

Part III: The Future: Scenarios, Conclusions, and Recommendations [of HSI Methods in System Development]



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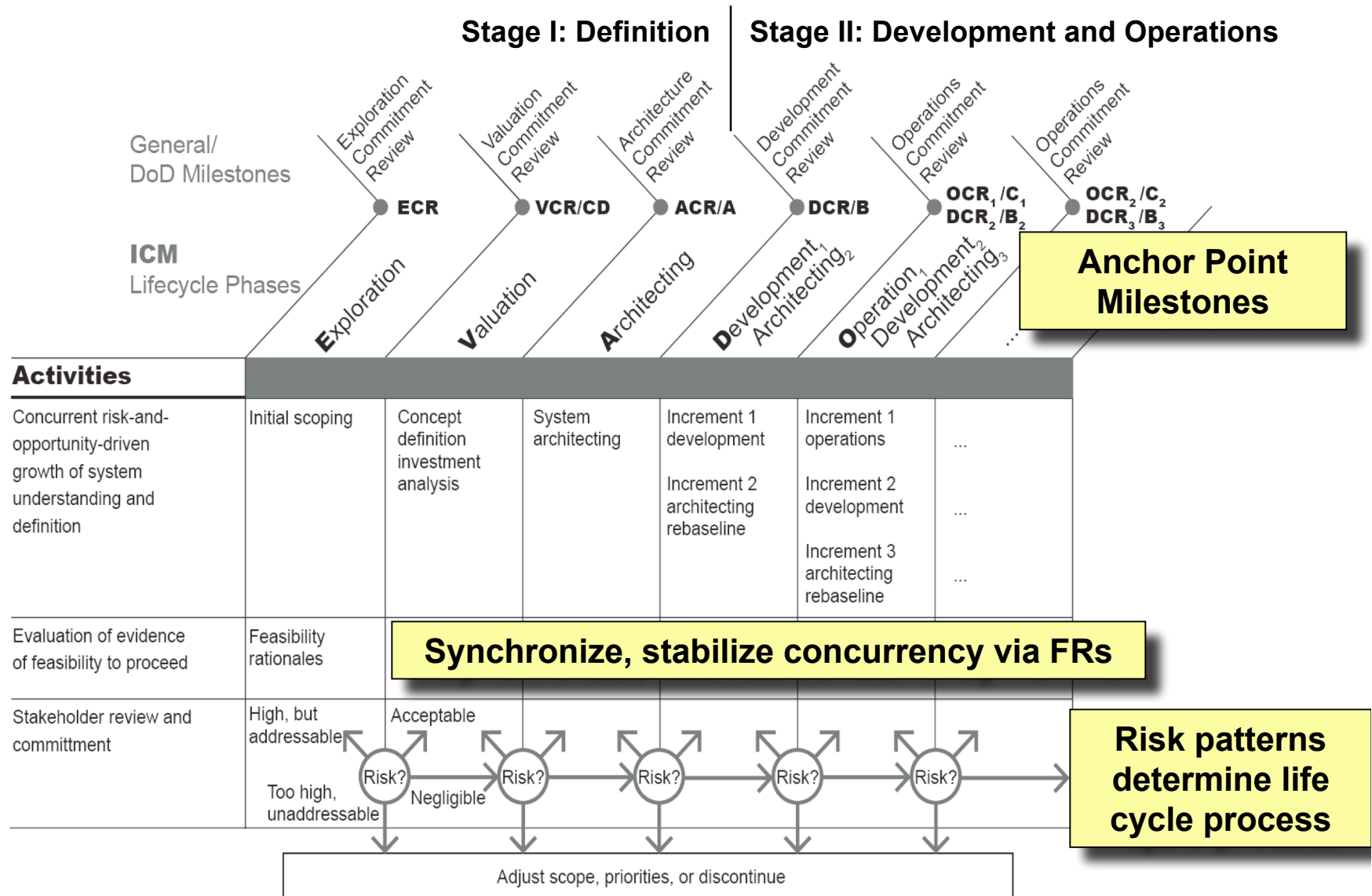
Glossary

- IPT Integrated Product Teams
- Mash-ups connecting tools and datasets together

Review of So Far

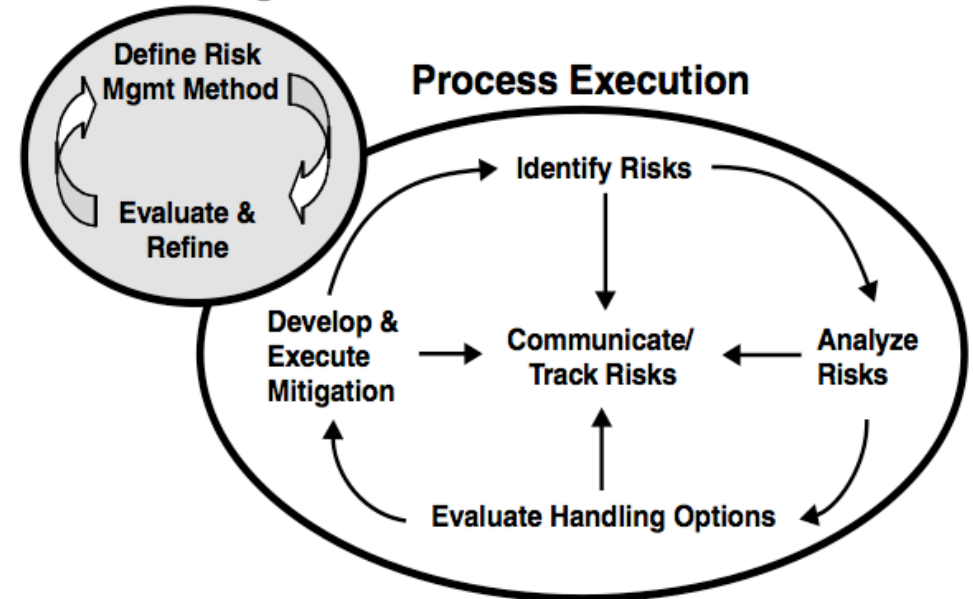
- Risk driven
- Incrementally growing
- Basis for agreement among stakeholders
- Covered methods, tools, and shared representations
- ✱ Noted gaps, and needed methodologies and tools

The Incremental Commitment Life Cycle Process: Overview



The Risk Management Process

Process Management



- 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

Future Scenarios

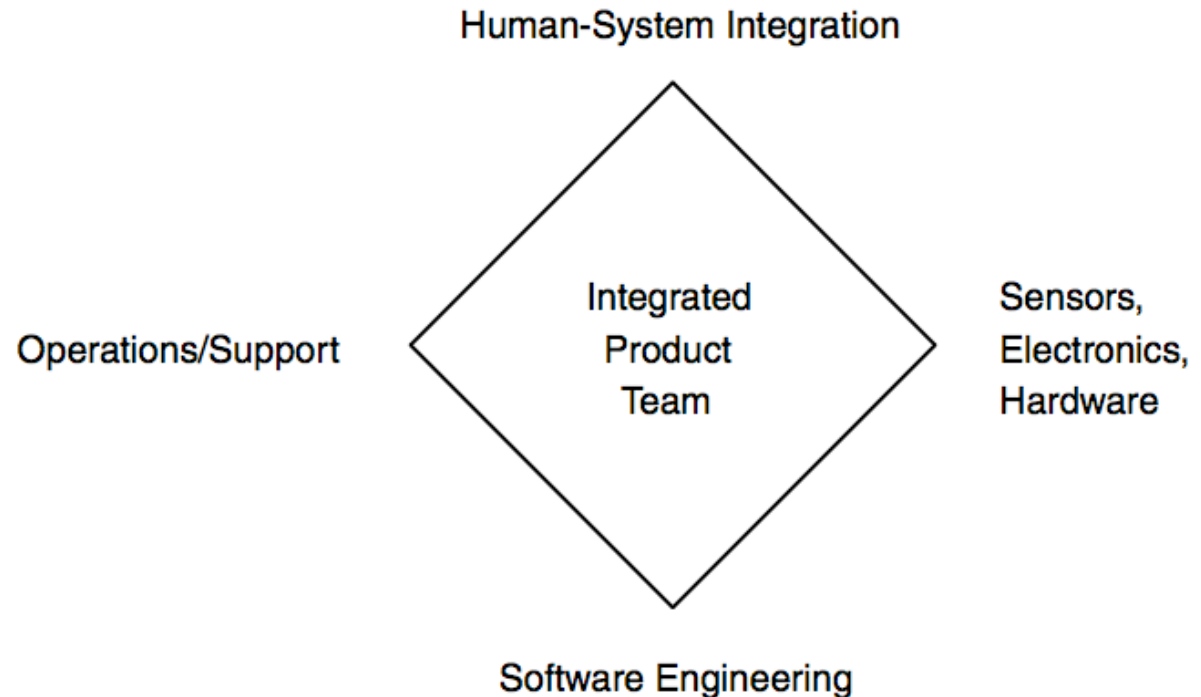
- 5-10 years [!-fer]
 1. Integrated methodology
 2. Developing HSI as a discipline
 3. Knowledge-based planning
 4. (Greater) User participation

1. An Integrated Methodology

- Generate a quantitative baseline
- Define opportunities and requirements, and context of use
 - Broad use of Shared Representations
- Design solutions
 - Priorities based on risks
 - Shared representations developed, e.g.,
 - Personas to running models
 - Gantt charts become time-based and synched with scenarios and prototypes
 - Scripted modules to hardware and software
 - Software from designs to code (seamlessly (!))
- Evaluation
 - Including model-based and stakeholder evaluation at the end
- Integration thus means:
 - across stages of shared representations
 - Builds upon previous stages results
 - Teams integrated across stages
 - System integrated before release

1. An Integrated Methodology

- HSI-led teams
- To avoid risks to mission, risks to usability
 - Booher & Minneger, 2003 have numerous examples
- Use of integrated product teams (IPT) (Rouse, 2005)



2. Developing HSI as a Discipline

- Related disciplines
 - Experimental psychology
 - Industrial engineering
 - Information sciences and technical writing
 - Traditional systems engineering
- Workshops and continuing ed programs
- The use of practicums
- HSI tracks at conferences and in journals

3. Knowledge-based Planning

- Tools to help acquire system-specific knowledge related to risks
- Inputs
 - Size, organizational complexity, precedents, criticality, available expertise
- Outputs
 - Summary of risks to be managed
 - Development timelines and staffing profiles
 - Most relevant tools and methods

4. Greater User Participation

- Context of use methods can be expensive
- Approaches to capturing user input (and creating mods)
 - Combine lists with maps (mash-ups)
 - RSS feeds and associated tools
 - Social bookmarks
 - Blogs and associated multimedia
 - Wikis
- Systems Engineering for User Participation in these approaches
 - Building tools and systems to support users in this process
 - Design for end user customization
 - Support issue tracking and resolution