Navigating Delay and Disruption in Collaborative Contracting Frameworks

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Prepared For:

Project Controls EXPO
Washington, DC - USA

October 2022

Experience and Collaborations

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- Delay & Disruptions Claims Resolution
- Project Controls & Commercial Advisory
- Business Systems, Implementation & Rollouts
- Custom Software / Integration Efforts

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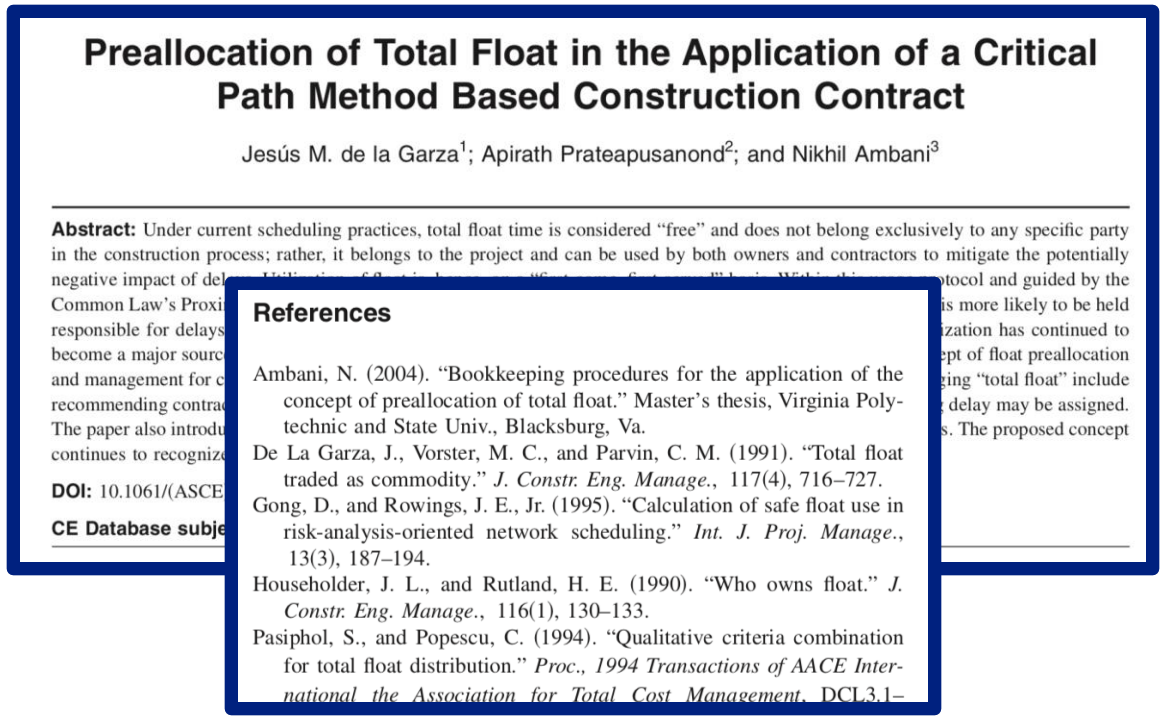
Delay & Disruption Experience



Preallocation of Total Float in the Application of a Critical Path Method Based Construction Contract

Jesús M. de la Garza[1]; Apirath Prateapusanond[2]; and Nikhil Ambani[3]

Abstract: Under current scheduling practices, total float time is considered "free" and does not belong exclusively to any specific party in the construction process; rather, it belongs to the project and can be used by both owners and contractors to mitigate the potentially negative impact of del… …otocol and guided by the Common Law's Proxi… …is more likely to be held responsible for delays… …ization has continued to become a major sourc… …ept of float preallocation and management for c… …ging "total float" include recommending contra… …delay may be assigned. The paper also introdu… …s. The proposed concept continues to recogniz…

DOI: 10.1061/(ASCE…

CE Database subje…

References

Ambani, N. (2004). "Bookkeeping procedures for the application of the concept of preallocation of total float." Master's thesis, Virginia Polytechnic and State Univ., Blacksburg, Va.

De La Garza, J., Vorster, M. C., and Parvin, C. M. (1991). "Total float traded as commodity." *J. Constr. Eng. Manage.*, 117(4), 716–727.

Gong, D., and Rowings, J. E., Jr. (1995). "Calculation of safe float use in risk-analysis-oriented network scheduling." *Int. J. Proj. Manage.*, 13(3), 187–194.

Householder, J. L., and Rutland, H. E. (1990). "Who owns float." *J. Constr. Eng. Manage.*, 116(1), 130–133.

Pasiphol, S., and Popescu, C. (1994). "Qualitative criteria combination for total float distribution." *Proc., 1994 Transactions of AACE International the Association for Total Cost Management*, DCI.3.1–

Opportunity to work across **several contracting models**

- Fixed Price Lumpsum
- Design-Build / Design-Construct,
- Build Operate Transfer / Build Own Operate Transfer
- CM at Risk – GMP models
- Early contractor engagements (ECIs) on programme of works
- Alliances (Pure / Hybrid)
- & other adaptations of Integrated Project delivery frameworks

In several capacities

- Subcontractor, Prime / Head Contractor, Client Representative, Business Owner, Consultant, Delay & Disruptions Claims lead and Advisory roles

VIRGINIA TECH

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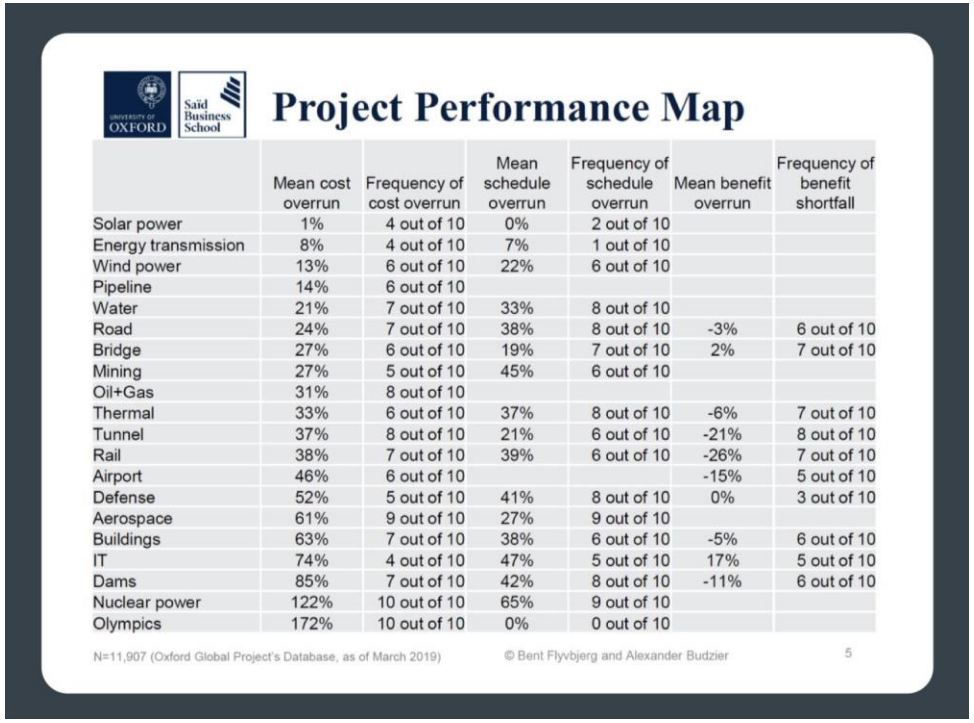
Typical Scenarios

Scenarios vary by industry / sector



Project Performance Map

	Mean cost overrun	Frequency of cost overrun	Mean schedule overrun	Frequency of schedule overrun	Mean benefit overrun	Frequency of benefit shortfall
Solar power	1%	4 out of 10	0%	2 out of 10		
Energy transmission	8%	4 out of 10	7%	1 out of 10		
Wind power	13%	6 out of 10	22%	6 out of 10		
Pipeline	14%	6 out of 10				
Water	21%	7 out of 10	33%	8 out of 10		
Road	24%	7 out of 10	38%	8 out of 10	-3%	6 out of 10
Bridge	27%	6 out of 10	19%	7 out of 10	2%	7 out of 10
Mining	27%	5 out of 10	45%	6 out of 10		
Oil+Gas	31%	8 out of 10				
Thermal	33%	6 out of 10	37%	8 out of 10	-6%	7 out of 10
Tunnel	37%	8 out of 10	21%	6 out of 10	-21%	8 out of 10
Rail	38%	7 out of 10	39%	6 out of 10	-26%	7 out of 10
Airport	46%	6 out of 10			-15%	5 out of 10
Defense	52%	5 out of 10	41%	8 out of 10	0%	3 out of 10
Aerospace	61%	9 out of 10	27%	9 out of 10		
Buildings	63%	7 out of 10	38%	6 out of 10	-5%	6 out of 10
IT	74%	4 out of 10	47%	5 out of 10	17%	5 out of 10
Dams	85%	7 out of 10	42%	8 out of 10	-11%	6 out of 10
Nuclear power	122%	10 out of 10	65%	9 out of 10		
Olympics	172%	10 out of 10	0%	0 out of 10		

N=11,907 (Oxford Global Project's Database, as of March 2019) © Bent Flyvbjerg and Alexander Budzier 5

Ref- Presentation by Greg Lawton (Nodes & Links)
Project Controls Expo UK 2021

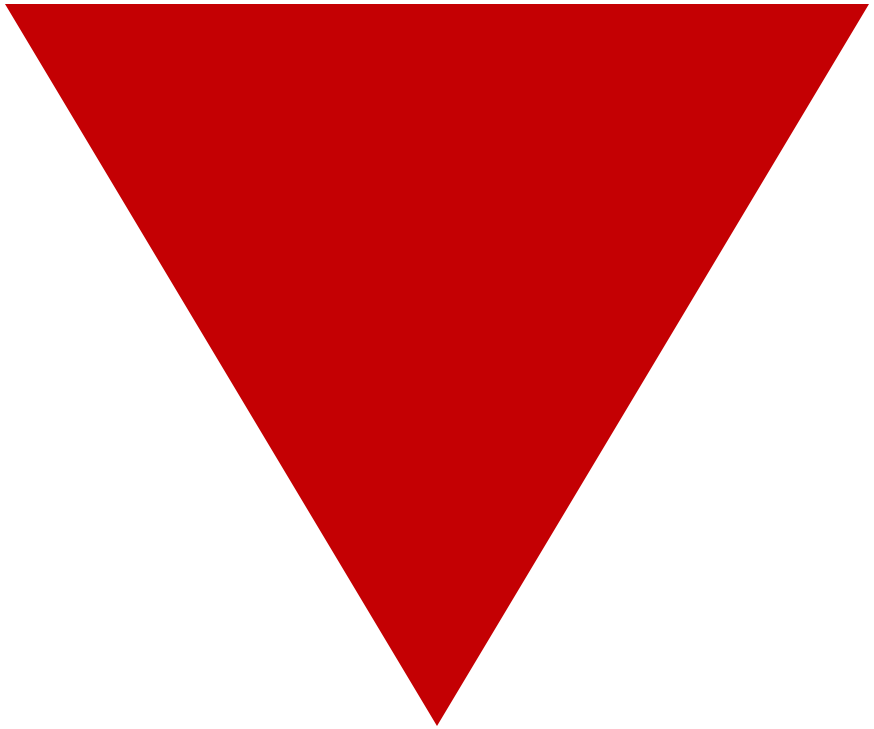
Some examples could be

- Property acquisitions / corridor access
- Depending on contracting model (design clarity and programme)
- Laydown or Staging areas (if it's a client responsibility)
- Integration with partner agencies or local entities
- Ground conditions (always tricky)
- Unforeseen weather conditions - these days you don't know what to predict!! Excessive rain, Earthquakes, 100-year floods / events, etc.
- and when we thought we had seen it all – now Pandemics!

Who owns this risk? Heavily dependent on the contracting model, and pre-award negotiations / agreements

Influence vs Outcome

External Influence

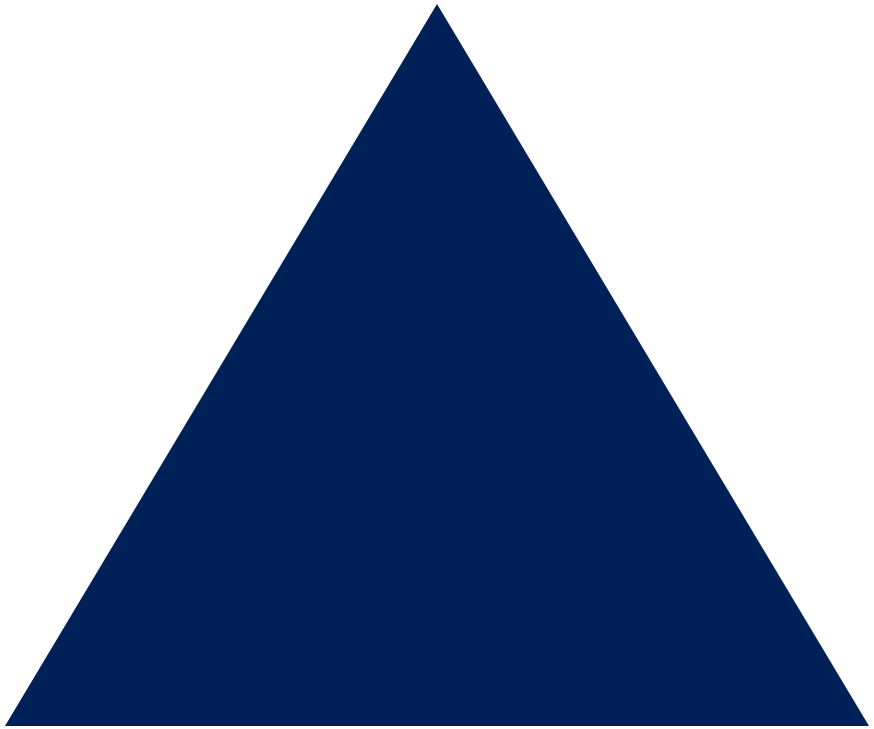


Litigation

Arbitration

Mediation

Collaboration



Contractor Influence

Personal Journey

US vs ANZ

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Collaborative Contracting

2 Stage Contracting frameworks

Integrated Project Delivery

Pre-Development Agreements

Delivery Partners / Panels

Alliances

Early Contractor Engagement

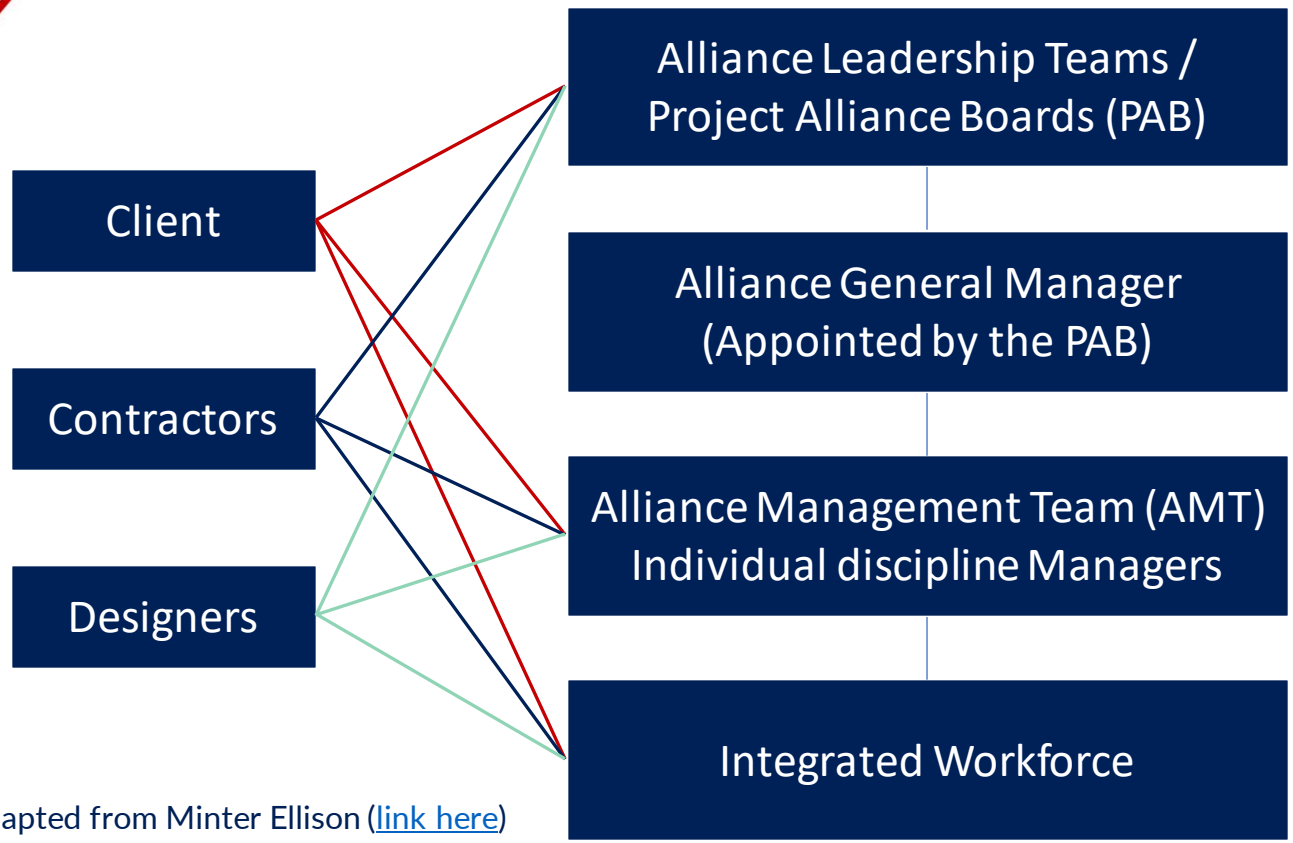
Target Outturn Costs

Pain / Gain Share

Shared Risk / Reward

Key Result Areas

Alliance Governance Structure



*Adapted from Minter Ellison (link here)

Other Governance

- Owner Verifier/s
- Sub-Committees
- Participating Agencies / Stakeholders
- Independent advisors
- Home Companies
- Auditors (Internal / External)

Entity Setup

- Independent Entity / JV
- Cooperative Alliances

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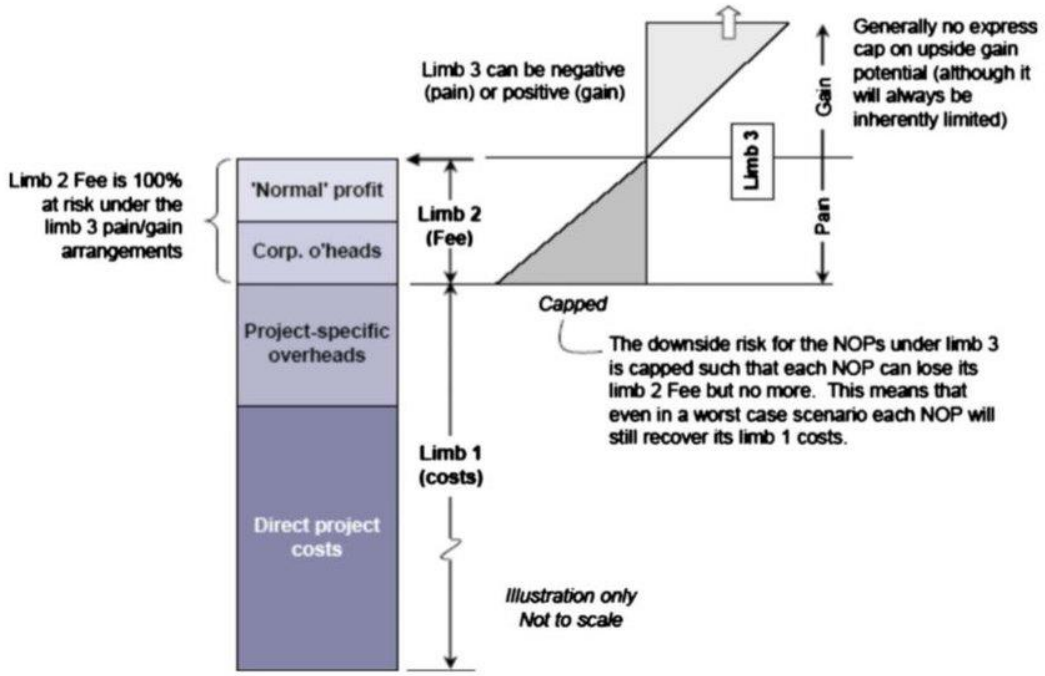
Alliances



Generic three-limbed compensation model

Reference - Peter E.D Love, P. D. (2011, February). "Risk/Reward Compensation Model for Civil Engineering Infrastructure Alliance Projects". Journal of Construction Engineering and Management, 127-136. doi:10.1061/(ASCE)CO.1943-7862.0000263

Limb 1 includes
- NOPs Direct Costs
- Project Overheads (OH)
- Risk/Contingency Pool

Limb 2 = Agreed project margin (includes Corp. OHs)

Limb 3 = Performance Pool incl. non-cost attributes / KRAs

Primarily Based on

- Transparency
- Open book
- Win / lose together philosophy
- No blame / no sue clauses

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Lessons Learned

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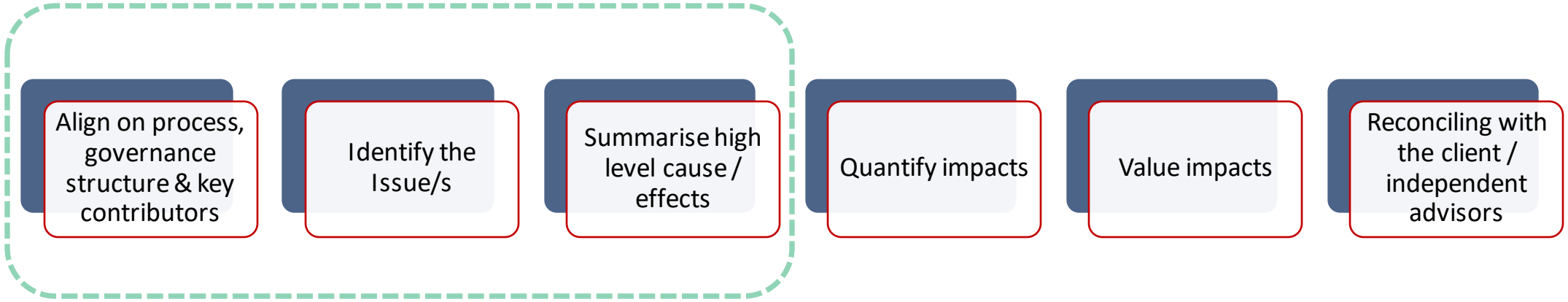
Budget & Project Setup

Some basics that could make the process smoother

1. Final tender submission repository
2. Estimate to budget setup process
3. Programme / schedule that lines up with initial budget
4. Aligning breakdown structures (WBS, CBS, PBS)
5. Records and document management repository & structure
6. Instructions, notices and change management

Collaborative Approach

Taking the team on the journey



The right contributors and processes

You cannot do this alone – Collaboration is key!

Engineers, Designers, Schedulers, Superintendents, Finance, Commercial, Project Controls, etc.

Every project is different – Not as simple as filling out a bunch of templates

Role of SMEs

Lessons Learnt

1. Establish and enable the right culture (alliance principles, values, KRAs) – staying resolution focussed
2. Timing is everything
3. Choosing the right lead and teams (client facing / internal)
    - Remove biases
    - Objectively evaluates the issues and potential outcomes
    - Someone who realizes that you cannot clap with one hand

Image References – Clipartmag.com ; kissclipart.com ; vectorstock.com

Important to acknowledge

Client Perspectives

- Commercial surprise/s
- Depleting contingencies
- Governance around additional budgets
- Impact on other project areas
- Impacts on other projects or programmes
- Public / stakeholder perceptions and sentiment
- Balancing soft KPIs against more visible ones

and things beyond your control

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THANK YOU

QUESTIONS

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