



What makes a project successful?

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impact from within

Postcard from bonny Scotland



Amongst members of the academy, concern exists over the project front-end

- Paraphrasing from Norwegian, “the cause of project errors rarely lies in the construction phase alone. Experience from more than 20 years of research on government projects shows that **the most expensive errors often occur long before construction starts** ... The mechanisms in both state and municipal projects are general: the desire to get started quickly, strong local interests, optimistic cost estimates and inadequate assessment of alternatives.”
- Morten Welde and Gro Holst Volden (2026) 
- “**the front-end phase of the project**, when it exists only conceptually, and before it is planned and implemented ... includes all activities from the time the idea is conceived, until the final decision to finance the project is made more than just the technical solution — it **includes the entire business case** (p39)”
- “While **cost overrun** is a question of doing the project right (efficiency), underestimation of cost up front might affect the much larger issue of choosing the right project (effectiveness) ... This **is so common that we talk not only of systematic underestimation, but also of normalization of deviance** (Pinto, 2006)” (p43)
- Terry Williams and Knut Samset (2010) 

Concern also exists amongst practitioners over the project front-end

Q43 Robert Largan: Thank you. It is interesting to hear you talking about Ministers putting pressure on civil servants in that way. For my sins, I briefly spent a period of time as a policy adviser. I have sat in rooms with civil servants talking about an infrastructure project—I will not say which one—and saying, “The BCR on this does not really stack up, but it benefits the Chief Secretary to the Treasury’s constituency, so we will find a way to bolster the BCR.” I won’t say which Chief Secretary to the Treasury. There is definitely an element of that.

Tony Meggs: May I intervene? ... I have not seen very much of that, having had oversight of about 150 to 180. There is a lot of literature about so-called strategic misrepresentation. ... but I have not personally witnessed that piling on to justify things. You obviously have, but I do not think it is widespread.

Lord Hammond It would be naive to say that civil service project managers do not come under pressure to lower cost estimates or improve BCRs in order to keep a project on track. As Tony Meggs has acknowledged, it is also well understood across Whitehall, especially in the Ministry of Defence, I might add, that keeping costs down to get a project into the programme is an essential part of the game-playing in Whitehall. Once the project is in the programme and announced, you have a very good chance of being able to keep it there even if its costs escalate. If you go in with too high a cost estimate at the outset, there is a real danger that it will not make it into the programme at all.

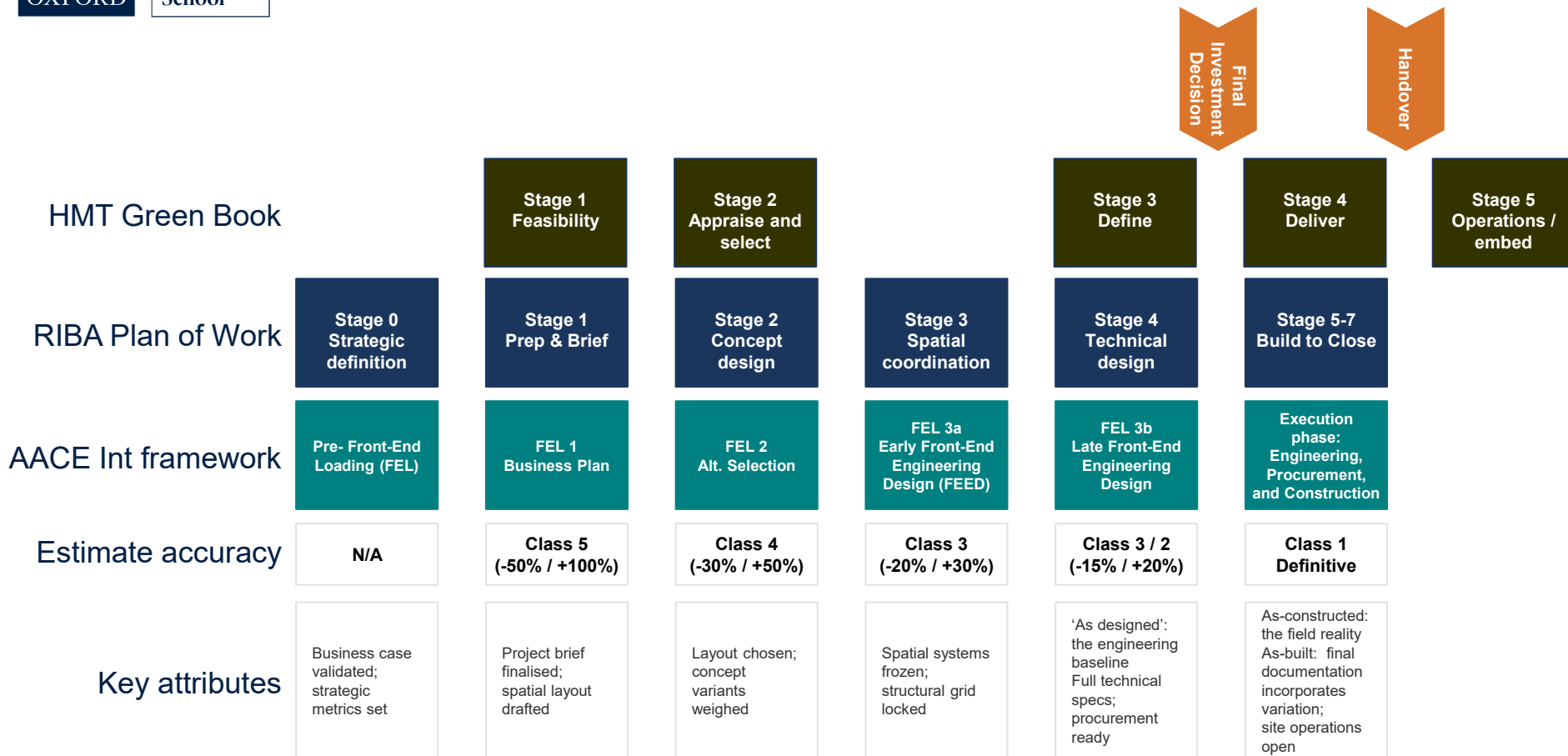


Let's get academic!

- Construct clarity
- Empirical evidence

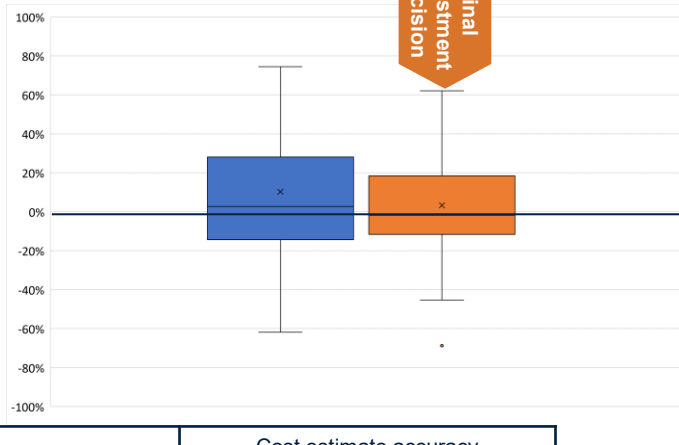


Mapping the front end



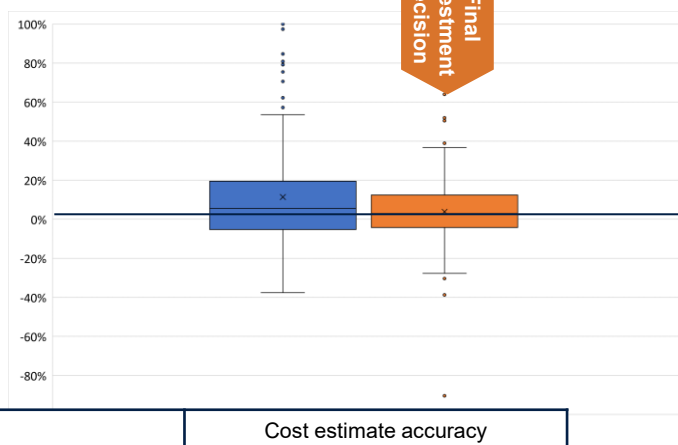
Swedish rail and road projects

Swedish rail



	Cost estimate accuracy	
	Plan cost estimate relative to outturn cost	Construction decision cost estimate relative to outturn cost
like-for-like comparison 67 projects		
maximum	179.2%	148.7%
3rd quartile	28.1%	18.4%
median	2.8%	-1.8%
1st quartile	-13.6%	-11.0%
minimum	-61.9%	-68.8%

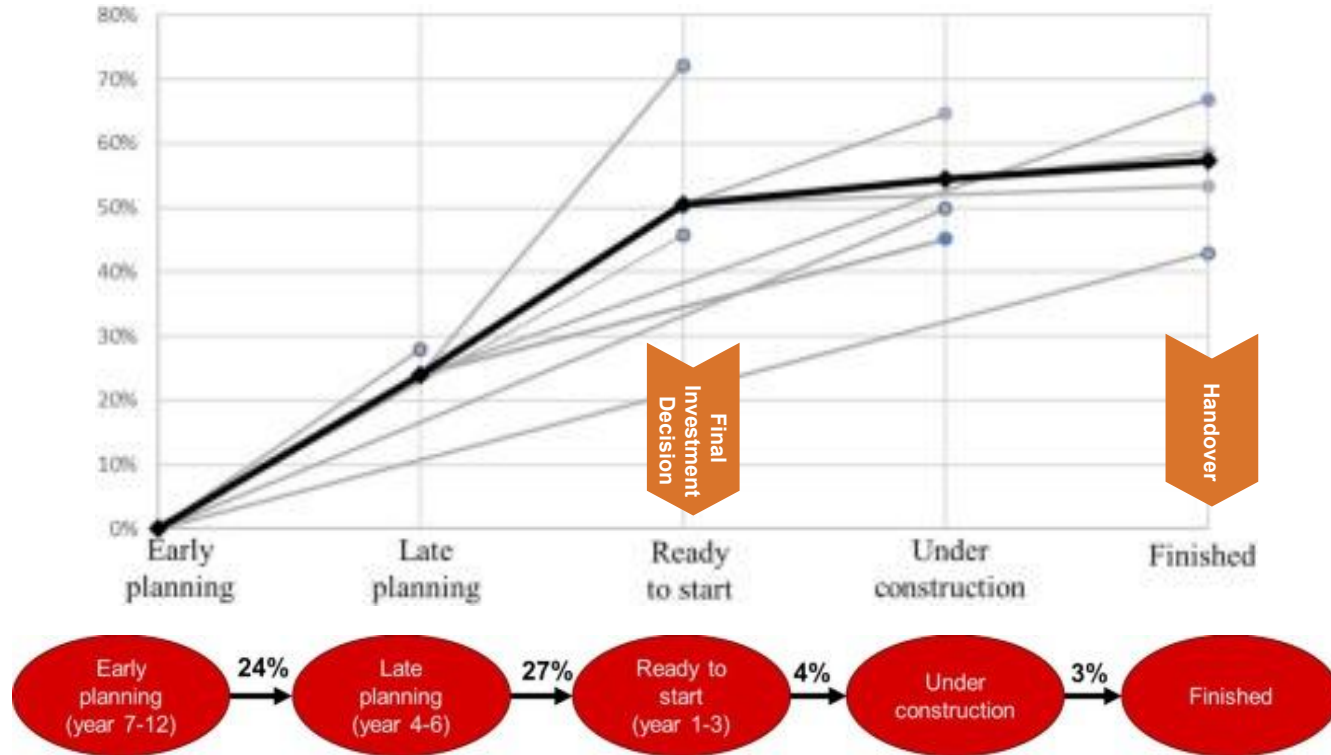
Swedish road



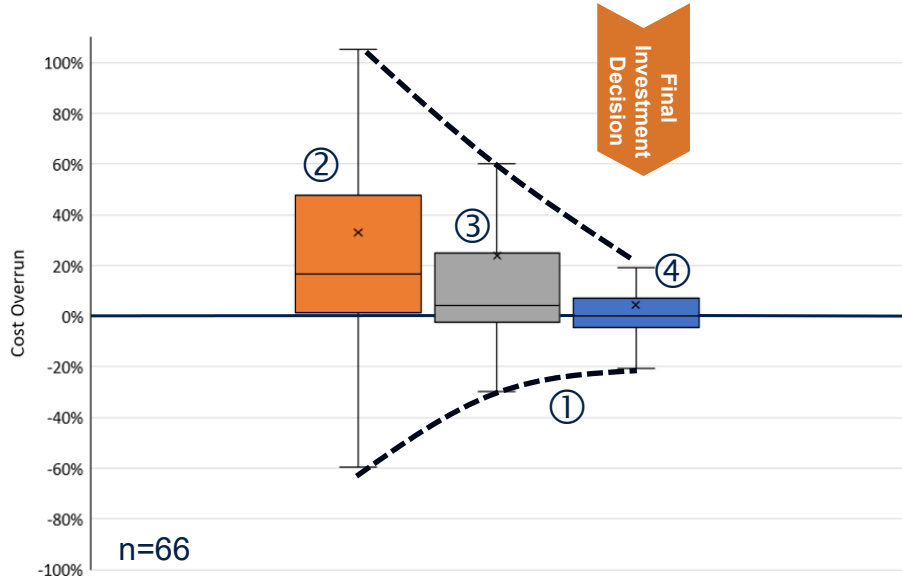
	Cost estimate accuracy	
	Plan cost estimate accuracy relative to outturn cost	Construction decision cost estimate accuracy relative to outturn cost
Like-for-like comparison 185 projects		
maximum	134.4%	108.3%
3rd quartile	19.5%	12.3%
median	5.6%	2.9%
1st quartile	-5.2%	-4.2%
minimum	-37.6%	-90.4%

Swedish transport projects

Average changes in estimated costs



Population 3 - Estimate Maturity



Profile characteristics:

① Range narrows as project matures

Compared to outturn cost

② Early planning estimates: wide range and low

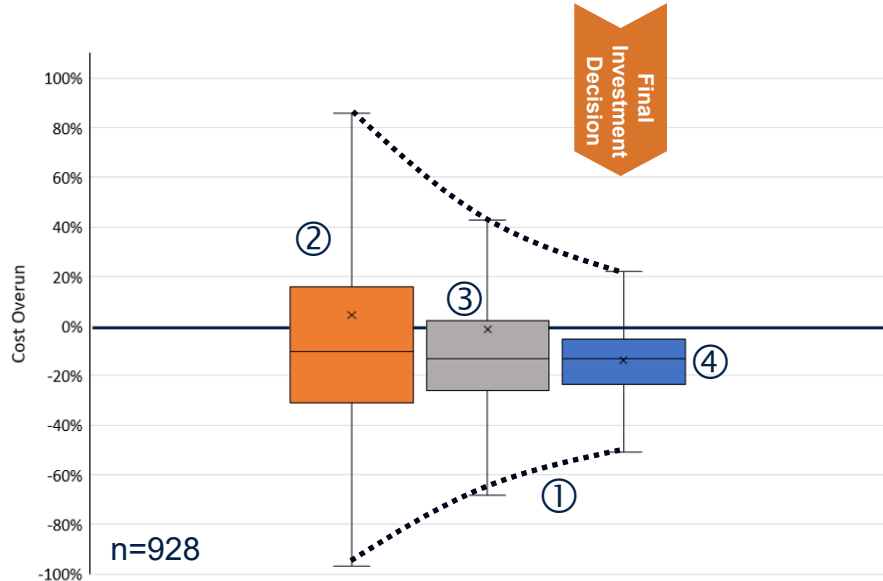
③ Late planning estimates: distributed but close

④ FID estimates accurate

- Entryism?

- No bias in cost estimation

Population 4 - Estimate Maturity



Profile characteristics:

① Range narrows as project matures

Compared to outturn cost:

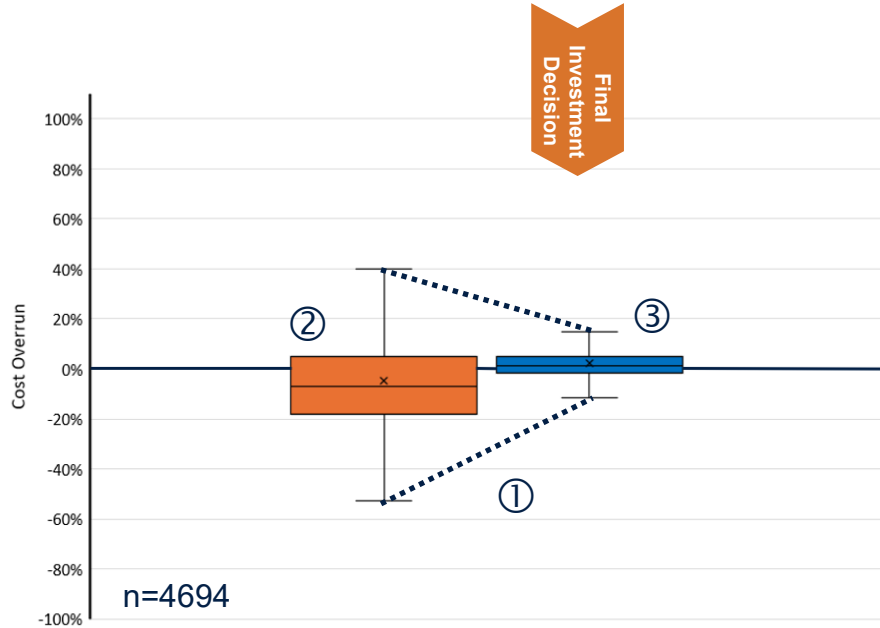
② Early planning estimates: wide range and high

③ Late planning estimates: distributed and high

④ FID estimates high

- Bias in estimation: cost underestimated

Population 5 - Estimate Maturity



Profile characteristics:

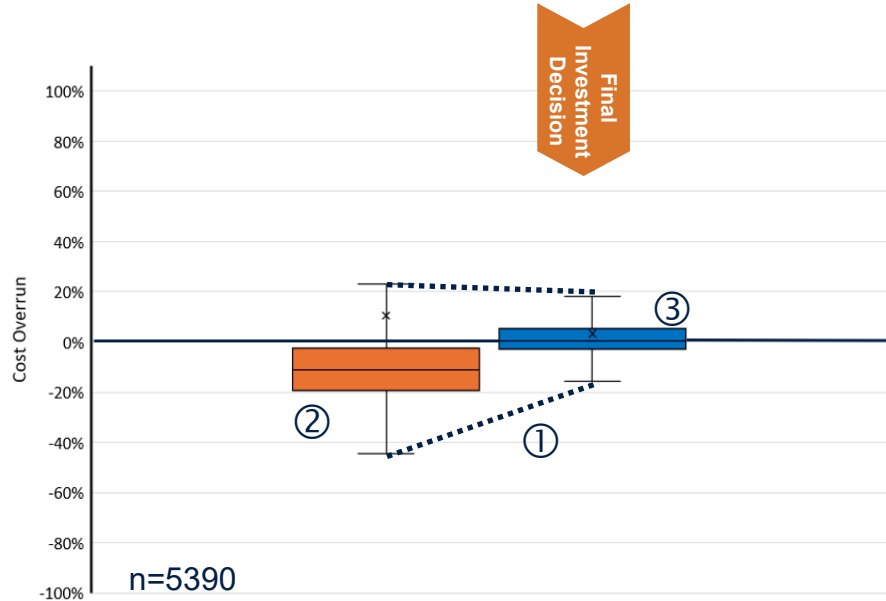
① Range narrows as project matures

Compared to outturn cost:

- ② Planning estimates a little high
- ③ FID estimates: tight distribution and accurate

- No entryism
- No bias in cost estimation

Population 6 - Estimate Maturity



Profile characteristics:

① Range narrows as project matures

Compared to outturn cost:

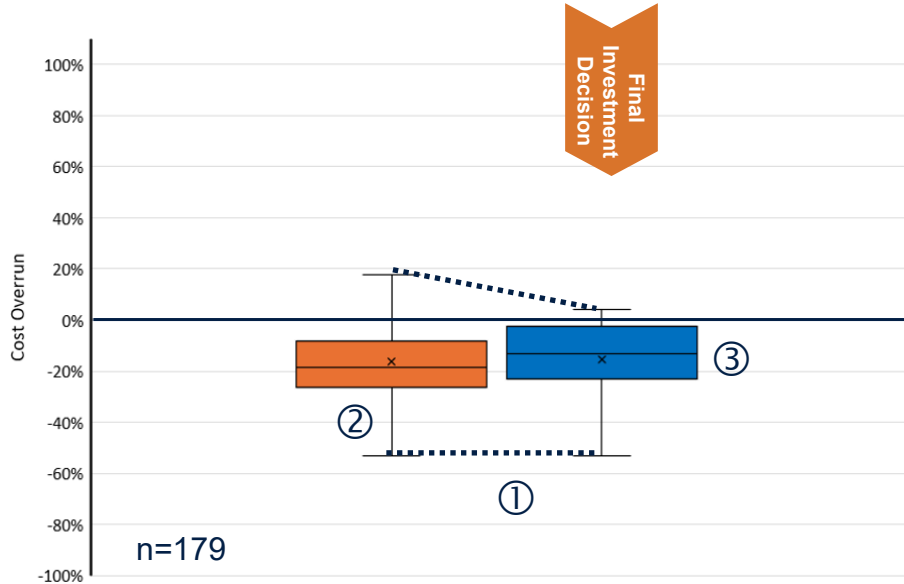
② Planning estimates: tight distribution though high

③ FID estimates: tight distribution and accurate

- No entryism

- No bias in cost estimation

Population 7 - Estimate Maturity



Profile characteristics:

① Range doesn't narrow as project matures

Compared to outturn cost:

② Planning estimates high

③ FID estimates: range doesn't narrow and high overall

- No entryism

- Bias in estimation: costs over estimated

Summary findings

Population	Early planning v outturn cost	Late planning v outturn cost	Outturn cost v Final Investment Decision
Swedish rail	2.8%		-1.8%
Swedish road	5.6%		2.9%
3	18.6%	4.8%	0.0%
4	-9.8%	-14.0%	-15.3%
5	-6.9%		1.2%
6	-11.3%		0.3%
7	-18.5%		-13.2%



Theorising



A long time ago in a galaxy far, far away....

“no conceptual model currently exists that enables project managers to understand why different approaches exist, which one to choose, and when ... As a consequence, project failures are numerous in practice; for example, budget and schedule overruns, compromised performance, and missed opportunities”

- Mike Pich, Christoph Loch and Arnoud De Meyer (2002)

“Any complex project is subject to myriad problems - from technology failures to shifts in exchange rates to bad weather - and it is beyond the reach of the human imagination to foresee all of them at the outset.”

- Dan Lavallo & Daniel Kahneman (2003, p59)

Pich, M.T., Loch, C.H. and De Meyer, A. (2002) 'On Uncertainty, Ambiguity, and Complexity in Project Management'. *Management Science* 48 (8): 1008–23.

Lavallo, D & Kahneman, D. (2003) *Delusions of Success: How Optimism Undermines Executives' Decisions*. Harvard Business Review

Does project delivery performance respond to reforms?

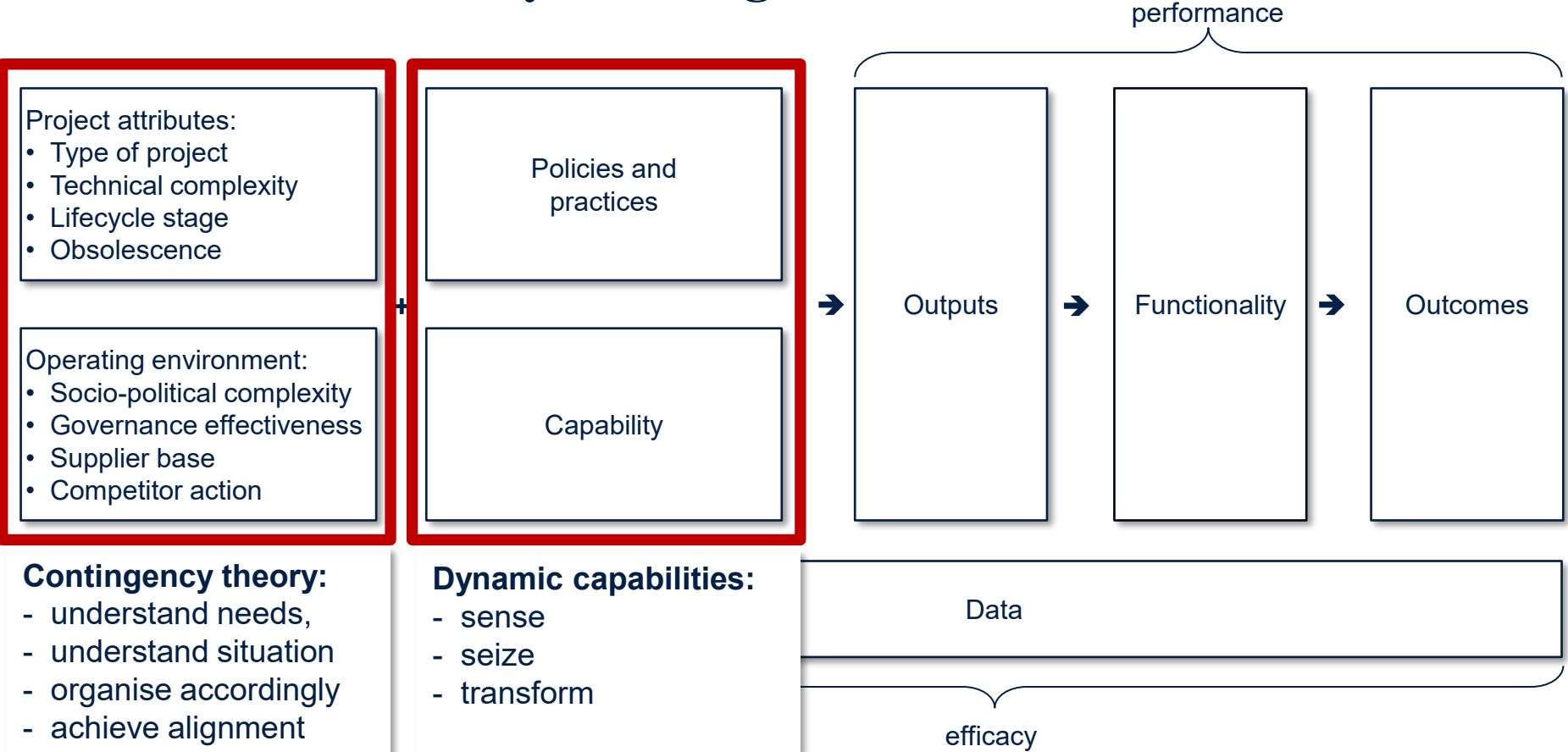
“ ... reforms work. Governments that strengthen the front end through QA schemes and risk assessments, adopt better estimation practices, reform contracts to align incentives, and build professional capacity achieve better outcomes. Transparency and accountability reinforce trust, while international learning accelerates progress.”

“Evidence from Norway, Sweden, Switzerland, England, and elsewhere points to a set of practical reforms that consistently correlate with improved [performance]. These reforms are diverse, but they share a common thread: they strengthen governance at the front end, clarify accountability, improve estimation methods, and build institutional capacity.”

- James Odeck (2026)

What makes a project successful?

A theory of change

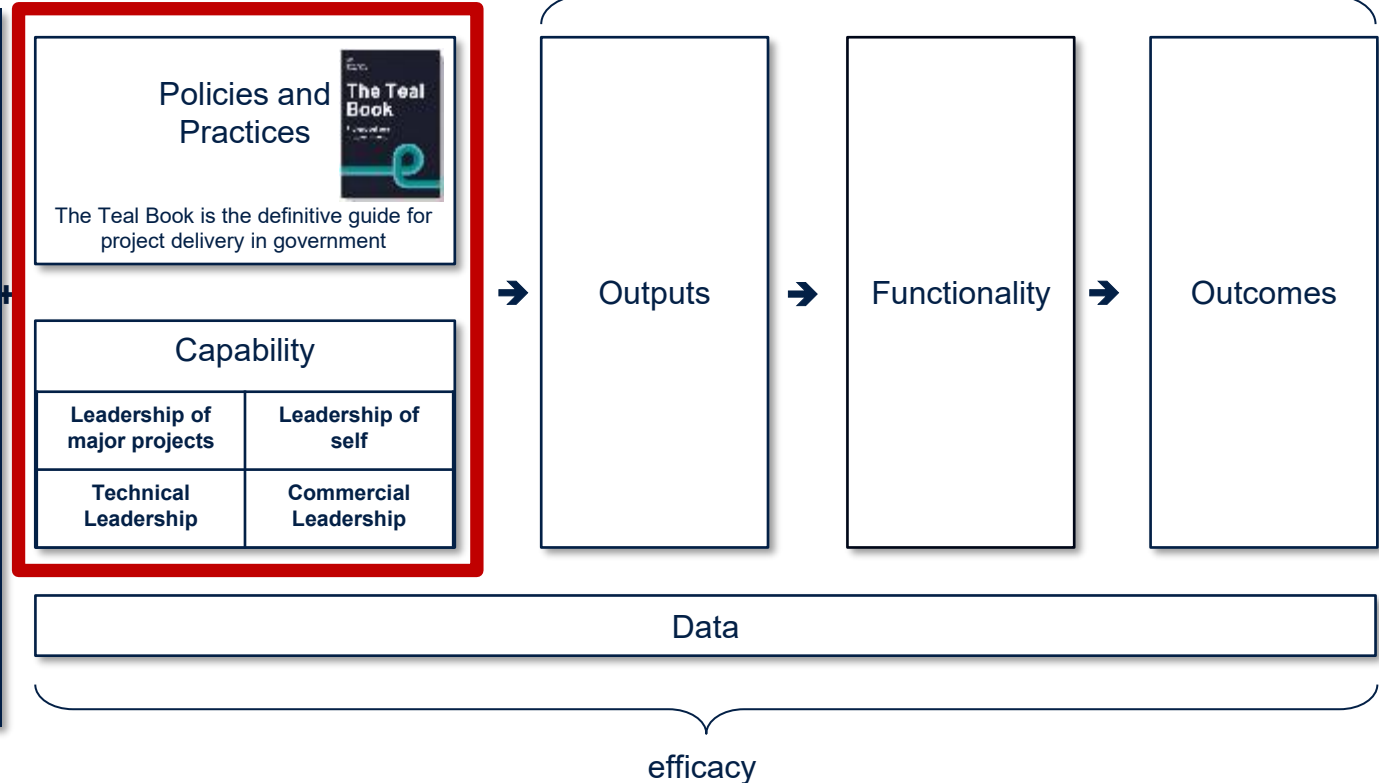


Theory of change illustrative example: NISTA

In the UK, the National Infrastructure and Service Transformation Authority is the Government's centre of excellence for project delivery (PD).

NISTA is responsible for the PD Function, including guidance

NISTA is responsible for the PD Profession, including capability development

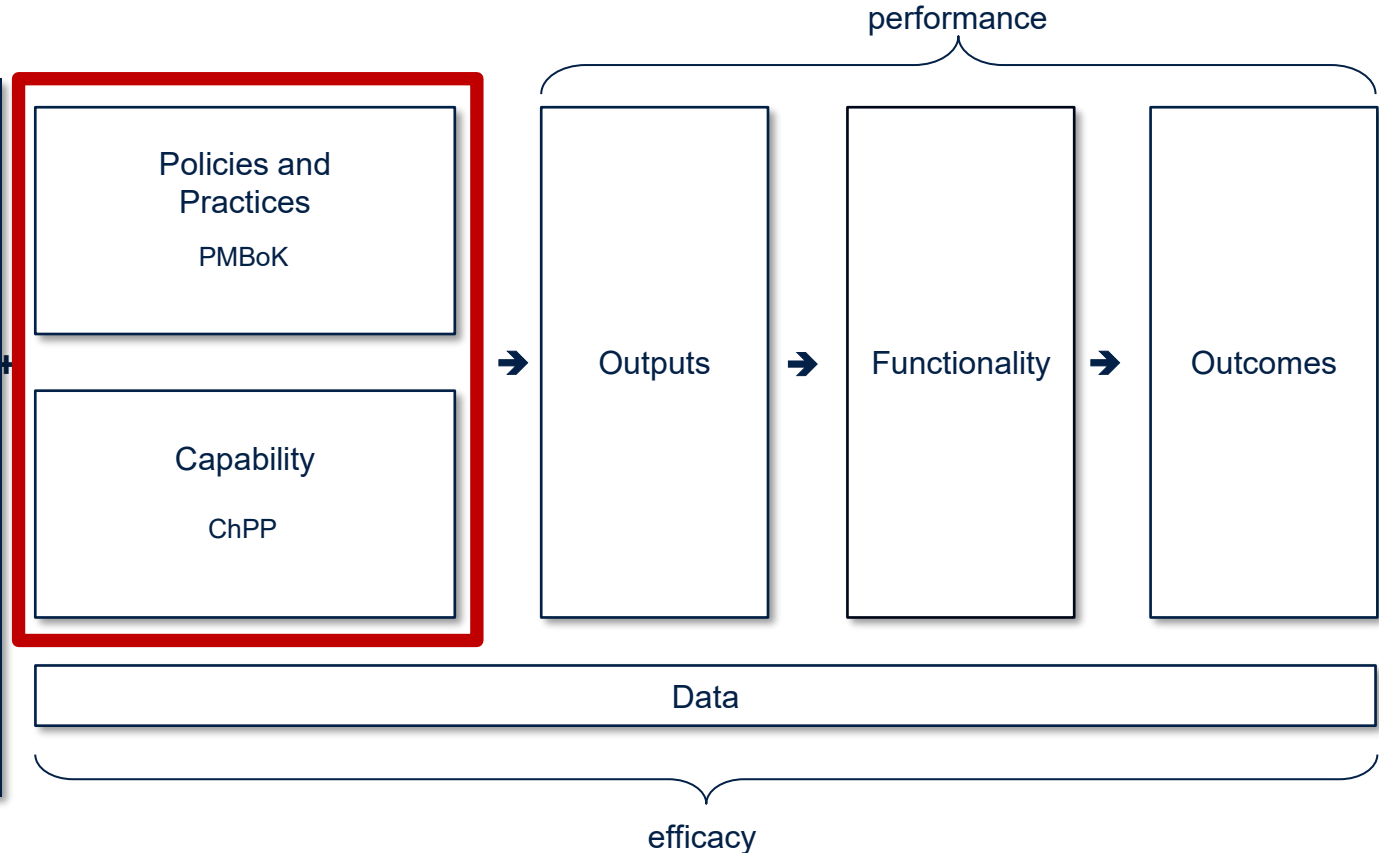


Theory of change illustrative example: APM

In the UK, the Association for Project Management, APM, is the Chartered body for the project profession

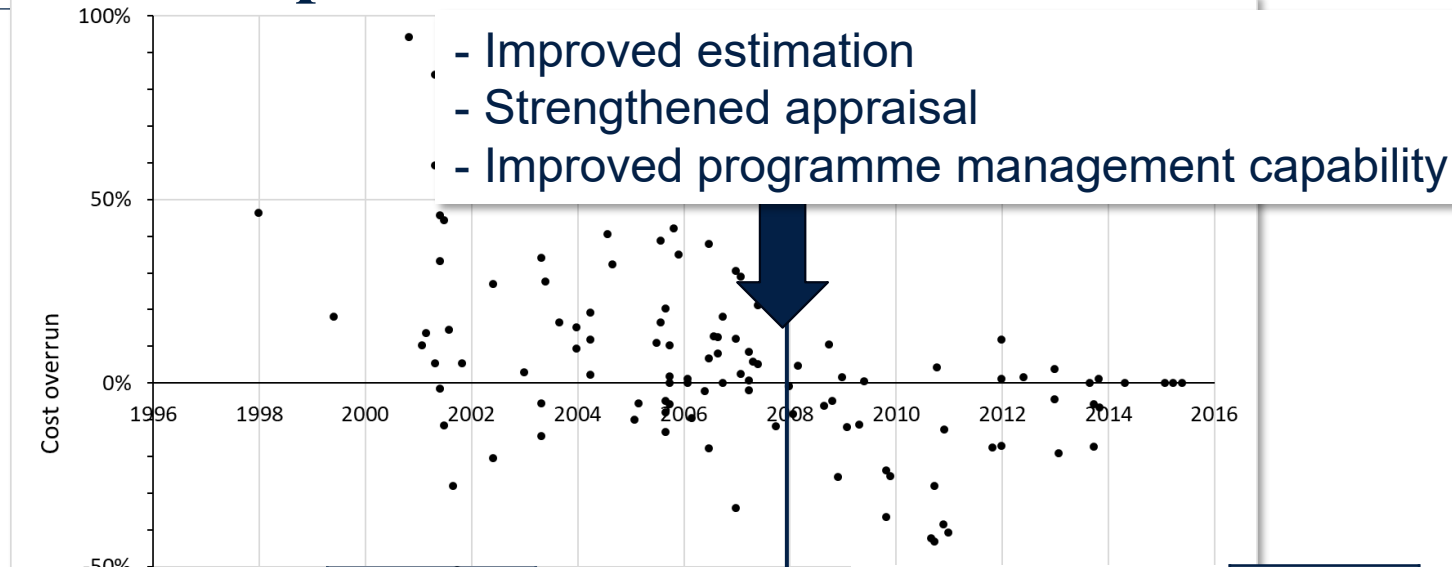
APM produces insights, including the project management book of knowledge, PMBoK

APM is responsible for PM qualifications, including Chartered Project Professional; maintaining a register of Chartered professionals, and; undertaking disciplinary action.





English road projects, cost performance over time



Period:	2007 and earlier
sample size:	78
Maximum:	178%
75th percentile:	32%
Median:	11.5%
25th percentile:	0%
Minimum:	-51%
projects within budget	28%
projects within budget +10%	46%

Year of Construction Start

Period:	2008 and later
sample size:	38
Maximum:	12%
75th percentile:	0%
Median:	-6.0%
25th percentile:	-19%
Minimum:	-43%
projects within budget	74%
projects within budget +10%	95%

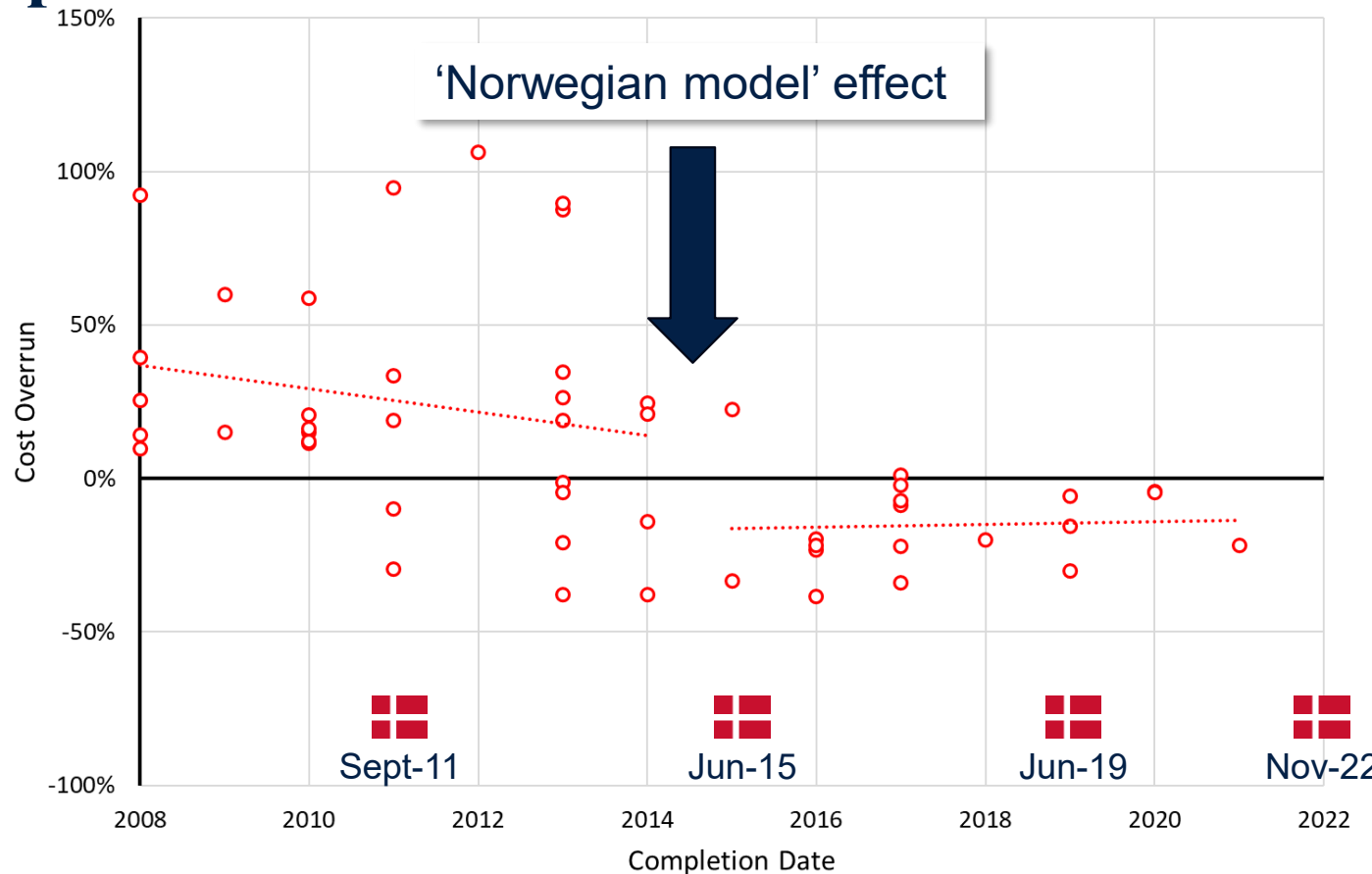
Danish road projects, cost performance over time

Danish road projects,
Cost overrun over time



Statistically significant
difference? ☒

Election dates:





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