Leaping the Chasm of Complexity

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DAAG Presentation
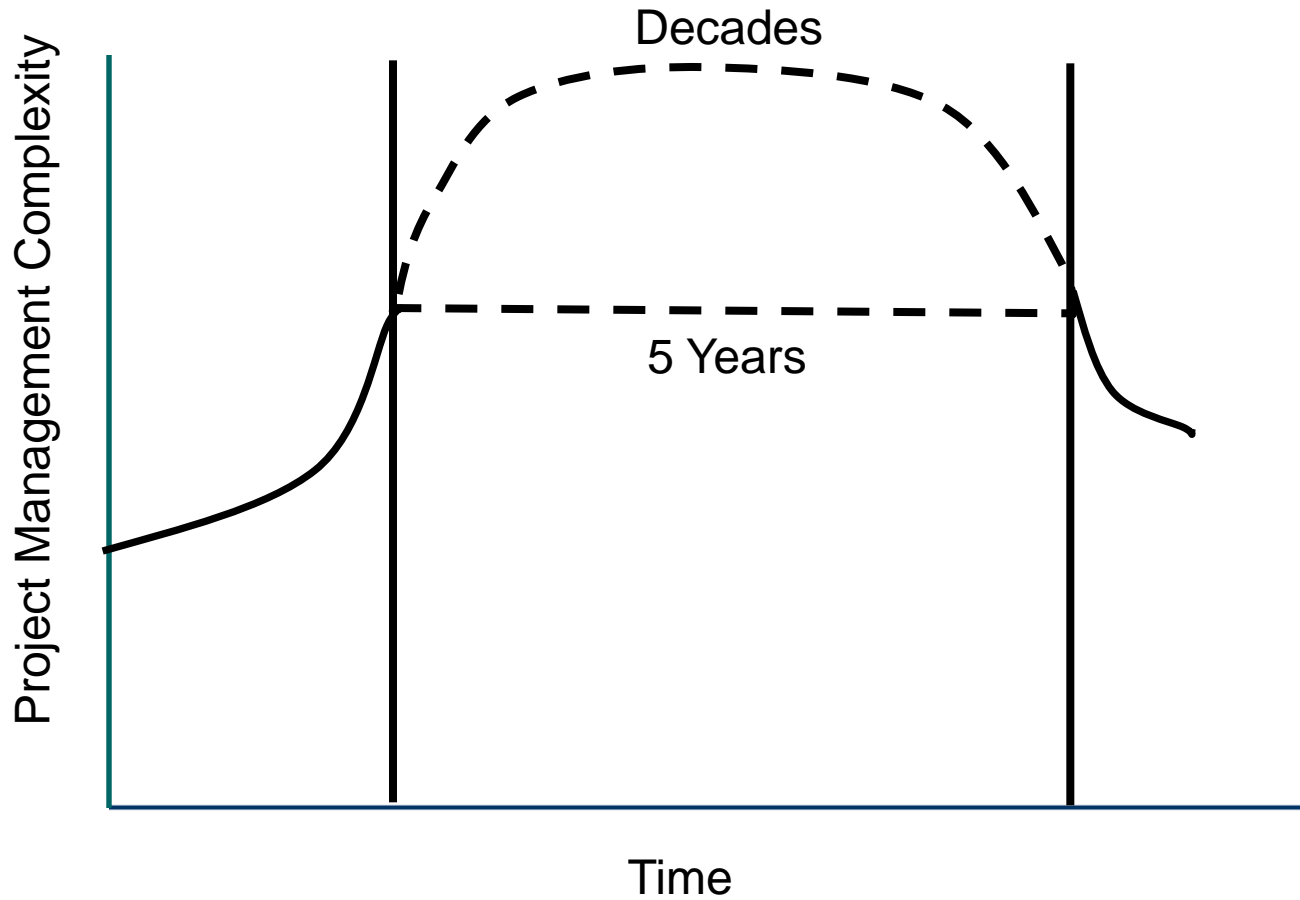
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What path will you choose?

What is the Chasm of Complexity?

- 30 years ago some large Oil & Gas Companies took a leap of faith and began deploying a Stage Gate Process for their major capital projects

- Lots of good intentions
  - Safer
  - Faster
  - Lower Cost
  - Increased Reliability
  - Better Operability
  - Common terminology

- Unfortunately, most failed to reach their goals… for decades

Why did they initially fail?

- PMs not experienced at…
    - Engaging internal stakeholders
    - Planning / Scheduling
    - Leading / Motivating

- Stage Gate Process time-consuming
    - Lots of deliverables and Reviews
    - Large DRB for all stakeholders
    - Consensus expected

- Management not re-enforcing Process
    - Decisions gate are large technical presentations
    - DE and DRB not engaged, no ownership
    - Assurance Reviews findings not acted upon

Example

- Initial Benchmarks (1992) showed:
  - Projects were taking longer
  - Projects were costing more

- Project Lookbacks confirmed:
  - Projects repeating the same mistakes
  - Decision Quality had not improved
  - Projects not all following the process

- A greater investment was made:
  - Strong Governance
  - Project Management Organization
  - Required Training (DEs & PMs)
  - More assurance reviews added
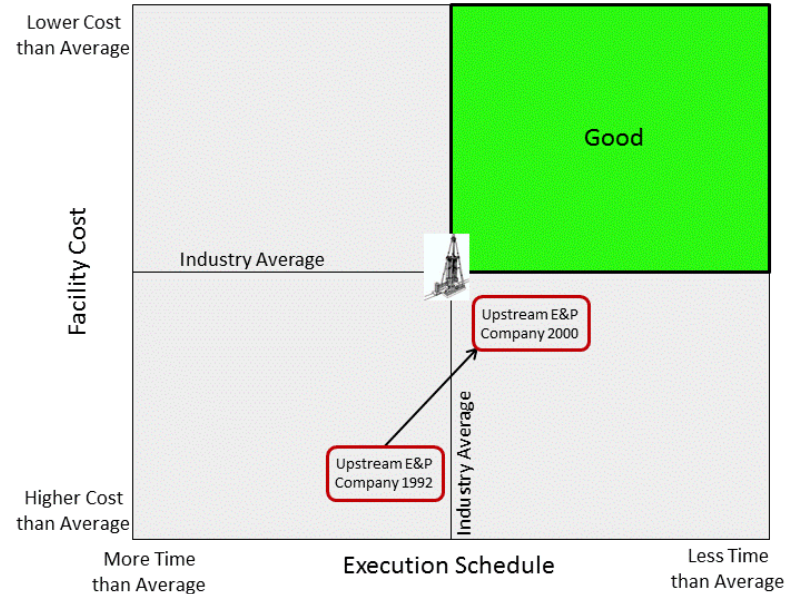
- Later Benchmarks (in 2000) showed some improvement

Additional Barriers Found

- Mindset focused on technical work, but other issues also important
  - Assurance Reviews focused on technical completeness
  - Created bias towards doing "all" technical work
  - Difficult to determine what work mattered for decisions

- Lots of Assurance Reviews very time consuming

- Lack of Technology integration was slowing down process

A Step Change Needed

- Mindset Changed to extract maximum value from assets
  - Holistic Framing and Decision Analysis for Value Trade-offs
  - Divergent thinking encouraged - more design options considered Relationships with NOC/Governments matter

- Increase Front-end-Loading in less time
  - "Agile" workflows to discover what matters most
  - Work focused on supporting decisions and outcomes
  - Integrated Technology (e.g. Petrel/Eclipse, Petro VR, RETR*)

- Improved Organization Capability
  - Teams dedicated to decisions, not disciplines
  - Dedicated Project Assurance and Planning Assist Resources
  - Learning Capability improved

Mindset

Value Creators

- All work and decisions are value trade-offs (time to first oil, ultimate recovery, host government perception)

- Front-end-loading adds value

- Decision Analysis to support Value Trade-offs of options

- We're smarter, so we'll take measures to avoid the Chasm

Value Destroyers

- We must protect our decision-makers by doing more technical work until we are confident and can answer all questions

- Front-end-loading slows us down

- Not giving decision makers options for trade-off decisions

- We're smarter, we won't fall into the Chasm of Complexity

Framing

Do

- Use standardized decision quality tools to holistically frame projects

- Use an experienced facilitator for framing to speed process and improve decision quality

- Use a Team Qualitative Model to focus on what matters most for a decision, support stakeholder selection, identify showstoppers and enable rapid development of Petro VR quantitative models
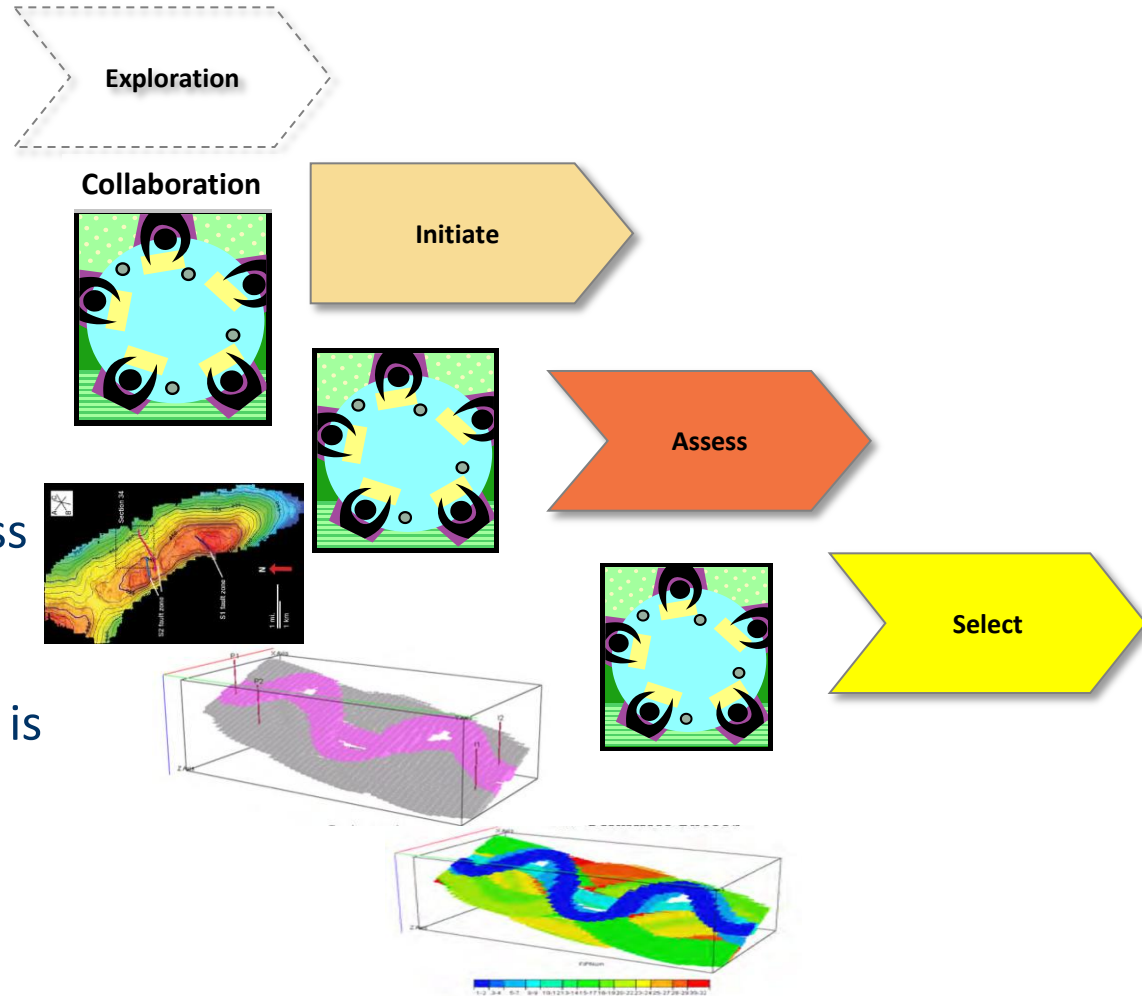
Don't

- Skip framing or frame a project without the team

- Focus only on STOIIP and technical work

- Start with Quantitative Models

Agile Workflows

Key concepts

- Identify and sequence decisions

- Start with a coarse understanding

- Overlap stages and progress work in parallel

- Make decisions when each is ready

Exploration

Collaboration

Initiate

Assess

Select

Need a Factory

- All work engineered for quality decisions and efficiency

- Work done in parallel is coordinated across disciplines (geoscience, engineering commercial, HSSEQ, legal, decision analysis, etc.)

- Need collaboration points to ensure innovative and high quality decisions
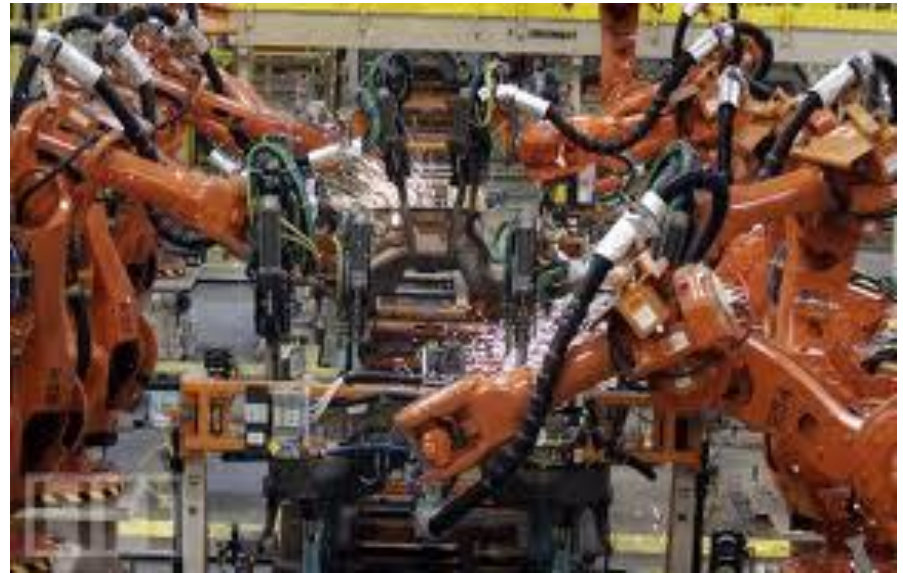
- Need smart people, not robots...

Organizational Capability

Do Have

- Coaches for PMs and Des

- Ability to leverage external expert consultants

- Project Management Offices

- Decision Analysis experts

Don't

- Assume your PMs and DEs are already highly skilled

- Assume you already have the organization you need

- Assume your PMs should take on all the PM work and be expert at all things

Learning Capability

Do

- Use a "teaching hospital" approach

- Capture, correlate, and learn from internal assurance reviews, benchmarking, and public industry information

Don't

- Assume learning will happen on its own (organically)

- Assume you can afford to learn (again and again)

Key Points

- You have a decision to make
- Need Decision Analysis for Framing and Value Trade-offs
- Mindset is critical for Decision Quality
- You need a smart factory organization
- You can't afford not to learn