Dar Al Riyadh Insight #80
What is Required to Address Uncertainty?

Dar Al Riyadh Insights reflect the knowledge and experience of our Board, executives and staff in leading and providing PMC, design and construction management services. Dar Al Riyadh believes in the importance of broadly sharing knowledge with our clients and staff to improve project outcomes for the benefit of the Kingdom of Saudi Arabia.

What are the required features of large complex project management to address uncertainty?

Unknown unknowns are not knowable in terms of their probability, consequence or timing so preparation comes from the capacity, capability and agility we put in place.

We have successfully delivered large scale, extremely complex projects under previous high levels of uncertainty. Historical examples include the Manhattan Project, Polaris and Apollo. But many of the elements of success in delivering these complex projects under uncertainty seem to have been forgotten or at the very least under emphasized. We have abandoned flexible approaches to dealing with uncertainty.

In order to address uncertainty, management of these complex projects must:

- Ensure commonality and alignment of outcomes, objectives, and strategic direction
- Recognize and acknowledge uncertainty.
- Establish dedicated organizations to overcome bureaucracy with clear high-level decision-making rules that will be effective under uncertainty.
- Put in place a strong open culture built on communication and sense of team.
- Accept that all is not knowable at the outset of a project and recognize that parallel efforts, especially related to non-standard technologies or means and methods may be necessary (experimenting, prototyping, testing).
- Instill a strong sense of team and trust, sharing knowledge and collectively learning from mistakes. Support with a no-blame culture and team focused monetized KPIs.
- Recognize stakeholder and goal complexity and address up front. Manage in an "open" context.
- Avoid subservience to established project management dogmas.
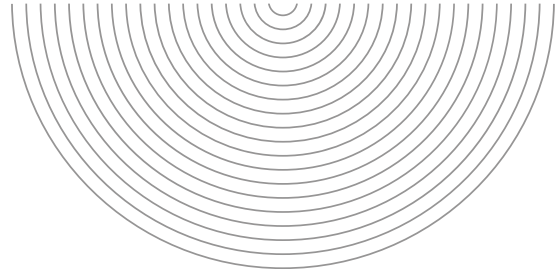
- Recognize and support the duality of the project manager's role – executing the plan while managing the unexpected.
- Implement flexible, collaborative contract management.
- Gather data broadly, continuously. Err towards knowing too much. Strong team based situational awareness.
- Avoid tendency to simplify complex situations. Encourage debate and devil's advocate roles.
- Maintain conceptual slack in interpreting evolving events.
- Restore flexibility and agility of project managers and project teams (antithesis of the stage-gate process).
- Recognize that complex projects, heavy on uncertainty, are journeys to an outcome rather than strictly bound by fixed plans.
- Plan for contingent execution.
- Adopt the open nature of systems thinking (relationship to environment; complex problems; outcomes maximization; impact minimization) as contrasted with closed solutions and approaches of systems engineering (stage-gate; stakeholder minimization or management vs engagement; control).
- Employ contracting structures that are designed for flexibility with a strong complementary emphasis on relationships. They may even need to provide for emergent outcomes.
- Maintain a predisposition to action over complacency.
- Conduct meaningful after-action reviews to inform future decision making under uncertainty.

Going forward, in addition to these features we will need to:

- Measure and track project complexity.
- Create an index for uncertainty.