



The Project Controls Process Reengineering

Why we have budget overrun?

The root causes: why do overruns happen?

What can we do about it?

What are the main factors for budget overrun?

Introduction

Cost overruns have become an almost inevitable reality in project delivery. If we were to ask project management professionals, it is likely that more than **95%** would agree that delivering a project within the initially estimated budget is nearly impossible. Some would argue that this is because the initial budget is not a precise estimate even when prepared by leading firms like the Big 4. Instead, it is often based on assumptions, market trends, and high-level conceptual designs rather than detailed engineering or comprehensive data. This argument holds some truth, as initial budget estimates typically come with a variance of **30 to 40 percent**, plus or minus. However, in practice, budgets rarely decrease from their initial estimates; they almost always trend upward, escalating significantly at every stage of the project lifecycle. This upward trajectory has become a defining characteristic of modern project delivery, raising questions about the accuracy of early stage estimations and the effectiveness of cost control measures.

The Data

Deloitte on their Global Powers of Construction 2023, expected the construction industry perspective long term remain positive as the industry is expected to grow from US\$ 10.4 trillion in 2023 to US\$ 16.1 trillion by 2030. If the budget overrun is only 10%, this is 1.61 trillion dollars of extra fund needed.

Let's put some foundations here, budget overrun, it doesn't mean bad thing always. Because sometimes, the change orders are needed, and the extra budget will deliver the targeted value or increase the targeted value more. So think positively about it when we discuss it.

Having said that, most of the studies of budget overrun, shows many similar factors across the different project types. All studies paint a grey picture of the scale and impact of this global issue. Whether it's a skyscraper in New York, a high-speed rail project in Europe, or an oil refinery in the Middle East, no industry or region is immune. Let's dive into the numbers, compare the findings, and think together how we can reengineer project controls process and governance?



The Cost Overruns Is A Global Problem

The Big 4 echo this sentiment, with KPMG's 2023 Global Construction Survey revealing that 76% of project owners have experienced significant overruns in the past three years, averaging 18% above budget. PwC's 2022 Capital Projects and Infrastructure Survey adds that 70% of infrastructure projects fail to stay within their original budgets, with overruns typically ranging between 20-30%. These statistics highlight a universal truth: cost overruns are not the exception—they're the norm.



Industry Breakdown: Where Does It Hurt the Most?

In building and real estate, Deloitte's 2023 report notes that commercial projects exceed budgets by 10-15%, while residential projects face overruns of 8-12%. The Turner & Townsend 2023 survey found that 65% of U.S. building projects and 55% of UK projects blew their budgets, driven by material cost fluctuations and labor shortages.

Industry Breakdown: Where Does It Hurt the Most?

Infrastructure projects, however, take the crown for the worst overruns. The World Bank (2023) reports that transport projects exceed budgets by 34%, while energy projects overshoot by 25%. EY's 2023 Global Infrastructure Report confirms this, noting that 80% of infrastructure projects face overruns, averaging 22%. The Boston Big Dig and California High-Speed Rail are infamous examples, with costs ballooning by billions due to design changes and regulatory hurdles.

Industry Breakdown: Where Does It Hurt the Most?

EPC industrial projects, particularly in oil and gas, are no better.

Deloitte's 2023 survey reveals that 90% of energy

megaprojects exceed budgets, with overruns averaging 35%.

The Chevron Gorgon LNG project in Australia and the Kashagan

oil field in Kazakhstan are stark reminders of how engineering

changes and harsh environments can derail even the most

meticulously planned projects.



Regional Variations: A Tale of Continents

Cost overruns also vary significantly by region. In North America, Deloitte's 2023 findings show average overruns of 15-20%, with U.S. infrastructure projects particularly vulnerable due to labor shortages and regulatory delays. Europe fares slightly better, with overruns averaging 10-15%, according to Turner & Townsend (2023). However, the UK's HS2 rail project stands out as a cautionary tale, with costs rising by 30% since its inception.



Regional Variations: A Tale of Continents

The Middle East, home to some of the world's most ambitious megaprojects, faces overruns of **20-25%**, as highlighted by PwC's 2023 report. Projects like Saudi Arabia's NEOM are pushing the boundaries of innovation but are also grappling with the complexities of scale and execution. In the **Asia-Pacific** region, EY's 2023 data reveals overruns of **25-30%**, driven by land acquisition delays and regulatory hurdles. India's infrastructure boom, for instance, has been tainted by cost escalations and delays.

The Root Causes: Why Do Overruns Happen?

The Big 4 studies consistently point to several key drivers of cost overruns. PwC's 2022 survey identifies poor project planning and estimation as the top culprit, cited by 62% of respondents. Scope changes, supply chain disruptions, and labor shortages follow closely behind. KPMG's 2023 survey adds that 70% of overruns stem from inaccurate cost estimates, while 65% are caused by unforeseen site conditions. Deloitte's 2023 report emphasizes the role of engineering changes and procurement delays in industrial projects, while EY's 2023 findings highlight the impact of regulatory challenges and stakeholder misalignment.



The Root Causes: Why Do Overruns Happen?

Poor project planning and estimation away from loading the cost to the schedule is also from my experience is the root cause of budget overrun. It happened because many reasons related to the project planning team where limited skills and limited resources stopping them from doing the right planning from day one. I saw this happened in many projects. When you plan and design a proper schedule, you ask the right questions to add to the schedule, any question with no answer highlight a risk.



The Root Causes: Why Do Overruns Happen?

In my experience I put such packages and activities in the critical path with certain dates. Then follow it up until we get the answers. The answers will confirm a budget and time for delivery. This happened on most preliminary stages and long lead items and external stakeholder related activities. It happened in all bottlenecks and interfacing activities. Keep your eye open for such activities and assign a team to monitor it independently of the overall planning team. Give them power to manage these risks. They are the crisis management team put on a proactive style ahead of the crisis.

This is the first recommendation of project control process reengineering, think about it and implement it in your governance.



The Ripple Effect: Beyond the Bottom Line

The consequences of cost overruns extend far beyond financial losses. McKinsey estimates that overruns result in **1 to 2 trillion** in global losses annually. For every 1 billion in project value, overruns cost an average of **\$200 million**, according to KPMG. But the damage isn't just monetary. **60%** of project owners report that overruns harm their reputation, as seen in the fallout from the Grenfell Tower tragedy and the Deepwater Horizon disaster. Worse still, **20%** of projects are canceled or scaled back due to budget blowouts, wasting time, resources, and opportunities. This is without saying, there are some misreporting which doesn't show the losses due to different views or political reasons.

Conclusion: Turning the Tide on Cost Overruns, We must do something

The statistics are clear: cost overruns are a global crisis with far reaching implications. However, they are not inevitable. By learning from the insights of the Big 4 and other leading studies, project managers can adopt proactive strategies better planning, robust risk management, and stakeholder alignment to mitigate overruns. As the industry continues to evolve, the question remains: will we rise to the challenge, or will cost overruns remain an accepted part of doing business?

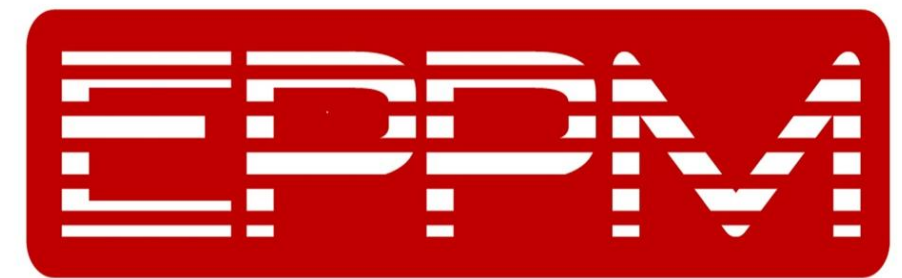
This is a series of project control articles, and more articles will explain more and focus more deeply on some examples how to reengineer the project control processes.

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