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Gaining Competitive Advantage in a Downsized Economy

Technology outsourcing can help cash-strapped companies keep their innovative edge and position them for the upturn.

Walt Cecka

Innovative medical device companies will diligently search for advances to maintain the competitive and technological edge of their products and to enhance the benefits realized by doctors and patients. Under current market conditions, the challenge in maintaining this operational method has never been greater. With slow sales, investors are insisting on cash preservation, invest-

horizons seem to be the easiest programs to defer or eliminate, potentially sacrificing future growth or even competitive viability. However, when the economy turns around, those companies that have found ways to maintain their pace of innovation will be positioned to capture market share and succeed in the long run.

Many companies have chosen to

economy as the innovation leader that is poised for growth.

Working with independent concept and technology development (C&TD) firms lets companies access a vast pool of targeted scientific and advanced engineering skills, often from a single vendor. C&TD firms can provide services that include technology evaluation, development of solutions to specific science or technology challenges, development of proof-of-concepts designs and models, or even development of final products, as needed. The appropriate vendors can come up to speed quickly because of their inherent diversity of talent; provide quick project turn-arounds, operate independently or under guidance, all without the need for the client company to support full-time employees with the associated overhead and infrastructure costs.



Cecka

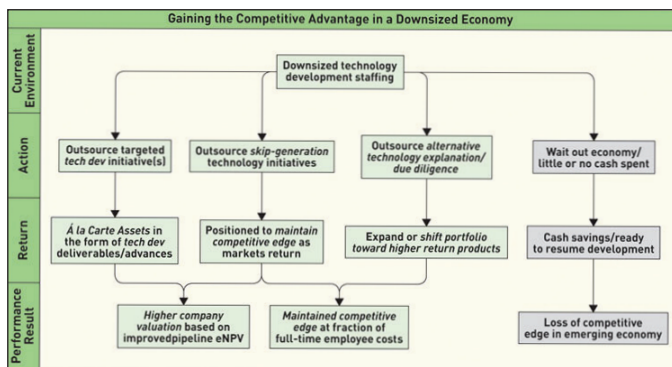


Figure 1. Strategic options summary.

ment markets are at a crawl, debt financing is difficult to obtain, and terms of financial deals reflect significantly lowered corporate valuations. Between 2009 and 2012, corporate operating budgets are expected to grow only 7% per year, down from the double-digit annual growth seen over the past decade. A 30% decline is leading to downsizing, manufacturing cuts, deferred product-line extensions, or cancellation of new programs altogether.

In this context, advanced development initiatives with longer revenue

budget by 40% and consequently developing the iPod, while Motorola decreased their R&D budget, leading to a very different financial outcome. By putting a fraction of the savings from downsizing toward flexible, pay-as-you-go outside resources, firms can continue to build asset portfolios in the form of specific science, technology, or engineering deliverables. Such assets can be leveraged quickly as the fiscal environment improves. This approach to downsizing (Figure 1) can put companies in position to emerge from the post-recession

À La Carte Assets

Advanced development work, when performed effectively, can be the most highly leveraged and low-cost asset-builder for an organization. This phase of product development is typically the lowest cost phase, with the highest

risk-to-reward profile. This phase can include such key deliverables as:

- Early product ideation.
- Freedom to operate reports.
- Due diligence on target or competitive technology.
- Technology modeling and analysis.
- Proof-of-concept designs and prototypes.
- Product requirement documents.
- Early hazards analyses.

It is important to note that each one of these deliverables is an asset that can be tangibly assessed for both cost and value. For example, on the cost side, a technology assessment in a specific area for due diligence may take 4–8 weeks; likewise a product requirements document (PRD) may take 2–4 weeks. These simple examples illustrate that, in lieu of having the requisite full-time employees available in a downsized mode, companies can effectively use a fraction of the FTE savings (estimated to be \$125,000—\$200,000 per employee per year) with a C&TD to develop key assets. On the value side, the estimated net present value (eNPV) for an advanced development program has been increased. Successful completion of any of the listed deliverables reduces future program risk and time-to-market for the product. The updated eNPV assessment in turn positions the product idea more accurately within a program portfolio.

By advancing next-generation ideas in a highly focused manner, companies can reduce the significant impact that lost time and undetected risks have on the value of a product portfolio. With advanced development assets in hand, firms have built value for fundraising, partnering, or proceeding with product development efforts as financial markets improve at a fraction of the original cost. Any of the project deliverables described above can inform cost-avoidance decisions if an idea does not meet feasibility, freedom to operate, or competitive positioning criteria.

Pick and Choose Key Deliverables

Typically, when a decision is made to outsource advanced product development, companies can expect savings of 20% to 30% relative to hiring and maintaining full-time staff to do the same work. However, in the current market, even these savings are underwhelming. An alternative approach, as alluded to above, is to pick and choose key value-add deliverables. Each of the advanced development assets can be created à la carte or on a milestone basis, limiting one's financial exposure. By using a C&TD partner in the current (or any) economic environment, a company can:

- Maintain lower staffing levels while weathering the recession.
- Use resources aligned with its needs, with no need to recruit specific talent.
- Use the CT&D firm best suited for specific deliverables, maximizing the effectiveness of talent for each specific issue.
- Leverage the outsource partner's infrastructure.

Additionally, firms can now defer staffing and restaffing decisions until a product concept is valued appropriately, placed with greater certainty within a portfolio risk profile, and deemed ready for development. Leading up to that point, a focused comparison of project needs against current staff capabilities or capacity can lead to efficient resourcing decisions.

Advantages of Outsourcing Mindshare

It is important that a company review its product line value and market differentiation when operating to conserve cash. If advanced development plans have been forced to the sidelines, skipping a technology or product generation may help a firm regain its competitive edge. A key strategic opportunity exists in having a product or product line reviewed by a C&TD partner. With the depth of their collective experience and

mindshare, contract technology developers are uniquely positioned to:

- Assess a product's technological competitiveness relative to what will likely be available at the time it is ready for market.
- Explore alternative product ideas, technology approaches, and concepts related to, but outside of, a company's core competencies.
- Evaluate new ideas as potential avenues for advanced development, as good ideas do not stop flowing in difficult economies.

Such contributions to a product portfolio are essential for informed strategic planning in any economic environment. These initiatives are typically focused and can be done at a fraction of the cost of carrying the full-time resources having the requisite breadth of skill sets.

Expanded Technical Expertise

C&TD's offer clients highly leveraged access to vastly expanded technical expertise to advance next-generation ideas and maintain growth in a company's valuation. To take advantage of this opportunity, companies must strategically use outsourced technology development groups to maintain technology development in the current economic environment. C&TD firms typically have a wealth of experience that cannot be duplicated within a typical product development organization, especially when the selection of an outsourced C&TD partner is made to address the needs of a specific product or technology.

References

1. Industrial Research Institute Annual R&D Trends Forecast, 2009, Industrial Research Institute, 2009.
2. K Grayson, "Despite Budget Cuts, R&D Spending on Rise at Many Firms." Minneapolis/St. Paul Business Journal, May 1, 2009.

Walt Cecka is a Senior Director for Program Management at Triple Ring Technologies. He can be reached at wcecka@triple-ringtech.com.