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Enterprise-level value engineering

A hidden opportunity

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Low-cost country sourcing, distributed Research & Development (R&D), and other innovations have greatly improved the efficiency of product development. But, as pressures from global competition intensify, companies are increasingly optimizing for speed—with cost as a secondary consideration. Value engineering has dropped out of the toolbox of many development teams, whether for electronics, consumer, or medical devices. The end result is a product that performs well but with costs not in line for production.

Value engineering at the enterprise level is a comprehensive and robust discipline for driving cost reduction in product development. While used in the past mainly for new products, it also works well for improving existing products—and that's the place for many companies to start now.

Time-to-market pressures are not going away. Developers will continue to focus on quickly bringing out a differentiated product. But companies need not resign themselves to sub-optimal operating margins: They can do something about costs even after the launch. For products that are selling well and have medium to long life cycles, enterprise-level value engineering can drive double-digit improvements in margins. The investment will more than pay for itself. Even better, the insights gained can also be transferred to development teams—so they will be aware of cost drivers in future products.

The value of enterprise-level value engineering

Value engineering can prove especially useful in a number of areas:

Direct costs. Alternative sources of materials and services may well be available at lower prices. Companies that rely on contract manufacturers can work with them to reduce assembly and test times in ways that do not undermine their *margins* or overall product functionality.

Footprint costs. Shifting the production location could pay off considerably. Development pressures may have dictated that the initial production chain be close to market, but now it can be moved to lower-cost regions.

Customization costs. New products often come with a variety of features and customized options that yield surprisingly little competitive advantage. By tearing down a product along with its rivals and seeing how they match up on specifications, companies can pinpoint what is essential to their products and what can be phased out. Suppliers as well as a company's own engineers can provide valuable perspective here.

Complexity costs. By comparing parts and suppliers for a product with the rest of the organization, companies can find opportunities to save money on both logistics and materials.

Except where it yields a clear competitive advantage, companies should minimize a product's variation from what is common elsewhere in a division or the organization as a whole.

Big challenges, bigger opportunities

Value engineering is ultimately a business decision: Can the company save enough money to justify bringing together scarce engineering resources? In our experience, a small team can usually uncover more savings in less time than expected. Still, value engineering will not make sense for products with short life cycles or low volumes.

Companies will also want to proceed carefully for items that fit into larger modules and systems. New specifications and components can force a product to be re-qualified, which can take up so much time that final savings are minimal. But rather than assume requalification makes it impractical, managers should still calculate whether value engineering could pay off.

For products that do make sense, companies will benefit from an extra payoff in future iterations. It's important that value-engineering teams talk to product developers about what they learned. The trade-offs between speed and costs are not as absolute as development teams often believe. With their eyes open to cost dynamics, they can get surprisingly creative. They may find it easier than they think, for example, to coordinate sourcing and components for new releases with the rest of the organization.

Over time, and with enough learning, value engineering can be embedded into a company's development process—while staying on schedule. Even products with short life cycles will benefit. And, most importantly, companies can achieve speed and low cost at the same time.

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