edu/handle/1721.1/70495
Presentation Overview

• Introduction
• Our Changing Risk Management Landscape
• The Challenge
• Facing the Challenge / Championing Change
• Q&A
Presentation Overview

• Introduction
• Our Changing Risk Management Landscape
• The Challenge
• Facing the Challenge / Championing Change
• Q&A
Thank You!

Q & A