



Concept Symposium 2016

Governing the Front-End of Major Projects

Initiation of Major Projects in BP

This session will introduce the Stage Gate process as used in the Oil and Gas industry and will highlight the potential for adding value in the early stages of a major project with high quality business framing, clear scope definition and focused concept engineering.



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Initiation of Major Projects in BP

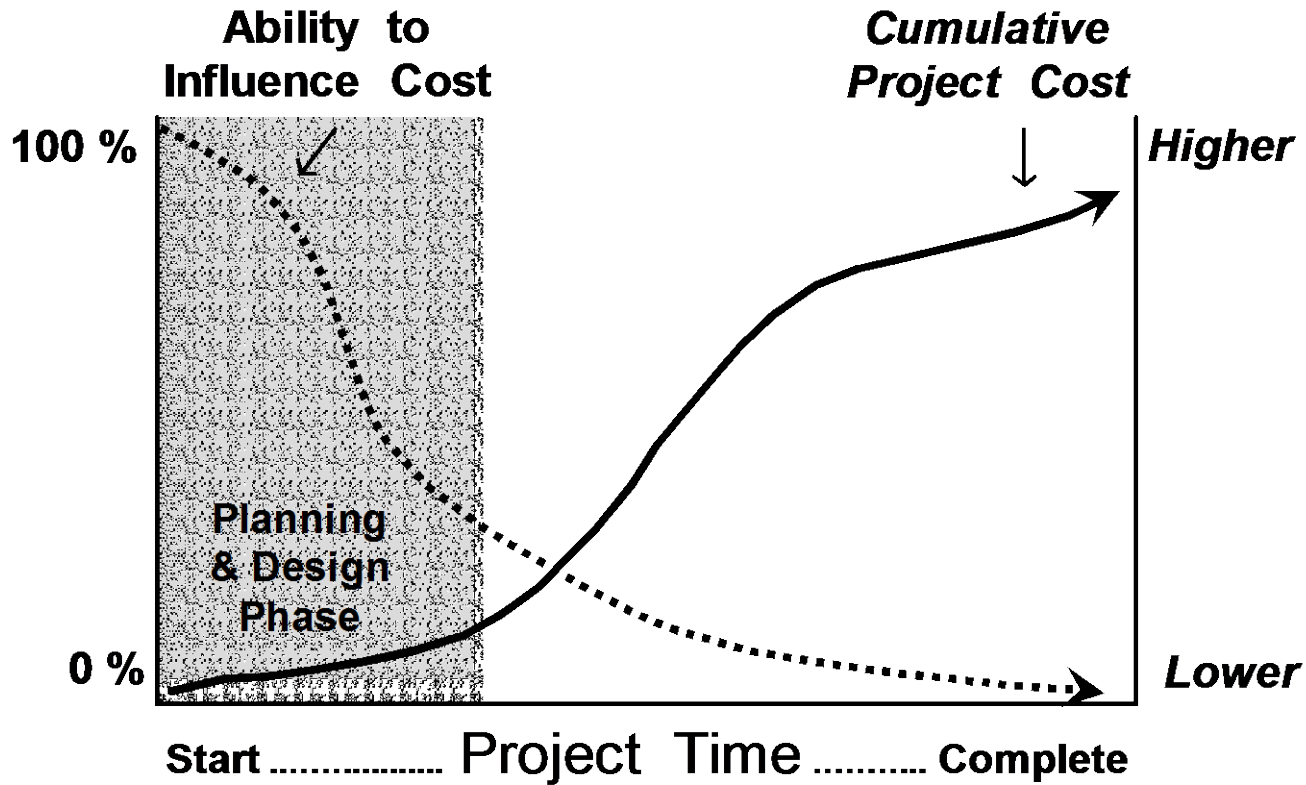
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September 2016

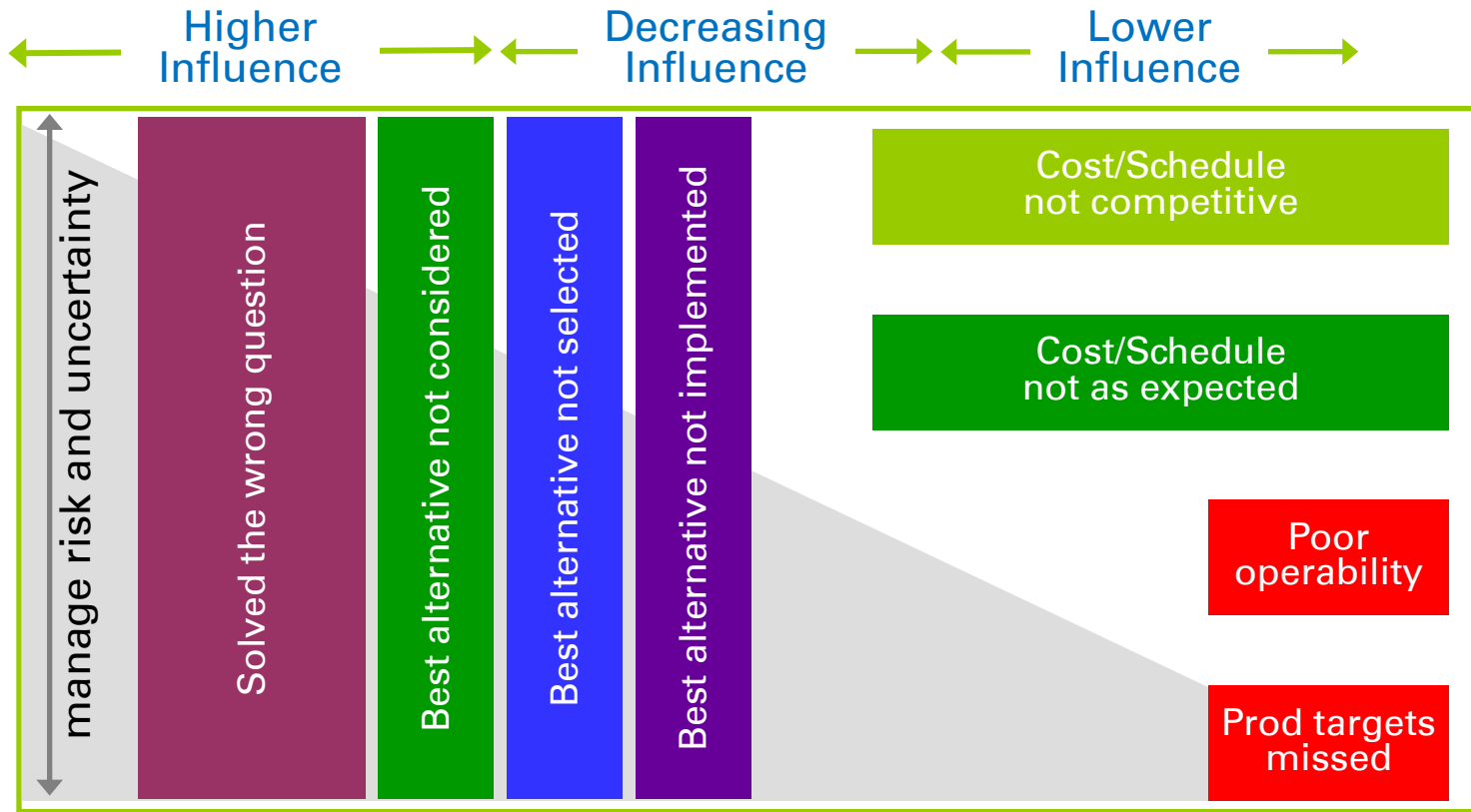
Initiation of Major Projects in BP

- All Major Oil Companies use a Stage Gate Process
- Value is added during the initial stages
- Value is preserved by executing according to plan
- Success in the early stages is key to setting up execution stage for success
- Outcomes can be improved by:
 - High quality business framing
 - Focusing on closing scope in early stages
 - Excellent pre-FEED definition
 - Maintaining continuity of key staff

The Project Lifecycle



Stage Gate Process



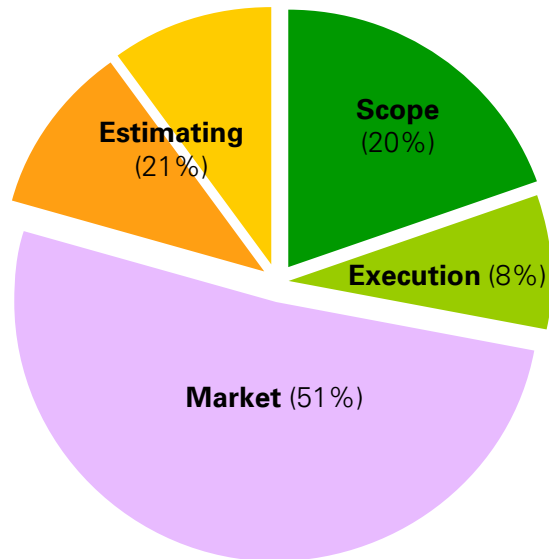
Front-end Loading →

Going beyond the Stage Gate Process

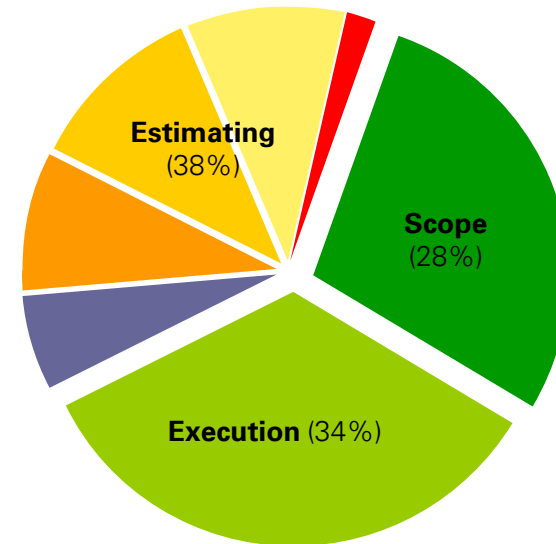
- Why do project costs escalate?
- What leads to poor project definition at early stages?
- Why is business framing important?

Reasons for Cost Increases

Define Gate to Execute Gate



Execute Gate to Final Outcome



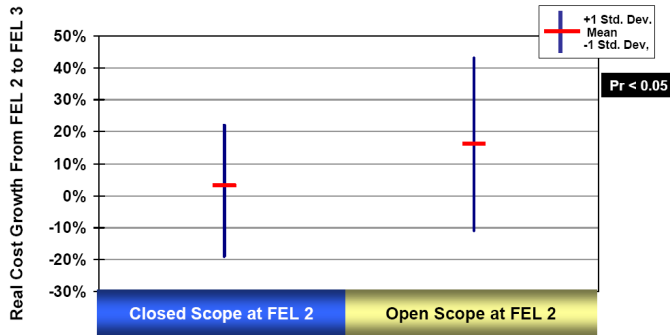
- Cost increases driven by same issues: poor estimating, changes to execution plan or contracting strategy, changes to scope
- Project success benefits from unconstrained time in early stages, in-house estimating, continuity of key staff
- Focus on closing scope, execution plan, contracting strategy during Optimise Stage before award of FEED contracts

Early Scope Definition

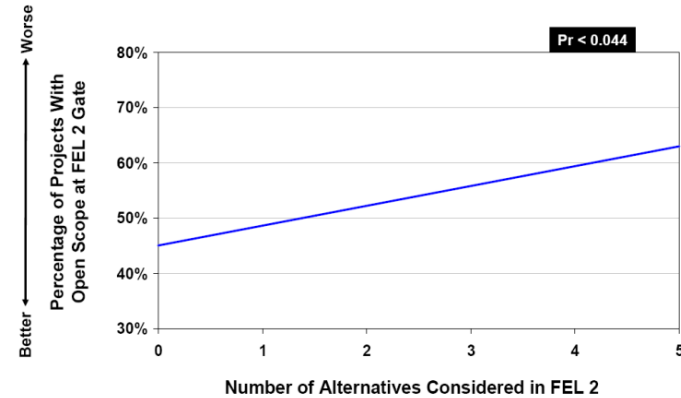
Data provided by Independent Project Associates, Inc



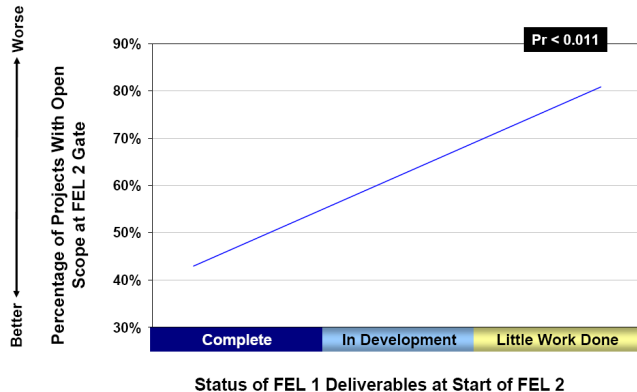
Open Scope Means Cost Growth Between FEL 2 and FEL 3 Gate



Likelihood of Not Completing FEL 2 Increases With the Number of Alternatives



Completeness of FEL 1 Deliverables Drives Likelihood of Reaching Closure



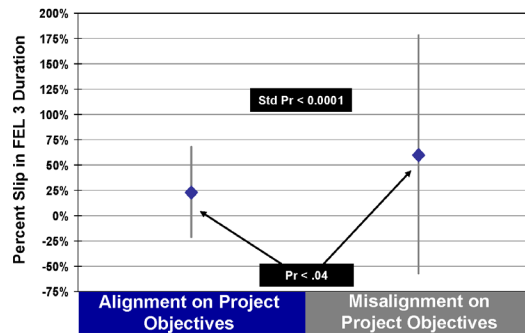
Understanding of Trade-offs Reduces Frequency of Open Scope



Importance of Business Framing

Data provided by Independent Project Associates, Inc

Alignment on Project Objectives Required for Predictable FEL 3 Schedules



Leading Causes of Delay in FEL 3

Reason for Delay	% of Projects
Revamp Scope Not Understood	24%
Marginal Economics	21%
Partner Misalignment	17%
Megaproject with Aggressive (FEL 3) Schedule	10%
Megaproject with New Technology	10%
Inadequate Progress on FEL	10%
New to Region	6%
Other	2%
	100%

- Just over half of megaprojects do not meet expectations: failing to meet sanction objectives for criteria like cost, schedule and first year operability.
- This can be avoided by being clear on objectives and gaining agreement among all stakeholders
- The leading failure modes result from poorly developed:
 - business framing
 - basic data
 - integrated teams
 - project definition
 - contracting strategies
 - project controls

Improvement in Project Outcomes

- Measurable improvement in cost and schedule predictability with significant difference before and after implementation of new Major Project Common Process
- Latest IPA data shows that we are now delivering top quartile performance in five out of six indicators

Input metrics for ongoing projects	
Reservoir FEL	1
Facilities FEL	1
Wells FEL	1
Output metrics for completed projects	
Schedule predictability	1
Cost predictability	3
1st year operability	1

Key Messages



- All Major Oil Companies use a Stage Gate Process
- Value is added during the initial stages
- Value is preserved by executing according to plan
- Success in the early stages is key to setting up execution stage for success
- Project performance can be improved by:
 - High quality business framing
 - Focusing on closing scope in early stages
 - Excellent pre-FEED definition
 - Maintaining continuity of key staff
- It works!



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