



Dar Al Riyadh Insight #11 Foundations for Success – Assumption migration and Inadequate understanding of complexity

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.

Large complex projects require strong foundations if they are to be successful. Arguably, these are the same foundations any project would require but experience suggests otherwise. When we look at recurrent weaknesses in foundations for success of large complex projects we see several recurring themes.

This Insight looks at two additional areas of weaknesses.

Assumption migration

Assumption migration draws on confidence we gained in the past with respect to the "fixed" nature of certain assumptions when project durations were 12 - 18 months. Should our confidence on these assumptions remaining fixed over 7, 10 or even 20 years be just as high? Probably not. At very fundamental levels we make literally thousands of assumptions that we don't write down (they are implicit) and as such don't track.

Assumptions must be made explicit and tracked.

Inadequate understanding of complexity

Complexity and scale create an attractive environment for Black Swans. They create a hidden, interlocking fragility while at the same time giving a perception of stability in this complex system.

Failing to fully understand the level of complexity in our project execution strategies and even worse, having no effective tools to measure the relative



complexity of approach "A" vs. approach "B". In prior work we were able to take two years out of a ten year schedule by simplifying the project execution approach. In effect we minimized inter-dependencies between main projects to de-risk the program and actually started some elements later than originally envisioned - accruing other benefits in the process. Individual construction activity durations were unchanged.

Vulnerabilities enter large programs, project organizations and other human-designed systems as they grow more complex. Increasingly these systems and their myriad of relationships, including hidden relationships, are so complex that they defy a thorough understanding

As complexity grows, insufficient attention is often paid to the introduction and proliferation of new links with new risks. As a result, many programs continually implement workarounds and "fixes", which ultimately add to the total life cycle cost and often sow the seeds of new risks and new failures.