



Capital allocation: Seeing the value in a value architecture

Making sound investment decisions is a perennial top-of-mind issue for CFOs—made even more so now given the potential effects of tax reform and cash repatriation. And, due to the pressure to make the *right* investments, it is not surprising that many finance chiefs are also reexamining their capital allocation processes.

It is no easy task. Comparing projects on a uniform basis is complex, as is quantifying the risks and potential benefits. Globalization, advances in technology, shareholder activism, and the push for greater social impact make capital decisions even more difficult.

Many finance managers also point to time-consuming manual analyses, the challenge of aligning capital expenditures with strategy, potential [biases in decision-making](#), and the difficulty in holding people accountable for results. Given such obstacles, a case can be made that before companies invest in another project, they should invest time and energy in determining how they make such decisions to begin with.

Fortunately, there is a better way to approach capital allocation. It starts with the development of a “value architecture” that details how to evaluate investments in terms of strategy and risk appetite. The value

architecture also serves as a framework for how everyone involved in the process thinks about capital allocation, including trade-off decisions and the project portfolio management strategy. In this issue of *CFO Insights*, we’ll explore some of the key steps needed to create a value architecture and explain why CFOs are well-positioned to lead such efforts. [➤](#)



Focus on value

Capital allocation decisions inevitably involve trade-offs. Companies need to strike the right balance between investments that serve business-as-usual needs, investments that drive growth, and investments that may—albeit with considerable risk—result in substantial returns. Faced with dozens if not hundreds of proposals that span those three buckets, however, it can be extremely difficult to make the comparisons needed to develop a portfolio that creates the most value.

That’s why developing a value architecture is important. The “value” is based on the principles that determine how a company is evaluated in the marketplace in terms of its strategic, financial, and risk aspirations and achievements. The “architecture” describes how corporate objectives are translated into criteria, metrics, business case templates, and portfolio dashboards.

When developed using a multi-stakeholder process (explained below), a value architecture can provide both a comprehensive definition of the goals and KPIs for projects and a top-down portfolio view of financial, risk, and strategic issues. The result gives decision-makers a big-picture view of how all proposed projects compare to one another.

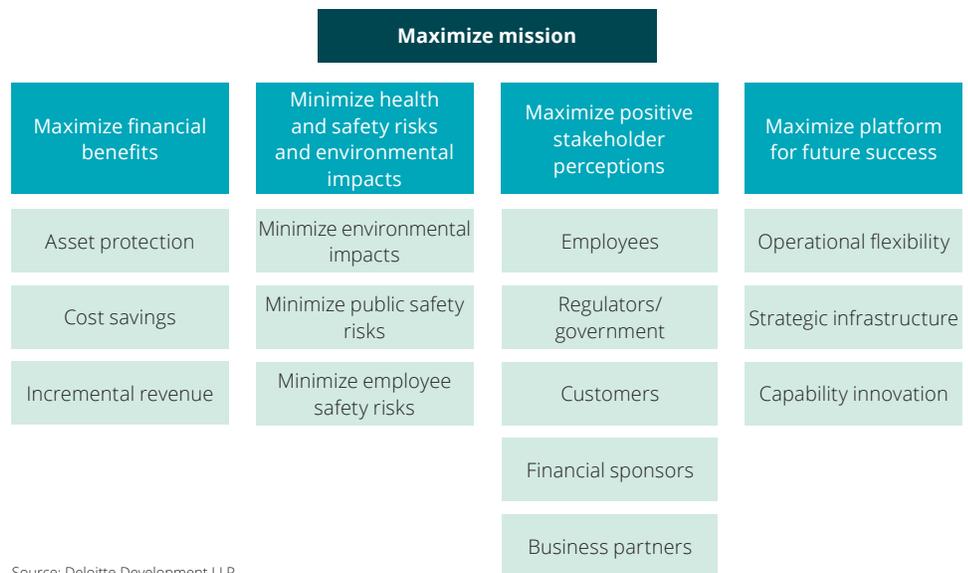
By way of illustration, consider the example of a public utility that was under pressure to reduce capital spending while carrying out its obligation to serve the community (see Figure 1). In order to do more with less, the utility needed to be able to compare and trade-off different types of investments across different business units.

To get the most value out of scarce resources, the utility developed an enterprise-wide value architecture to evaluate projects based on energy generation, transmission, and distribution.

The utility identified four overarching criteria for investing and further defined each by listing three to five goals and priorities. While every greenlighted project did not tick all the boxes, the architecture allowed decision-makers to better understand the trade-offs that went into the investment decisions.



Figure 1. Evaluating energy projects: How a public utility leveraged a value architecture to compare investment trade-offs



Source: Deloitte Development LLP

There are also different ways to validate and measure those trade-offs. For example, consider a health care company (see Figure 2) that developed a well-defined value architecture as a blueprint for portfolio-level trade-off analysis.

The value architecture served as a framework for valuing, comparing, and prioritizing divergent projects (e.g., comparing network investments to customer-service investments).

To obtain validation from different business stakeholders, the health care company conducted a workshop in which teams evaluated a sample of diverse capital project business cases. The process also involved a “Harvey Balls” scale, which provided a handy visual way to score various criteria on a 1-5 scale, and can be seen at the bottom of Figure 2.

This stakeholder process validated that the identified criteria, with some adjustments, would be relevant in capital allocation decisions, and it showed that no major criteria needed to compare the benefits and costs of different projects were missing. The teams left the workshop with a new level of confidence that the design for an enhanced process would be transparent and fair.

The collaborative nature of the value architecture’s creation process emphasizes stakeholder engagement to define characteristics of various investment decisions, which can be useful to all companies, even though each company’s value architecture will be tailored to its individual strategy. After validating the framework, it can be used to develop the models and capture the data required to measure key criteria. These measures are then embedded within business case



templates to create a portfolio optimization and trade-off model, and dashboards that can be used to evaluate project performance and lessons learned.

What the value architecture offers

With a value architecture in place, along with the associated tools, processes, and system enhancements, companies have a better picture of how to answer the following questions:

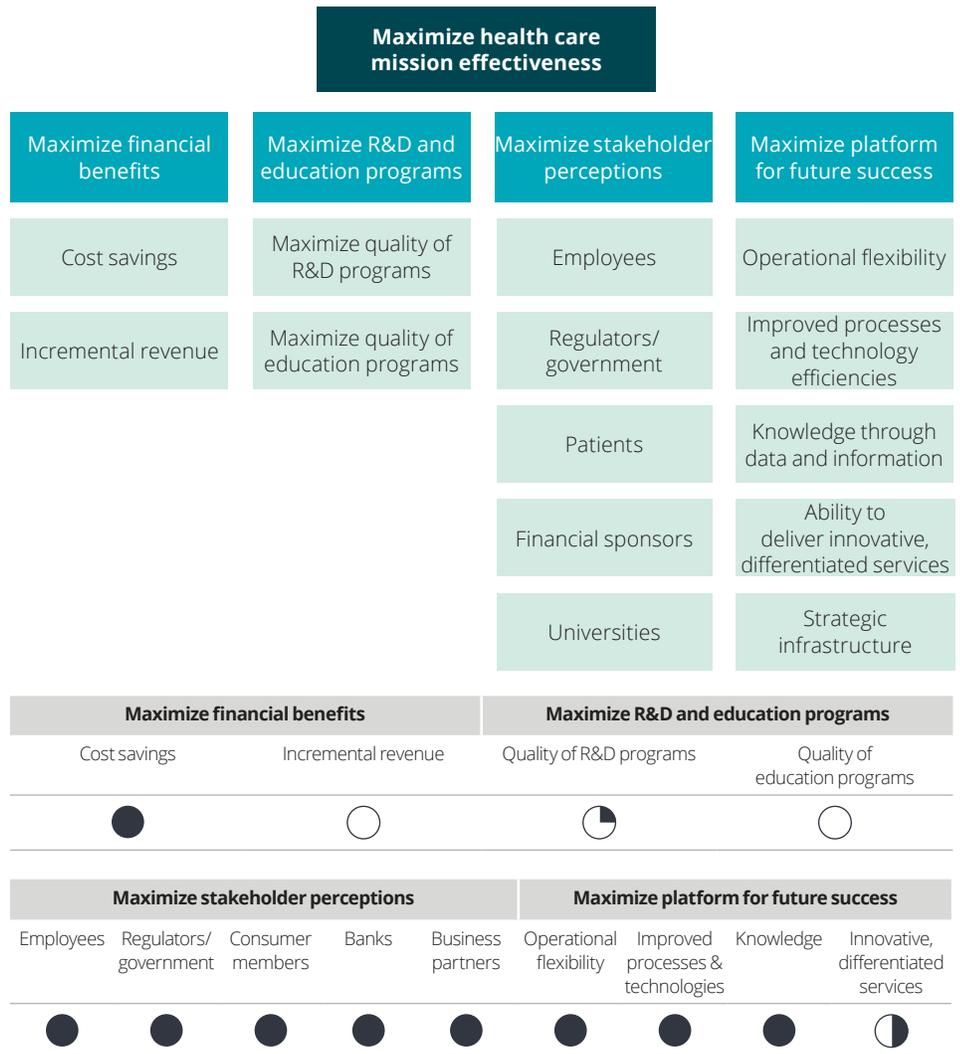
- What are we trying to achieve with our investments?
- Are our investments aligned with our strategic objectives?
- Of the projects that are up for consideration, which ones are discretionary and which are mandatory?
- What are the risks and constraints that will impact our investment decisions?

A value architecture also enhances a company's ability to analyze strategies and portfolios under different economic scenarios and different strategic themes. At a project level, it can help answer the following questions:

- How does Project A compare to Project X on various financial and strategic dimensions?
- How do project values and the optimal portfolio curve shift when assumed commodity prices are sensitized?
- If we include all mandated or pet projects, what amount of value is sacrificed?
- What happens if we put more emphasis on near-term earnings rather than long-term growth options?

Once a value architecture is developed, its usefulness in driving better decision-making becomes clear. As Figure 3 illustrates, each capital investment project can then be assessed through the lens of the most relevant and available value drivers and KPIs. (Data availability can often be a roadblock to better tools and systems, but the value architecture provides a laser-focused blueprint for what data matters in decision-making.)

Figure 2. Measuring alternatives: How a health care company introduced a scoring method into its value architecture



Source: Deloitte Development LLP

When market-based or empirical data is not available, there are a number of ways to assign scores (e.g., existing estimation, system approximation, user scored); but to be effective, the scores should be linked to observable KPIs to avoid ambiguity and gaming of the process. The larger lesson is that by developing a value architecture first, the path toward uniform and explicit quantification of various investment options becomes much clearer.

Such an approach enables insights for making trade-off decisions across a company's portfolio of investments in projects and initiatives, capital, research and development (R&D), information technology, etc. This involves standardizing how value is assessed across different project types to accurately trade off benefits to costs on a risk-adjusted basis.

The role of the CFO

Developing a value architecture hinges not on a top-down mandate, but on broad buy-in across many stakeholder groups. This, in fact, is one of the advantages of a value architecture: the very act of creating one requires significant collaboration, which enhances organizational alignment behind this new and improved approach to capital allocation.

Attaining that buy-in is a key area in which finance—and the CFO in particular—can play an outsized role. How? By forming the core team and developing the governance structure that ultimately owns the capital allocation process. ➔

Figure 3. Quantification of value architecture
Ascribe metrics and KPIs to measure value in your value architecture

		Value architecture				
		Scoring method*				
		Value drivers	EE	SA	US	Potential metrics (measurable in units)
Enhance financial benefits	Cost savings	Δ Profit center operating cost	●			• Operating cost
	Incremental revenue	Δ Profit center operating profit + operating cost	●			• Operating profit
Reduce environmental impact	Carbon footprint	Δ Carbon emissions		●		• Cost and volume of carbon emissions
Enhance positive stakeholder perceptions	Regulators/government	Δ Liability expense		●		• Liability expense (e.g., insurance, legal, fines)
	Customers (including, residential, commercial, industry, and municipal)	Elasticity impact (i.e., Δ cost of unserved energy)		●		• Reserve capacity for demand spikes • Restorable load under n-1 contingencies • Number of customers impacted per type
	Civil societies	Δ Provincial GDP (index)		●		• Electrified schools (# of students), (# official households), and businesses (# employees) • Province
Enhance platform for improvement	Incremental productivity	Δ Output (megawatts)		●		• Incremental throughput by equipment type

* Scoring method definitions: EE – Existing estimation; SA – System approximation; US – User scored
 Source: Deloitte Development LLP

The first step may be the most important: reach consensus on what the main investment criteria should be for both strategic and portfolio capital decisions. This requires identifying the relevant stakeholders, including C-suite executives, project managers, and subject matter specialists, and taking the time to understand their individual objectives and motivations.

The goals of such a “listening tour” are to provide a way for all key stakeholders to have a voice in determining the common objectives for capital allocation, as well as to reach agreement on what the decision and performance criteria should be. Consider asking your business partners the following questions:

- What would your group consider to be a good outcome for a capital project?
- If you jumped into the future after a capital project is completed, how would you assess whether investing in that project was a good decision?

Armed with this information, CFOs should consider dividing stakeholders into a three-pronged governance structure:

- **Decision-making committee:** Sets strategy, establishes targets, and decides what gets funded;
- **Decision advisers** (also known as an investment review body): Create the business cases, conduct the portfolio

analysis, and synthesize the insights that guide decision-making;

- **Project teams:** Generate ideas, provide assumptions, and execute on investments.

Going forward, the CFO can commission the finance team (most likely the financial planning and analysis team, or a subset of it) to partner with business and project managers to translate the value architecture into a full set of data and KPIs that are relevant, resonate with business managers, and can be gathered or assessed. The finance team uses this data map to create consistent project business case templates that assess the criteria that matter and help minimize the bias that often occurs when business cases are submitted in an unstructured fashion.

The finance team then uses this information, combined with an understanding from the listening tour, to develop the portfolio optimization and dashboard requirements that decision-makers will need to evaluate and prioritize the portfolio of business cases.

At this stage, more mature capabilities can be added, especially if the portfolio tools are based on a logical and consistent enterprise-wide value framework. Portfolio capabilities may include scenario analysis and strategic alternatives analysis of risk-adjusted value, project interdependencies, business rules, and constraints, etc.

After developing a well-defined architecture, data templates, and portfolio tools, the finance team will be in a prime position to serve as business partners in maturing the organization’s capabilities to monitor project implementation, streamline the annual planning process and governance, and build a cycle for continuous improvement.

Capital allocation as a competitive advantage

Done well, capital allocation can be transformed from an arduous and inconsistent process that tends to perpetuate the status quo into a true source of competitive advantage. Moreover, the gap between the value that a company’s portfolio of projects could deliver versus the value it actually delivers can be narrowed significantly. Additionally, the many stakeholders involved in capital allocation decisions may feel that their voices were heard, and that they understand how decisions are made and how each decision maps to the company’s strategy.

For CFOs, that journey begins by assembling all those relevant stakeholders and leading them in the creation of a value architecture. That architecture provides an essential foundation upon which to build a capital allocation process that can generate far more value than the approaches taken by many organizations today. ➤

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Tackling uncertainty with analytics

Over the past several years, the use of analytics has expanded greatly and is often seen as a central component of better decision-making. For the purposes of capital allocation, analytics can be used to develop dynamic models (i.e., models that effectively represent the economics of a given investment across a broad range of what-if scenarios).

Dynamic models form the basis for both simpler techniques (i.e., sensitivity analysis and scenario analysis), as well as more complex models (i.e., simulation, decision trees, and real options models). Fueled by analytics, dynamic models can provide deeper insights into the likelihood and impact of key business uncertainties, as well as the strategies that provide resilience across a range of scenarios and the strategic options that offer the flexibility to adapt to changing conditions.

The appropriate level of analytical sophistication will vary by organization and will depend on the organization's current state,

competitors' practices, industry dynamics, and other factors. Capital-intensive companies embarking on large, strategic capital projects need greater precision and thoroughness; thus, they may benefit from analytical tools that provide deep insights across a broad range of future scenarios. Companies assessing a smaller number of more modest projects may be better off devoting their analytics efforts to speed and efficiency.

One downside: Analytical models run the risk of being perceived as irrelevant "black boxes," understood only by the mathematically adept professionals who developed them, but of little value to the business managers who need to make investment decisions. To alleviate that concern, decision advisors or similar participants in the governance structure described in the main piece may step in and act as interpreters or translators. Also, the value architecture provides a degree of transparency and organizational buy-in that helps avoid the black box dilemma.

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