



Infrastructure Project Procurement, Management, and Cost Containment

Dr Alexander Budzier

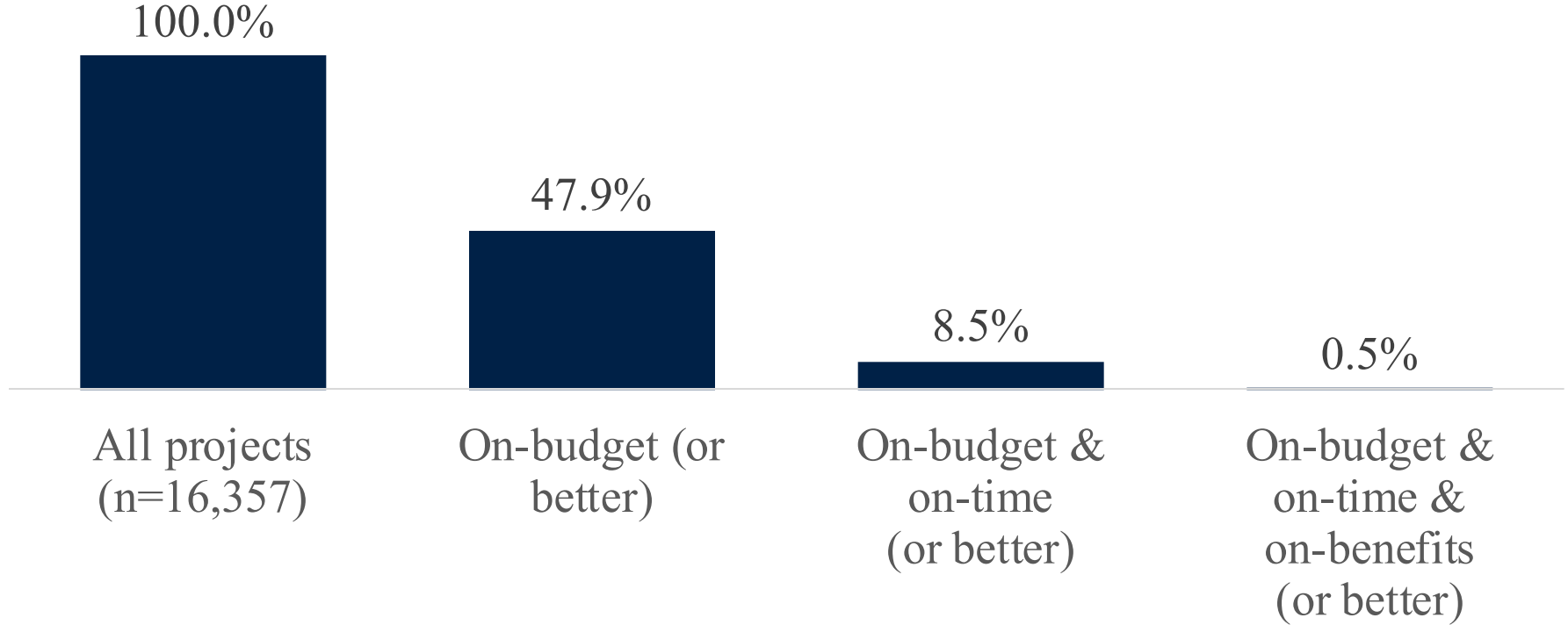
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Project Performance Map

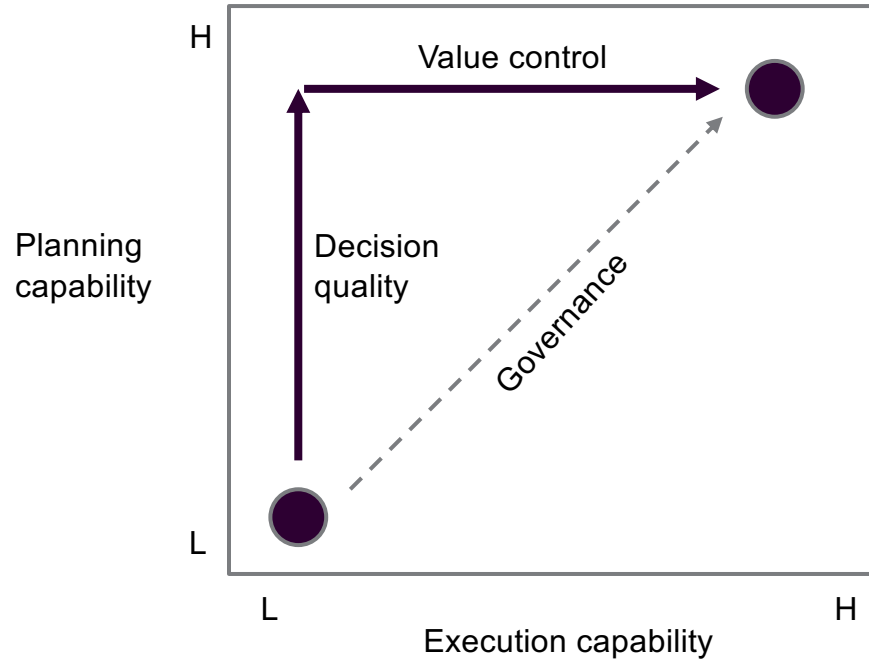
	Solar power	Roads	Rail	Buildings	IT-led change	Dams	Olympics	Nuclear waste storage
Cost overrun	1%	16%	39%	62%	73%	75%	157%	238%
Frequency of cost overrun	4 of 10	6 of 10	7 of 10	7 of 10	4 of 10	7 of 10	10 of 10	9 of 10
Schedule overrun	2%	36%	32%	32%	43%	44%	0%	70%
Benefits overrun	n/a	-5%	-23%	-5%	-28%	-11%	n/a	-23%
Cost Black Swans	0%	4%	10%	20%	18%	23%	57%	43%
Ø duration, years	2.2	4.1	8.0	7.9	3.3	8.0	7.1	6.8

The Iron Law of Megaprojects

(A statistical, not a deterministic, law)



Causes and Cures



Root Causes of Poor Decision Quality

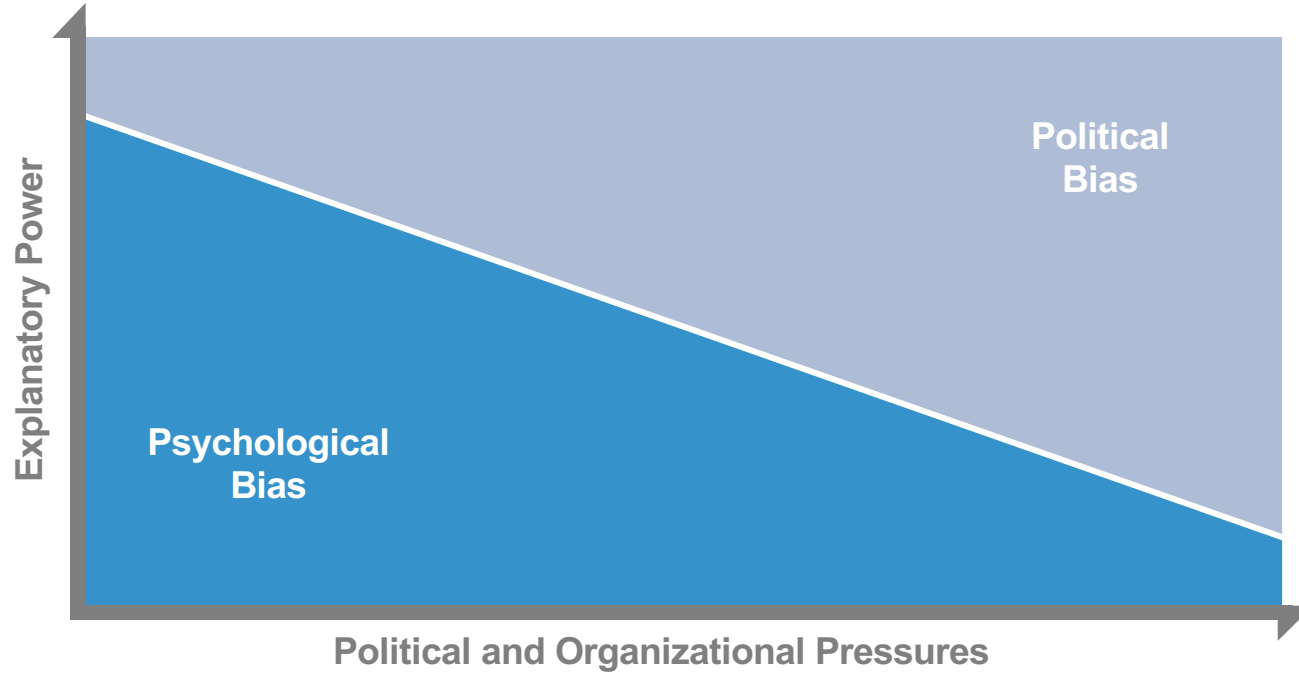
1. **Technical:** Estimation error
(Vanston & Vanston)
2. **Psychological:** Optimism bias
(Kahneman, Tversky, Lovallo)
3. **Political-economic:** Strategic misrepresentation (Wachs, Flyvbjerg)

Root Causes of Poor Decision Quality

The data show a
systematic bias
towards inaccurate
estimates

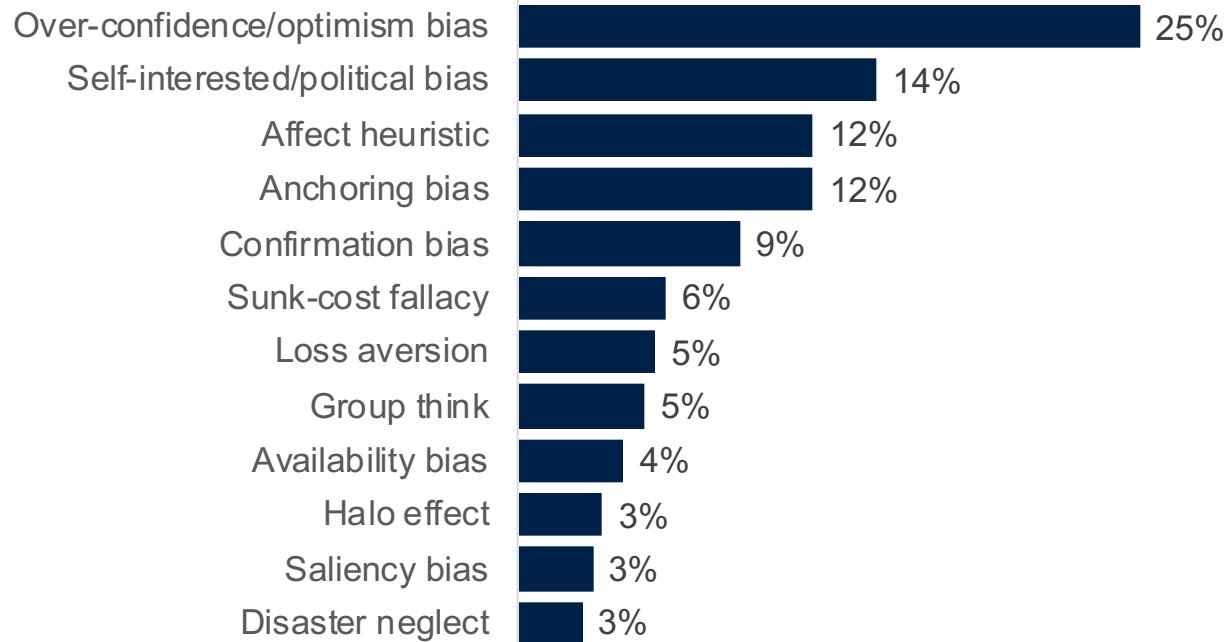
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Explanatory Power

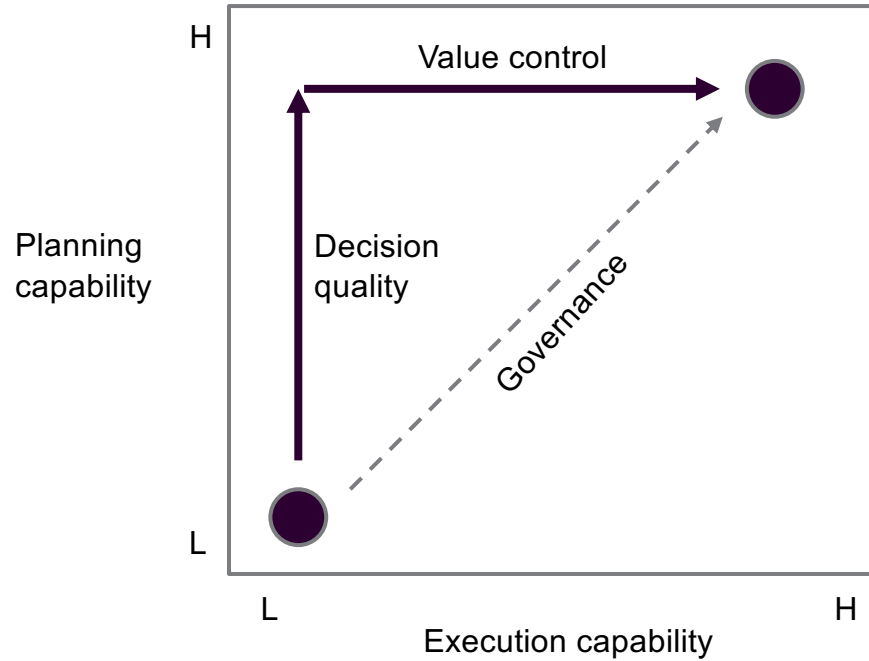


Which Bias Most Impacted Your Project?

240 project leaders answered

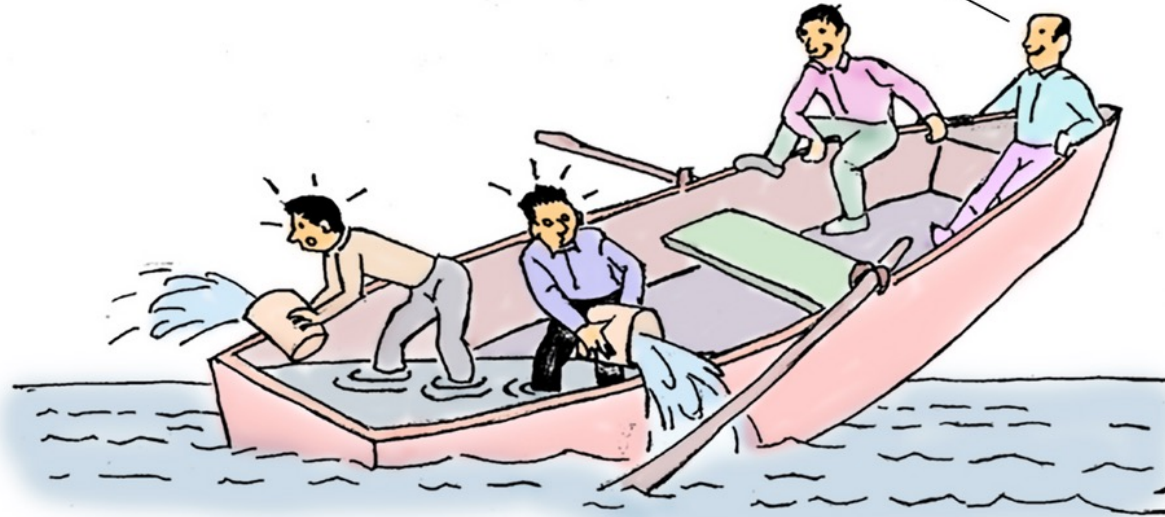


Causes and Cures



Too Often How Procurement Really Happens

Sure glad that hole isn't at our end.

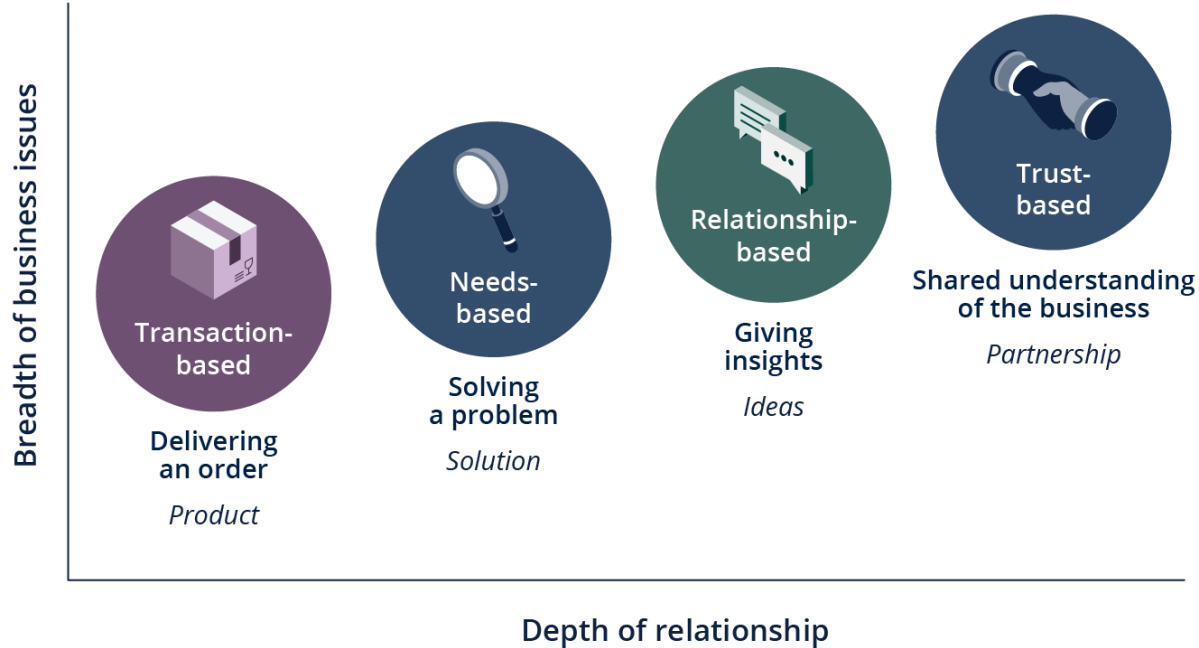


The Lowest Bid Illusion

“It's unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money - that's all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot - it can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run, and if you do that you will have enough to pay for something better.”

Source: Common Law of Business Balance,
attributed to John Ruskin but of unknown source,
ca. 1928

What Do You Actually Procure?



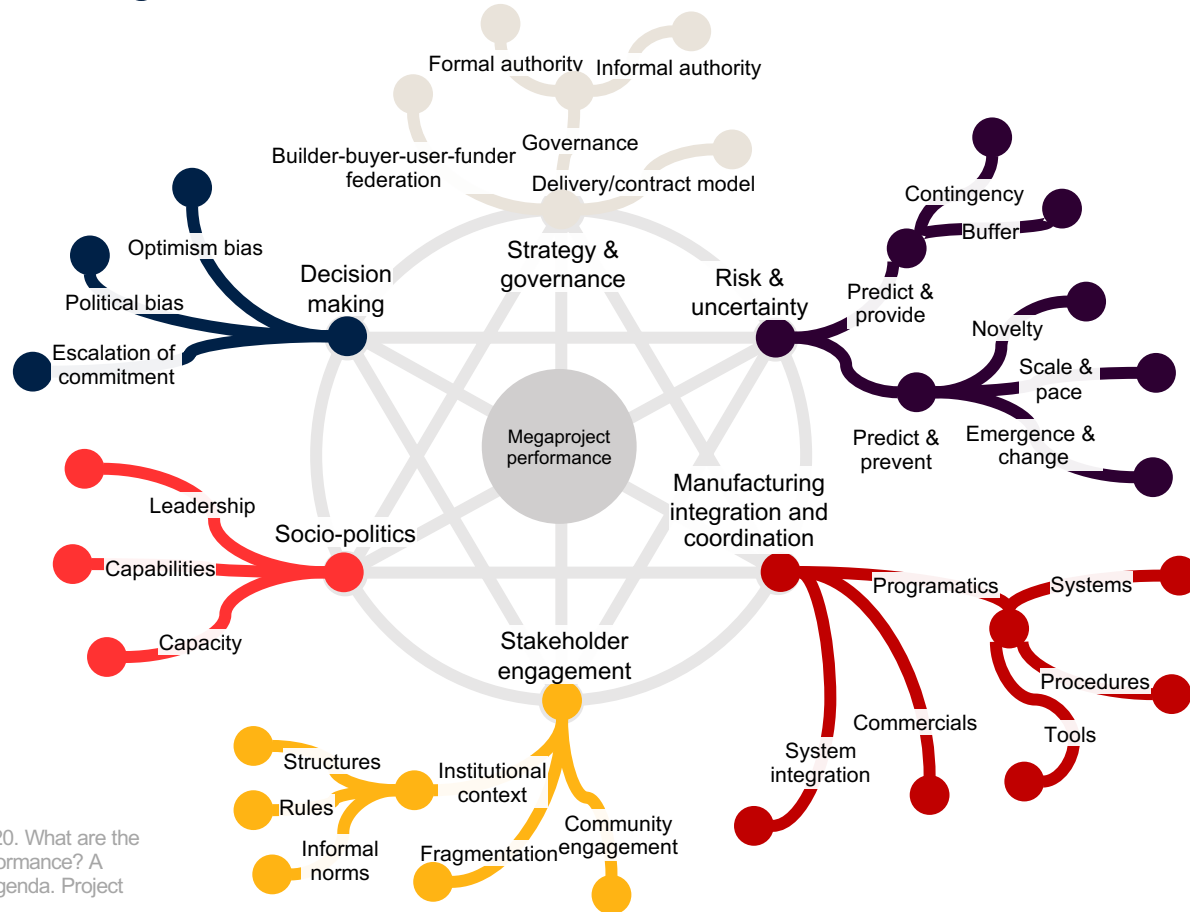


Lessons Learned From Successful Partnering

Partnering involves long terms collaboration to deliver mutual objectives , managing disputes, measuring progress and sharing gain and pain.

- **Success factors** include leadership, shared values, and a clear and common framework
- A **partnership** is not just a contract – set the right tone from the outset.
- **Risk** all ultimately comes back to the client – risk needs to be identified, mitigated and managed at the outset
- **Accept client responsibilities**, especially if you are the integrator.
- **Painshare/ gainshare** works – but pay attention to the baseline budget and assumptions. Be realistic.
- **It's about outcomes** – focus on benefits realisation not digital assets/products.
- **Invest time in the procurement process**, the partner attributes and how a partner can be selected.
- A **partner is only as good as its supply chain** – invest time in understanding it.
- **Relationship management** – nurture your partnership from start to finish through strong relationship/ supplier management.
- **Identify and deal with problems early** – do not be frightened to escalate them.
- Always consider your **partner's perspective** – driving it to insolvency will not help.

Project Success and Failure Factors



Adapted from:
Denicol, J., Davies, A. and Krystallis, I., 2020. What are the causes and cures of poor megaproject performance? A systematic literature review and research agenda. *Project Management Journal*, 51(3), pp.328-345.

Summary

- The Iron Law of Projects "over budget, over time, under benefits, again and again"
 - Decision quality at entry: De-bias projects, research has developed qualitative (pre-mortems, checklists, kill the project) and quantitative methods (reference class forecasting)
 - Value control: Procurement is shifting away from cost to broader considerations (sustainability, value, behaviors) a key factor is how we address risk and uncertainty in management and commercials
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