

HIS in the SDP Chapter 4: Managing Risks



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Boehm

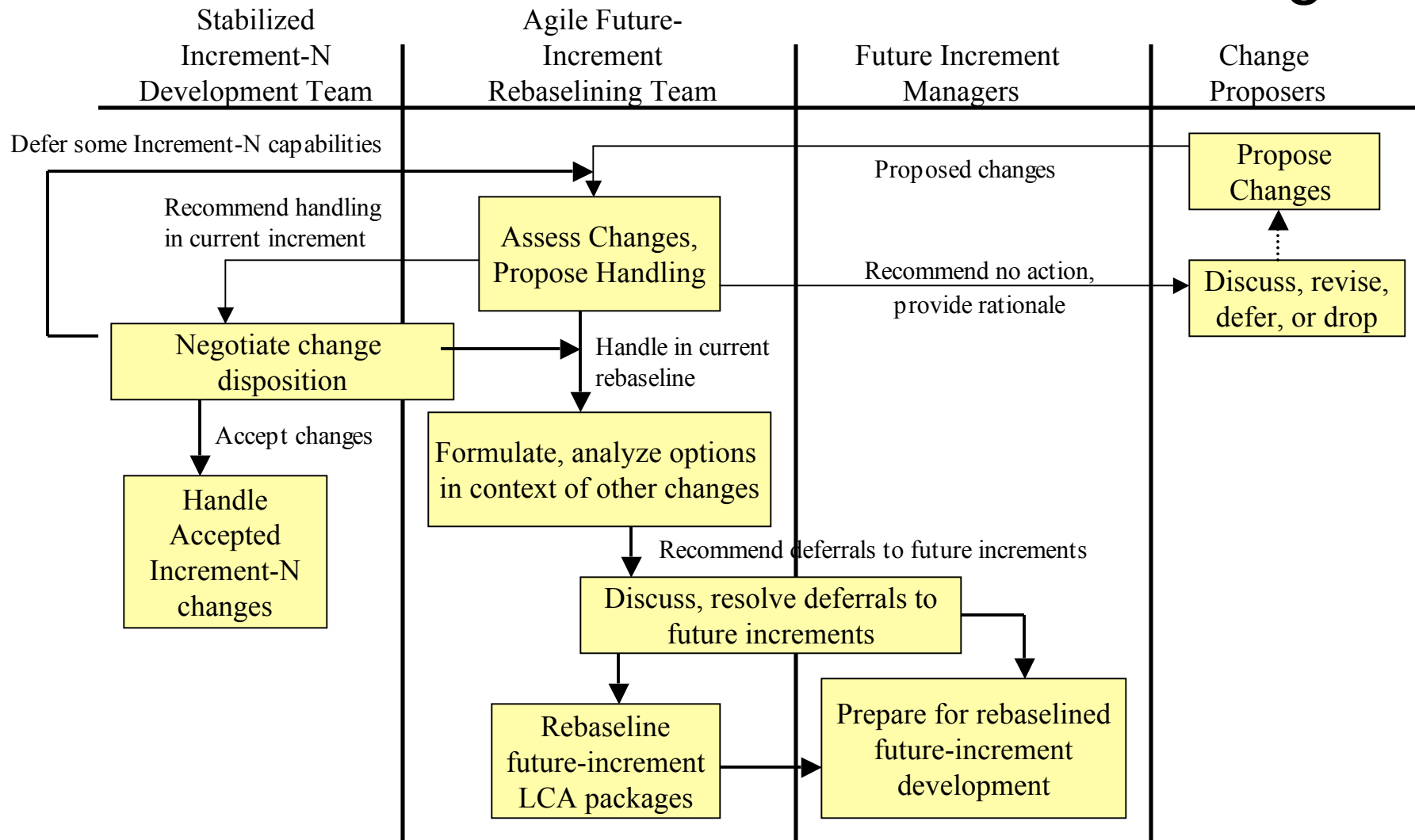
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Glossary

- ACR architecting commitment review
- COTS commercial off the shelf
- ICM incremental commitment model
- LCA life cycle architecture
- OODA loop by Boyd

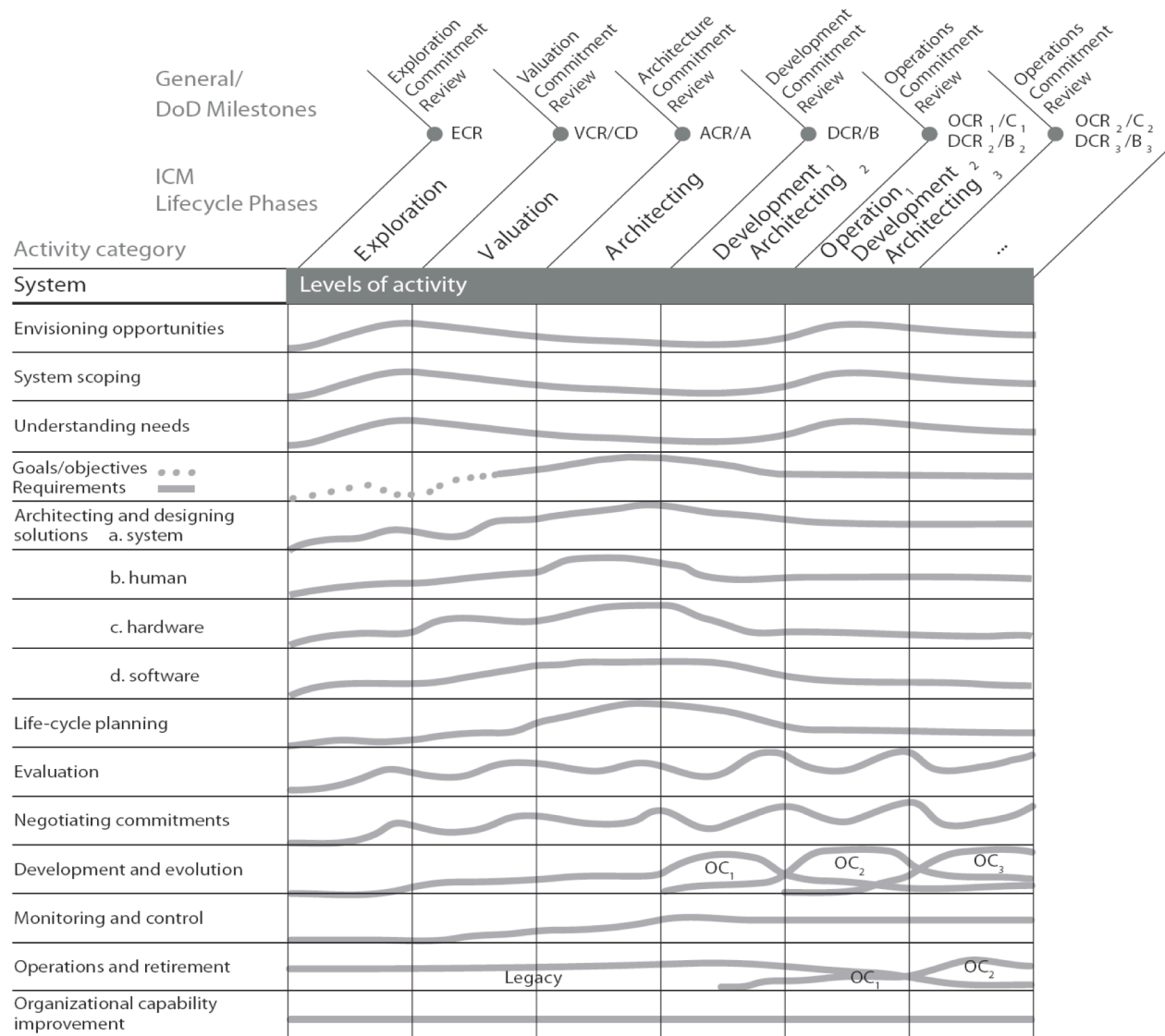


Agile Change Processing and Rebaselining





ICM HSI Levels of Activity for Complex Systems

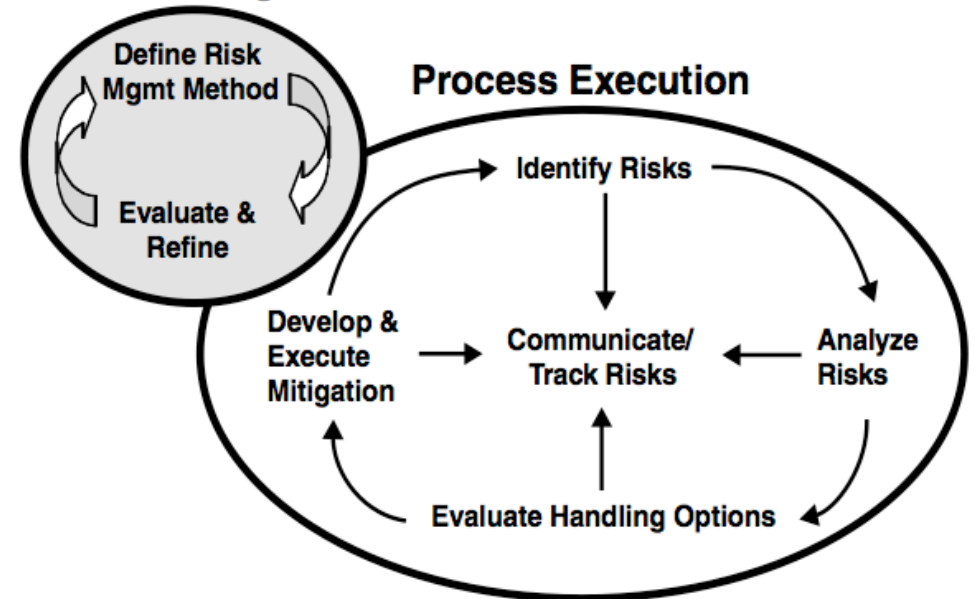


Managing Risks

- One of five principles of ICM
- Risk: determination of event likelihood (subjective or objective)
 - Stats on grad admissions - perhaps objective (60% come)
 - Likelihood of terrorism attack - probably subjective (might happen)
- And the impact if realized
- Risk is probability X consequences
- Opportunity is the inverse, and should be kept in mind through this process
- To focus on areas where risk handling can have the greatest impact

The Risk Management Process

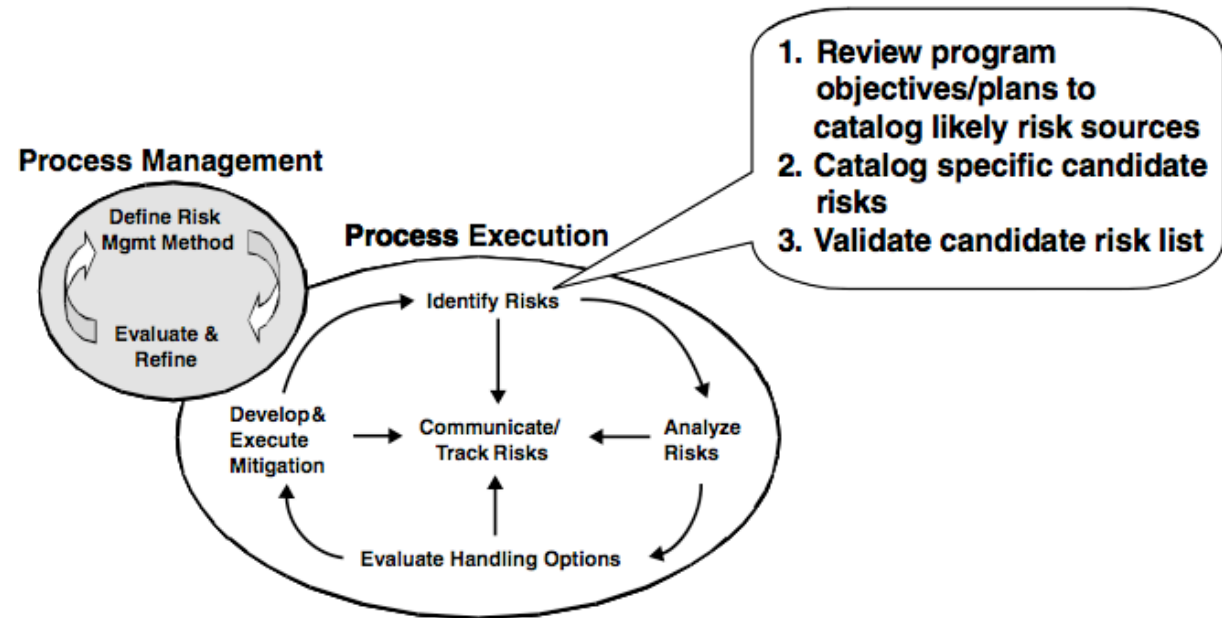
Process Management



Human-system Integration is an integral thread throughout process management & execution

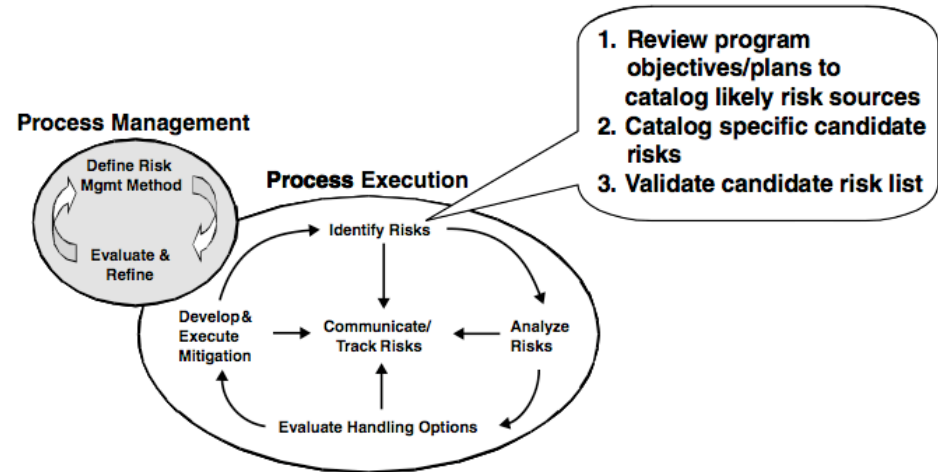
- Good practices for program management
 - Assumes a stakeholder analysis (e.g., business offer, proposal, specification)
 - Including HSI in this process
 - A program organization
 - Culture of openness

The Risk Management Process: Identification



- Risk identification not formalized, but
- Involve all stakeholders (e.g., users! Developers, HIS, trainers)
- Iterate risk identification until program completed
- Use nonadvocate technical experts to assist with risk identification
- Encourage identification and recording
- Set up process to afford consistent documentation

The Risk Management Process: Identification

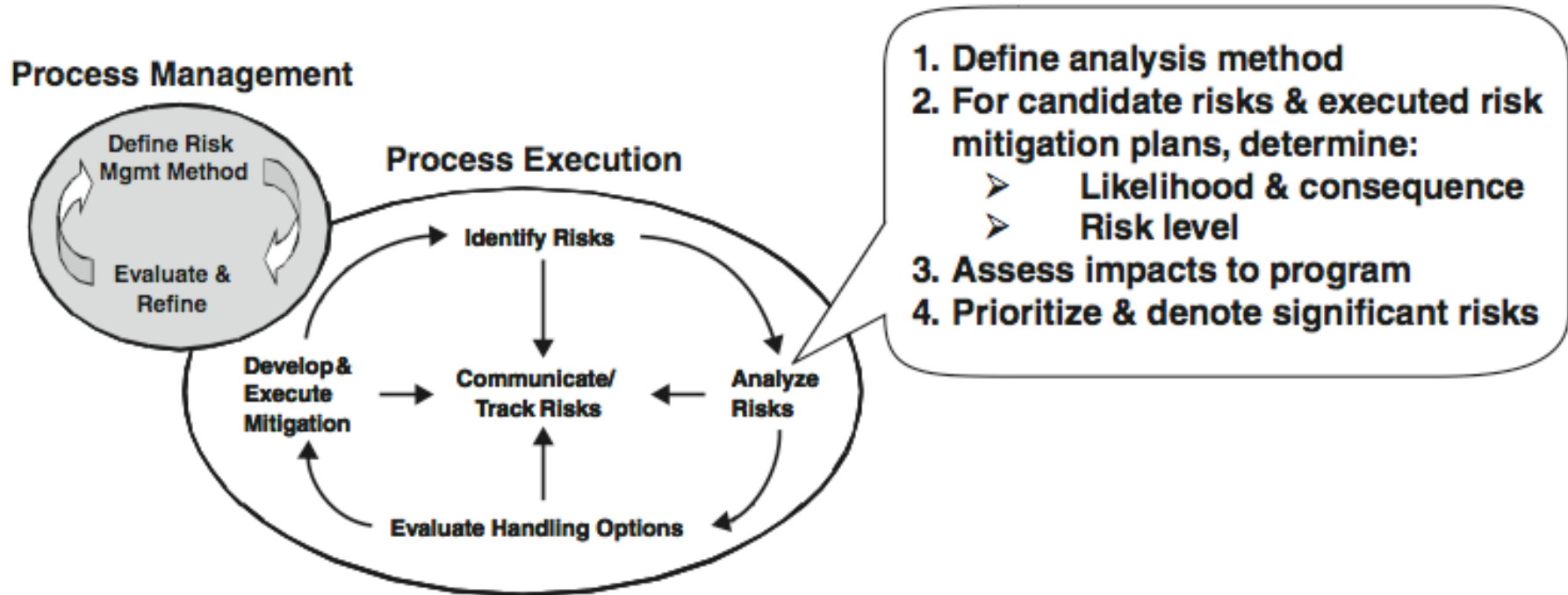


Example risks:

- Performance does not satisfy user requirements
- Performance does not match other stake holder requirements
- Mismatch of system to context (sand in tools)
- Ability to incorporate HSI to reduce risks including Wrong types of developers and HIS professionals

- Also see Booher and Minniger for long lists of risks that were realised, CMU tech report in Boehm and Hansen, and London ambulance disaster from *Set Phasers on stun*
- People see what they are trained to see

The Risk Management Process: Analyse

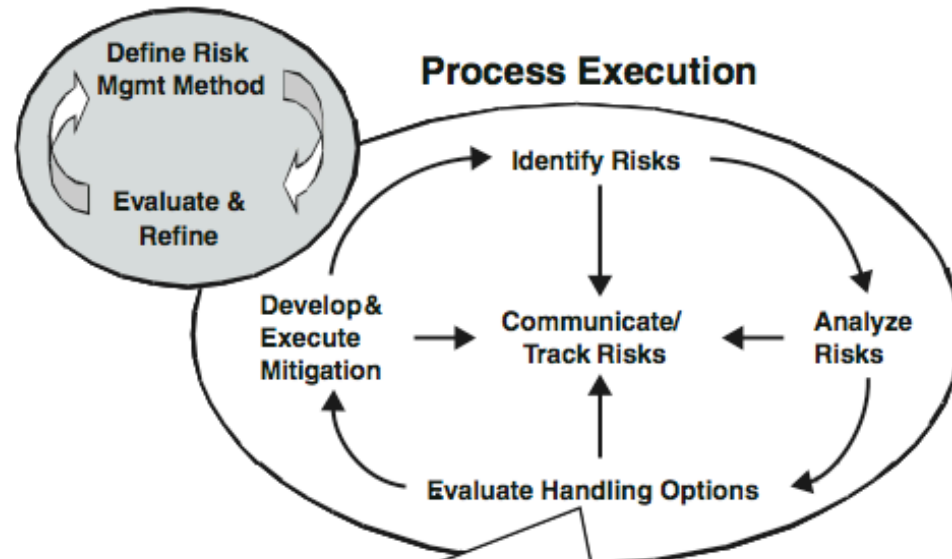


Comments:

- Communication of risks matters (see Rosling talk!)

The Risk Management Process: Handling Options

Process Management



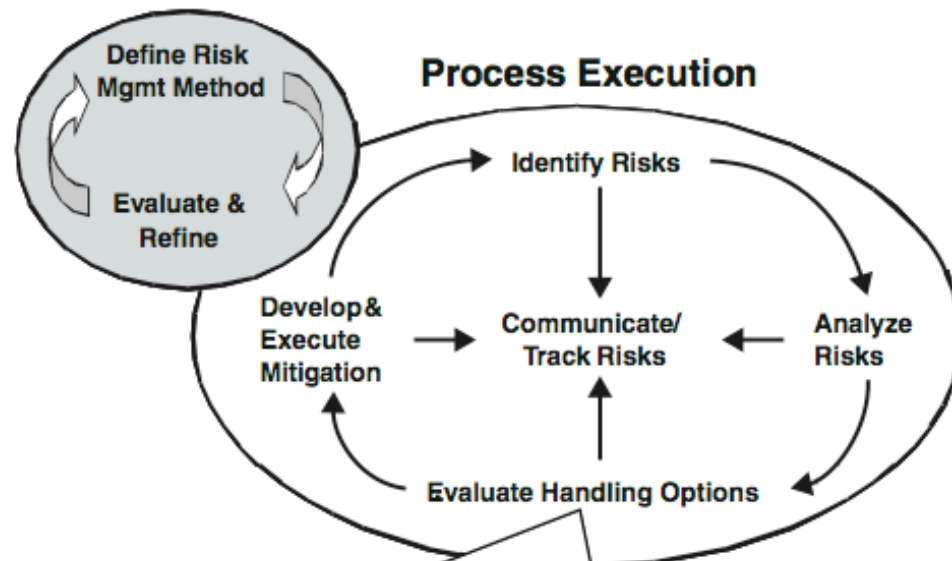
Comments:

- Dealing with large risks
- HSI has a set of tools for these options, more for avoid (know user and task), Assume (monitor), Mitigate (understand, modify)

- 1. Undertake for significant risks only**
- 2. Consider the following options in descending order:**
 - **Avoid the risk (e.g., delete a requirement)**
 - **Transfer the risk (e.g., reallocate a requirement)**
 - **Assume the risk (e.g., monitor & reassess)**
 - **Mitigate the risk (e.g., risk mitigation plan with fallback options)**

The Risk Management Process: Execute Handling

Process Management



Comments:

- These risks may interact
- Need to be monitored
- New ones will arise
- Need to be part of formal process, else, problems can occur
- Ritter's impression is that in normal progress, risk sizes decrease over time

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