Why Do Projects Fail?

Why do projects fail? Why does it seem that despite our best efforts in employing new contract vehicles and new technologies to manage projects, there is an increasing number of projects that are not completed within the originally-planned budget, schedule, and program parameters? Why are these projects failing to meet the owner's expectations?

Studies by McKinsey, The Construction Industry Institute (CII), and other industry analysts estimate that approximately 30% of all projects fail. Failure is defined as projects that are completed at 20% above planned cost and duration. Similar studies suggest that the failure rate among large/mega projects is significantly higher, close to 80% of large/mega projects fail to meet planned objectives.

What is going on? What are the root causes of these failures?

As an owner representative and construction management practitioner with many years of experience delivering a wide variety of projects in the United States and the Caribbean, I have had my share of project failures. I have reflected on why these projects failed, looking for a common denominator so that I could avoid making the same mistakes in the future. In my experience, projects fail for many reasons. My own experiences and studies from McKinsey and CII suggest that the most common reasons for project failure include:

- Selecting the wrong team to deliver the project
- Poor leadership and organization (at all levels of the project supply chain)
- Lack of team alignment and collaboration
- Poor planning, or overly optimistic plans
- Inadequate or slow communication
- Poor project administration
- Slow decision making
- Inadequate or no-risk management
- Limited talent

COMPLEXITY

Project developers can take countermeasures to mitigate the listed reasons above for project failure. However, there is a reason for project failure that is not widely understood in our industry. Complexity. Or, more specifically, the uncertainty and unpredictability inherent in complex projects.

When we think of complexity, we often think of things that are difficult or complicated, but complexity, difficulty, and complications are not the same things. Social scientists, economists, neurobiologists, astrophysicists, and large project developers deal with complex systems.

To analyze and understand these systems the scientific approach, complexity science, has emerged over the last quarter of the twentieth century. Research on complex systems has evolved from a collection of intuitive models and metaphors to a scientific-based approach.

Complexity science suggests that a complex system (climate, the genome, evolutionary processes, macro-economics, the brain, and often large construction projects) have the following characteristics: diversity, connection, interdependence, and adaptation.

Adaptation is a key distinction between systems that are complex and systems that are just merely complicated. Project development can be complicated and complex. In project development a ***diverse*** group of entities (architects, engineers, contractors, and subcontractors) are ***connected*** (through contractual and other relationships that define specific obligations and interactions), they work ***interdependently*** (to design, manage the construction, build the facility, etc.) and they ***adapt*** in response to external and internal stimuli (activities get redirect to meet changing project objectives in response to external and internal stimuli).

Most projects today are complicated, not complex. It is the degree of diversity, connectivity, interdependence, and adaptation that makes a project complex. Complicated systems may be diverse and have agents that are connected and interdependent, but they are not very adaptive. An automobile's motor is complicated, it is not complex. If a part breaks or you take a part out of the motor, it will not work. It has no adaptation. It fails to meet the definition of complexity.

Complex projects have certain key attributes: they are highly unpredictable, they are robust (they can withstand trauma), they have high information content, and produce large events (think delays and budget busts).

WHY IS COMPLEXITY A PROBLEM?

The principal tools we use for project controls (budgeting, cost estimating, and scheduling) require predictability. But "uncertainty and unpredictability" are inherent characteristics of a complex project. Think about a large/mega project that takes five years to develop. What will the price of petroleum and petroleum products be five years from now? All we can do is take an educated guess.

The same applies to labor costs, supply chain management, technological obsolescence, and many other important project development issues. How can we plan or manage a project whose parameters are constantly changing? I believe that the high rate of project failure in large/mega projects is attributed to the fact that we continue to use traditional project controls to develop and manage larger/mega projects. Effective development and management of large/mega projects requires a different approach. My next blog in this series will outline how to identify and manage complex projects.

If you are currently undergoing issues with a project, learn about MBP's program and construction management services and see how we can help you.

Visit this blog on our website here.