

Common Causes of Disputes and Claims in Large Complex Projects

Key Points

- Common causes of disputes and claims on large complex projects are identified.
- Initial strategies to reduce their likelihood or consequences are developed.
- New emergent areas for future claims and disputes are suggested.
- Relevant Executive Insights are extensively referenced.

Introduction

This Executive Insight examines common causes of disputes and claims on large complex projects. It also outlines strategies to reduce the prevalence and consequences of such claims and disputes.

This Insight also considers claims and disputes from both an engineering and construction perspective. While some variance by contract type and market area will be noted, the fundamental causes show limited variance.

Not surprisingly, claims and disputes relate to the principal sources of failure on large complex projects. (see Executive Insights, “Foundations for Success,” “The Importance of Strategic Business Objectives,” and “Managing Risk in Large Complex Programs.”) Previously we have identified the following causes of failure in large complex projects:

- Strategic business objectives not clearly articulated, agreed to, and continuously communicated
- Poor scope definition
- Inefficient organization/decisions structure
- Inadequate risk management and risk reserves
- Unrealistic cost estimates and schedules
- Inadequate execution plan
- Shortage of resources
- Delays in engineering, procurement, and construction
- Absence of a “no change” culture
- Poorly developed goals and expectations
- Misalignment between stakeholders

- Impacts of change and underestimating length and cost of delays
- Geological risks or natural elements not clearly defined
- Environmental, safety, and existing conditions unclear

When considering disputes and claims, we find that weaknesses in strategic business objectives, inefficient organization/decisions structure, and poorly developed goals and expectations correlate directly to underlying weaknesses in communication. All of these contribute to and amplify disputes and claims.

Examination of factors contributing to disputes and claims consistently show it is seldom only one causation factor is involved. More likely, a handful contribute to a dispute or claim. The shortcomings in communication, clarity, and organization noted above often play at least a supporting role.

Disputes and claims on large complex projects are typically characterized by the following principal causation factors:

- Poor scope definition or changes in scope (Executive Insight, “Know What You are Trying to Accomplish—The Primacy of the Scope Baseline”)
- Delays in engineering and incomplete or incorrect design driven by:
 - Inefficient organization/decisions structure
 - Unrealistic schedules
 - Shortage of resources
 - Level of skill/expertise
 - Absence of a “no change” culture
 - Misalignment between stakeholders
 - Impacts of change and underestimating length and cost of delays
 - Geological risks or natural elements not clearly defined
 - Environmental, safety, and existing conditions unclear
- Management failures including:
 - Incomplete contracts and poor contract management and administration (Executive Insight, “Prime Contract Management”)
 - Poor management of subcontractors and supply chain, including late engagement or deliveries (Executive Insight, “Procurement Management on Large Complex Programs”)
 - Inefficient organization/decisions structure (late approvals)
 - Inadequate operational performance and reporting
 - Poor handling of requests for information (RFIs)
 - Poor interface management
- Unforeseen physical conditions including:
 - Geological risks or natural elements not clearly defined
 - Environmental, safety, and existing conditions unclear
 - Exceptionally adverse weather conditions
 - Delayed/restricted site access
- Cash flow and payment issues

Other factors contributing to disputes and claims include tender errors, workmanship/installation deficiencies, spurious claims, human factors (various biases), and a range of sociopolitical factors (regulatory, expropriation, fraud, misrepresentation).

Strategies to Reduce Prevalence and Consequences of Claims and Disputes

Some strategies to reduce the prevalence and consequences of disputes and claims are summarized for each of the top dispute categories identified above. Others exist and the suggestions reflect the author's experiences.

Overall Mitigation Measures

- Strategic business objectives (SBOs) clarity and inclusion in contract documents
- Formal partnering as a contract requirement
- Alternative dispute resolution provisions with strong timetable included in contract

Scope

- Scope completeness reviews and scope scoring
- Independent review panels focused on limiting changes
 - Recognize cascading nature of change
- Technology driven scope change must be met with better planning for technology change over a facility lifetime
- AI (Artificial Intelligence) enabled scope management system is essential
- Scope insurance as a new underwriting line
- Strengthen prime contract management (Executive Insight, Prime Contract Management)

Engineering

- Early, independent value engineering
- Independent validation and verification of designs to confirm complete and meet intended purpose (design maturity)
- AI enabled design checking for completeness and conflicts of all kinds
- Engineering process audits
- Independent design reviews focused on limiting design changes
- Early identification of projects/project areas which will be susceptible to emergent design
 - Ensure contract mechanisms recognize and efficiently handle such emergence

Management

- Ensure contract form and mechanisms are fit for purpose of achieving success not just transferring risk.
- Ensure contract mechanisms are fit for purpose with respect to (inevitable) change.
- Better contract management
- Enhanced use of outside experts to manage risk

- Strive for continuity of management or formalized handoff/handover processes
 - Include as contract requirement
- Ensure risk modeling and contract has specifically addressed fat tail risks and how they will be handled (Executive Insight, “Fat Tails”)
- Owner’s model and its interaction with project team should be spelled out at outset of project (potentially incorporated into contract)
- Strengthen prime contract management (Executive Insight, “Prime Contract Management”)
- Strengthened project oversight by senior management (Executive Insight, “Effective Project Review Meetings”)
- Better supply chain insight using available AI supply chain enabled networks (Executive Insight, “Procurement Management in Large Complex Programs”)
- Improve understanding of complexity and strategies to better manage it

Unforeseen Conditions

- Invest in high quality geotechnical design report
- Define materiality of differing conditions in the contract and adopt a risk sharing approach

Financial

- Establish payment process and method for handling disputed pay items at time of contract.
- Remember cash is king. Contractor requires it and owner benefits from financially solvent contractor.

Other

- Disputes arising from human actions better controlled if a strong continuous communication framework in place.

Emergent Areas of Disputes and Claims

Disputes and claims reflect evolutions in contract forms, contract law, means and methods, broad market forces, technology, industry risk profiles, and perceptions of risk. The following are viewed as potential emergent areas of dispute and claims risk, driven by shifts in the use of technology and relative value points:

- Data validation, verification, valuation, ownership, and monetization
- Artificial intelligence (AI) algorithm rights, ownership/licensing; rights with respect to information on underlying test and training data
- Cybersecurity obligations, liabilities, and limitations, including latent defects
- Changed intellectual property rights landscape, given current state of AI and cybersecurity (See the various Executive Insights on AI)

Summary

Common causes of disputes and claims on large complex projects have been identified and some initial strategies to reduce their likelihood or consequences laid out. Some new emergent areas for future claims and disputes have been suggested, influenced by the growing shifts in technology applications within the engineering and construction industry.

The bottom line: it is important that any contract is fair for all parties and assigns risk to the party that is best capable of handling that risk. It is also critical that disputes are presented and resolved in a timely manner. To aid in that effort, Table 1 (page 6) assigns primary responsibility for each potential dispute/claim issue based on the author's project experience and insight. This table may be used as a guide.

TABLE 1: Common Causes of Disputes and Claims					
Primary Stakeholder Responsible to Mitigate Potential Issue					
(P=Primary and S=Support)					
Dispute Category	Potential Dispute/Claim Issue	Owner	Contractor/CM	Engineer/Designer	Specialty Contractor
Overall Mitigation Measures	SBO clarity	P			
	Formal partnering as contract requirement	P	S	S	S
	ADR provisions in contract	P	S	S	S
Scope	Scope completeness	P		S	
	Independent Review Panels	P	S	S	
	Technology driven scope change	P	S	S	
	AI scope management system	P	S	S	
	Scope Insurance	P			
	Strengthen prime contract management		P		
Engineering	Early, independent value engineering	P	S	S	S
	Independent validation/verification of designs	S		P	
	AI enabled design checking			P	
	Engineering process audits	S		P	
	Independent design reviews	S	S	P	S
	Early identification of project areas susceptible to emergent design	S		P	
Management	Ensure contract form fit for purpose of achieving success, not just transferring risk.	P	S	S	
	Ensure contract mechanism for purpose with respect for change	P	S	S	S
	Better Contract Management	P	P	P	S
	Enhanced use of outside experts to manage risks	P	S	S	S
	Strive for continuity of management	P	P	P	P
	Ensure risk modeling and contract addresses fat tail risks	P	S	S	S
	Owner's model and its interaction with project team should be spelled out at outset of project	P			
	Strengthen prime contract management	P	P	P	
	Strengthen project oversight by senior management	P	P	P	P
	Better supply chain insight using available AI supply chain enabled networks	P	P	S	S
	Improve understanding of complexity and strategies to better manage it	P	S	S	
Unforeseen Conditions	Invest in high quality geotechnical design report	P			S
	Define materiality of differing conditions in the contract and adopt a risk sharing approach	P	S	S	S
Financial	Establish payment process and methods for handling disputed pay items	P	S	S	S
	Remember cash is king - make timely payments	P	P	S	S
Other	Disputes arising from human actions better controlled if a strong communication framework in place	P	S	S	S

About the Author

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