Executive Insights

Volume XX, Issue 19

Four Ways to Improve Capital Planning Effectiveness

The world is facing a significant transformation in how it looks at capital investments, adding uncertainty to the already challenging exercise of capital investment planning. Although these investments are increasingly relevant, it will be some time before capital spending globally returns to pre-2008 levels. This perplexing scenario has elevated the topic of capital planning effectiveness to high-priority status for large businesses.

On one hand, favorable circumstances for worldwide capital expenditure (CapEx) are apparent in most economies, reinforcing arguments for an increase in CapEx: The capital stock is old. Capital is available and cheaper. Corporate balance sheets are healthy. And businesses indicate that they plan to invest. According to an August 2017 Bloomberg article about the struggle of private equity to invest record quantities of cash, "The amount of dry powder — money raised but not yet invested — could hit $1 trillion by the end of year in private equity alone."

On the other hand, two major factors completely flip the equation, infusing the scenario with uncertainty and potentially explaining the limited growth of CapEx investments (only about 2%-4% per year worldwide) despite strong liquidity:

- **Factor 1**: The supply and demand sides of the worldwide economy may not be as separable as was previously thought. Slower investment growth limits the economy's output capacity and contributes to slowdown in labor productivity. On the flip side, an expectation of investment growth leading to future productivity growth enhances forecasts of output growth; faster anticipated output growth feeds back into faster current investment growth, making businesses believe this means more customers for their products. Such a phenomenon describes how investment can be not just a cause but also a function of economic growth, and highlights CapEx's circular relationship with output.
- **Factor 2**: Unforeseen macroeconomic and political bumps add to uncertainty. Some economic and political dynamics — such as the decline in oil prices and those of most other commodities (along with the length of the down cycle), the long-lasting slowdown in China's growth rates, slow recoveries in the more industrialized world, and instability in the aftermath of the Brexit decision — have an outsized impact on businesses and investors. These unexpected blows have forced several new industrial and infrastructure investment projects to be shelved or even brought to a halt.

The World Bank, in its article "Global Economy in 2017: Hope and Uncertainty," reveals the unsurprising fact that investment growth in developing economies "has tumbled from 10 percent, on average, in 2010 to about 3.5 percent in 2016." Such increasing uncertainty adds traps and pitfalls to the potential capital projects spending landscape, which makes business planning even harder and yet more essential than ever.

Four Ways to Improve Capital Planning Effectiveness was written by **Paulo Vandor**, Managing Director, and **Fabio Zaffalon**, Principal, at L.E.K. Consulting. Paulo and Fabio are based in São Paulo, Brazil.

For more information, contact strategy@lek.com.

L.E.K.

Figure 1
Nickel mining project overruns

Project	Owner	First budget announced	Initial budget (USD billion)	Year concluded	Final budget (USD billion)	Capacity (000 tpy)	CapEx overrun (%)
Ambatovy	Sherritt	2007	3.4	Ramping up	5.5	60	62
Koniambo	Xstrata	2007	3.8	2013	5.0	60	32
Goro	Vale	2007	3.2	Ramping up	4.3	60	34
Onça Puma	Vale	2005	1.4	2010	2.3	52	64
Long Harbour	Vale	2009	2.8	2013	3.6	50	29
Barro Alto	A. American	2006	1.2	2011	1.9	36	58
Ramu	CNMC	2008	1.2	2013	1.5	31	25
Taganito	Sumitomo	2008	1.1	2013	1.3	30	18
Fenix	Solway	2008	1.0	2014	1.1	24	10
Kevista	First Quantum	2009	0.35	2012	0.4	10	14

Avg[1]=38%

[1]Weighted average of CapEx overruns in selected projects
Source: Companies' websites and reports; press clippings; L.E.K. analysis

The fact is, even for the most prepared organizations in capital-intensive industries, capital projects can go wrong — very often badly wrong. As the analysis in Figure 1 shows, even nickel — one of the mining industries considered to be a "gold standard" in CapEx execution — can miss CapEx budgets by 38%.

One thing is certain: Do the same things again and again, and you will keep getting the same (if not worse) results. Yet this has become the norm in CapEx handling — project leaders rely time after time on the same construction techniques, contractual arrangements, work habits and relationships.

The most impressive results will come from a serious questioning of the factors that drive CapEx effectiveness. Successful stakeholders, from project owners and sponsors to engineering and construction firms to investors and governments, will defy the old recipe for failure. By using new frameworks for project design and approval, contracting, construction planning and execution, and project management, they will see outstanding returns instead.

For instance, L.E.K. Consulting often sees engineering departments with a limited ability to understand and mitigate market uncertainties that can destroy project returns. Yet we have seen great benefit in designing and including options in supply contracts of megaprojects (those above US$1 billion in CapEx spending) that can minimize relevant uncertainties.

When a large project systematically relies on best practices of CapEx effectiveness, there is a prize to be captured. L.E.K.'s research points toward return on invested capital (ROIC) improvements of 2-4 percentage points in projects that leverage a new mindset toward CapEx programs (see Figure 2).

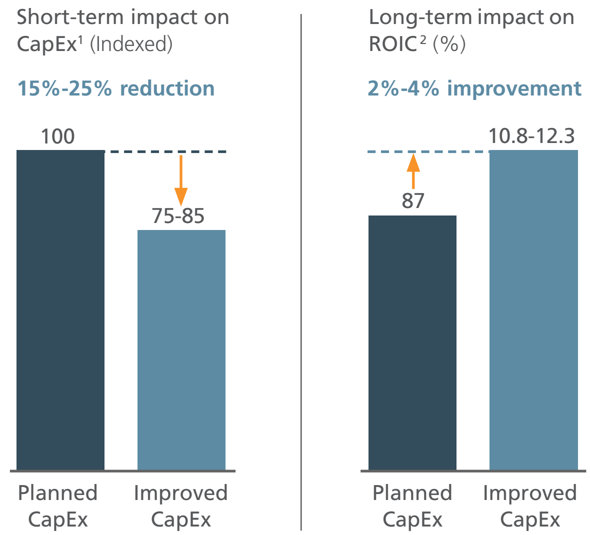
Furthermore, applying such techniques is proven to reduce the effects of uncertainty and volatility in a project's outcome. Stage-gated development and approval processes, when followed by the book, reduce the variability of results in megaprojects by up to 20%.

We recommend an approach toward CapEx effectiveness that sustains itself in four key elements of the capital processes in any given organization (see Figure 3).

Capital allocation.
We understand that capital allocation, especially in multi-business corporations, is a difficult process, with no one-size-fits-all solution. Thus we developed proprietary knowledge that will allow boardrooms and C-level executives to (i) translate strategy into a target business footprint/market(s); (ii) ensure the adoption of mechanisms that avoid distortions in decision-making; (iii) define the current risk/return profile and the group risk appetite; and (iv) determine capital headroom from existing business and allocate headroom to the target footprint/market(s).

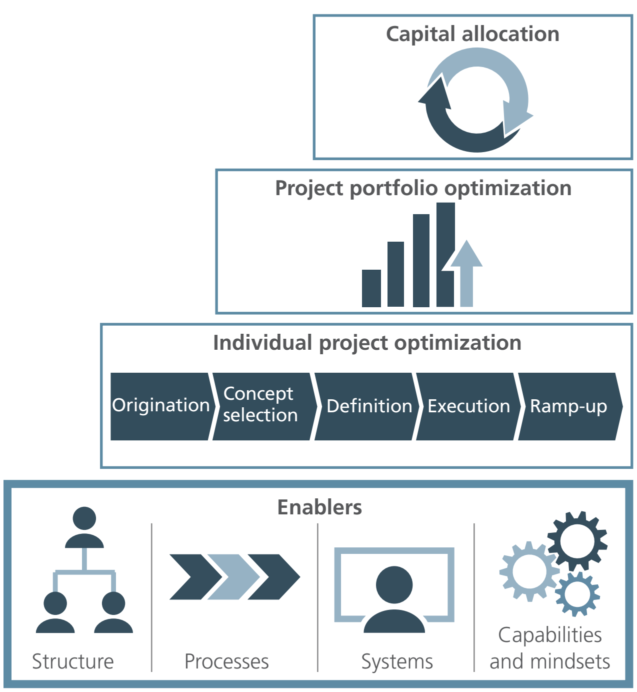
Portfolio optimization.
In general, 20%-40% of CapEx value in capital-intensive industries is spent on small and midsize projects, driven by the sustaining capital required to operate, which often represents more than 80% of the capital projects. While achieving excellence in planning and execution can translate to 2%-4% ROIC improvement for the company, management seldom gives these projects the proper attention. The most effective approach to portfolio optimization solves that problem by (i) verifying, probing and optimizing each project, and (ii) optimizing the portfolio for improved returns rather than simply CapEx reductions.

Figure 2
Best practices in CapEx effectiveness lead to ROIC improvement



[1]Value equivalent: through project CapEx/operating costs optimization, risk elimination or additional demonstrated value creation
[2]Return on invested capital

Figure 3
Four key elements of CapEx effectiveness



Objectives	Typical impact
• Translate strategy into capital allocation • Make informed approval decisions	• Strategic redirection • Organization and shareholders alignment • Overall ROIC improvement
• Select optimal project portfolio	• 15-25% CapEx reduction • 2-4% project portfolio improvement in long-term ROIC
• Optimize design, contracting strategy, execution, ramp-up of individual projects	• 10–30% net present value (NPV) improvement
• Develop foundation of enablers to support capital performance	• Overall ROIC improvement • Sustained transformation • Improved visibility and governance

Source: L.E.K. analysis

Megaproject optimization. Megaprojects often represent "bet the company" investment. Companies should conduct thorough due diligence before partnering with a consulting firm to provide equity investments advisory services and seek experts from the construction and engineering space to support megaprojects with design, procurement, contracting, construction planning and project management optimization.

Enablers. Sustaining impact is finally ensured through the design and implementation of foundational elements of organizational change in project and corporate structures, processes, systems, and mindsets and behaviors. By acting on these elements, companies are well-positioned to achieve positive impact in their CapEx efforts.

About the Authors

Paulo Vandor is a Managing Director, Partner and co-head of L.E.K. Consulting's São Paulo office. He has more than 15 years of experience advising organizations on corporate and competitive growth strategies, organizational transformation, and operational restructuring in several capital-intensive sectors, including Transportation & Logistics, Construction, Industrial Equipment, Oil & Gas, Mining, Pulp & Paper and Cement.

Fabio Zaffalon is a Principal in L.E.K. Consulting's São Paulo office. He has nearly 20 years of experience and specializes in corporate finance, operations, M&A, CapEx projects and corporate strategy. Previous work for clients includes the acquisition of Brazilian electric power generation assets by a German firm and investment in a new power generation plant in Brazil, leading to a successful bid in an auction for electricity supply.

About L.E.K. Consulting

L.E.K. Consulting is a global management consulting firm that uses deep industry expertise and rigorous analysis to help business leaders achieve practical results with real impact. We are uncompromising in our approach to helping clients consistently make better decisions, deliver improved business performance and create greater shareholder returns. The firm advises and supports global companies that are leaders in their industries — including the largest private- and public-sector organizations, private equity firms, and emerging entrepreneurial businesses. Founded in 1983, L.E.K. employs more than 1,200 professionals across the Americas, Asia-Pacific and Europe. For more information, go to www.lek.com.