Divide and conquer: Rethinking IT strategy

Just as a company manages different businesses differently, it should manage the IT that supports them differently.

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Web exclusive, August 2006

IT executives know that the right investments in technology can deliver a significant competitive advantage. Over the past 50 years, companies such as American Airlines, Apple Computer, Frito-Lay, Google, and Wal-Mart Stores have changed the competitive rules in their respective sectors by introducing technology-enabled innovations. But at many companies today, CIOs and their departments struggle against the perception of their business peers that their job is simply to keep the e-mail working and deliver narrowly scoped projects, not to champion investments in innovation. This limited view of IT’s role became prominent as the e-business boom of the late 1990s ended and business executives tried to rein in spending and to ensure that IT investments served business goals. More recently, it has been nurtured by the popular argument that IT is a commodity like electricity, to be managed at minimal cost. "Do more with less" has become a popular mantra.

Focusing exclusively on bottom-line costs, however, limits the top-line potential. By forgoing investments in IT innovation, companies are passing up opportunities to gain a competitive advantage or to change the rules in their industries fundamentally. Yet some companies with a broader vision have pursued IT opportunities. To understand how they invest in innovation and manage the accompanying risks while running their basic IT functions as efficiently as possible, we assessed the IT strategies of ten leading global companies. We found that IT can be used as a competitive weapon, but managing IT to deliver on that promise requires a differentiated approach that many companies find difficult to implement—either because they fail to see the potential or because they don’t distinguish between commodity IT services and innovation.

Specifically, companies should manage their investments in IT as they manage their financial investments, categorizing them as low, medium, and high risk. Typically, most of a company’s IT investments (up to 60 percent, depending on its market position and aspirations) should focus on maintaining and enhancing basic IT services, including core business applications, systems to meet regulatory demands, e-mail, and Web services. These are low-risk functions necessary for staying in the race (exhibit).

An additional 10 to 30 percent of a company’s IT investments (or more, depending on its aspirations) should aim to help it win the race currently played in its sector. These investments help a business operate at significantly lower cost or higher productivity than competitors do—for example, automating online lending-approval processes or automatically providing call center agents with each customer’s service history. Such investments yield cost advantages over rivals—at least until they implement similar systems and processes.

More difficult to manage is a smaller category of high-risk, high-reward investments that focus on changing the race within the sector: innovations that open new markets or make it possible to offer new products or services that are substantially different from and more desirable than those of competitors.

By differentiating the way these categories are managed, companies can run their daily IT operations cost effectively while making limited, targeted investments in new and promising technologies. (For a detailed discussion of the ongoing governance issues this kind of differentiation creates, see "Managing IT for scale, speed, and innovation.")

Three types of IT management

When all of IT is managed at the project level or within business units, the priority is inevitably the immediate need to win or stay in the race. The approval of new projects depends primarily on their savings potential or the business case. By contrast, companies that adopt a portfolio approach can direct some of their investments toward innovations that may help them enter new markets or change the rules in existing ones. A portfolio approach lets managers articulate clear guidelines for accepting some degree of risk in exchange for a payoff that delivers a competitive advantage.

A leading European investment bank that adopted this approach over a five-year period balanced its portfolio of IT initiatives across three categories. In its everyday scale projects (to stay in the race), it rationalized the number of applications it used by decommissioning more than 20 of them in its trading business (in order to reduce the level of duplication and the cost of complexity), simplified its infrastructure by standardizing hardware and operating systems, and created fail-safe disaster recovery capabilities to protect its business operations, whose stability rose by 15 percent. The bank’s win-the-race projects aimed to improve the speed, reliability, and efficiency of its trading operations while also reducing the number of errors by automating data entry among its clients.

The portfolio approach also allowed this bank to create the IT capacity to innovate in ways that could change the rules in its industry or allow it to succeed with the current model by offering better products. Developers in the front office, for example, used rapid programming techniques that helped them bring new trading products to market in hours instead of the days or weeks that would have been required had they used a more standard approach. Thus, the bank could quickly develop new products to meet the needs of its clients. These initiatives, executed over time, not only positioned the bank in new, high-margin growth businesses but also created a significant cost and service advantage that was difficult for competitors to replicate. While none of these initiatives was truly distinctive, the decision to use IT for competitive advantage across a range of products and services helped the bank improve its trading volume by more than 400 percent over the five-year period while cutting its operating costs by 25 percent.

Successful organizations like this bank tend to group their investments into three categories:

1. **Scale IT investments.** Such stay-in-the-race projects involve the most familiar applications of information technology—those that are necessary to compete in a market and must be managed for cost. The IT priorities in this category should be to reduce operational costs and to ensure service and quality levels, but these investments alone will not create a competitive advantage. By automating and consolidating back-office operations, for example, a global company can cut its costs and raise
service levels, but it probably won’t change its industry standing. Typically, a company with a strong position in a mature market devotes 30 to 60 percent of its IT investment to this category; attackers may spend less.

2. Competitive-advantage investments. Win-the-race investments improve service, cut prices, and increase the effectiveness of decision making or the efficiency of operations. Companies should select and manage such projects in close alignment with other business and operational investments. In the 1990s Wal-Mart linked its suppliers’ warehouses and stores in a single supply chain system, which allowed it to operate with significantly less inventory while reducing the incidence of stock-outs. For several years these achievements gave the retailer a significant cost advantage over its similarly scaled competitors, fueling its growth while they attempted to catch up by developing similar systems. Likewise, the first airlines that introduced electronic check-in booths at airports reduced the cost of check-ins significantly (in some cases by as much as 75 percent) while offering a faster and more convenient service. Now, 20 percent of all customer journeys start at an electronic check-in booth, and such facilities are the norm for all major airlines.

3. Rule-changing innovations. Change-the-rules investments deliver a competitive advantage by creating new and unique products or services or by generating a hard-to-replicate cost or performance advantage. In 2004 Barclays Capital launched Barx, a global 24-hour electronic trading platform, for financial products. Barx not only cut costs and response times by removing the phone and paper parts of the processing chain but also created a new electronic marketplace for interest rate swaps and subsequent offerings—a marketplace that has become the norm for the electronic trading of these products. In this case Barclays Capital was a successful attacker, taking market share away from bigger investment banks. Attackers spend a relatively large part of their IT investment budget on investments in this category, even up to 40 percent of the total.

**Design to future aspirations, not current capabilities**

Too often, companies design their IT strategies around what they are currently doing (existing assets, programs, and capabilities) and fail to focus on what they could be doing. The usual reason is that the starting point of the IT strategy process is improving current service levels and reducing the cost base. The alternative is for the leaders of business units and IT to base their strategies on their aspirations. Such strategies can be implemented in parallel with strategies for improving current capabilities but call for IT leaders who can work creatively with their business counterparts.

When a major US provider of retirement financial services faced increasing competition from new players, for example, it decided to focus more of its efforts on high-net-worth customers. To do so, it needed a more open IT architecture that would allow it to offer third-party products such as mutual funds. The existing IT architecture of this provider worked best with its own products and offered only a limited ability to differentiate customers by their net worth. Planned improvements would only have enhanced the current platform, at best allowing the provider to stay in the race. Instead, the executive council eliminated some lower-value projects and allocated new investments to create a platform that could more easily integrate financial products from other companies while also focusing on the provider’s most profitable customer accounts. The council tasked the appropriate business units with managing the new programs. As they mature and competitors adopt the same approach, their governance should be migrated to IT, which can manage them at scale for efficiency.

**The high-risk, high-reward nature of rule-changing investments often suggests a venture capital approach**

**Manage for value potential, not just cost**

With the portfolio divided among the three kinds of value that IT can create for businesses, its management and planning should be driven not merely by the desire to cut costs but also by the goal of generating investments that create a strategic advantage or added revenue.

In the example of the electronic trading platform, management would have been satisfied with cost reductions—an easier business case that requires smaller investments and can be realized more quickly. But the goal was to raise trading volumes through new electronic services and to take a share of existing markets. Thus, the development horizon was longer, and the investment decisions were made not as commitments to business units but through something like the staged model that venture capital firms use as they test a product’s viability and market acceptance.

In fact, the high-risk, high-reward nature of rule-changing investments often suggests a venture capital approach: a team evaluates promising technologies and places several calculated bets (see sidebar, “Managing innovation: An interview with BP’s CIO, John Leggate”). Success calls not only for good technology and customers willing to use it but also for managers willing to place bets on unproven applications, which is what Barclays Capital did with its Barx electronic trading platform. As in a venture capital model, companies should evaluate these investments at regular stages in their development to see if
they are fulfilling expectations and warrant either further investment or assignment to a lower-risk category.

Win-the-race investments should be judged along more traditional lines: evaluating business benefits against the costs of IT and business change. The metrics that airlines used to drive the adoption of electronic check-in booths and subsequent Internet check-in innovations, for example, involved the robustness of the technology or the likelihood that users would adopt it as well as the potential for checking in passengers at greatly reduced costs. Business leaders, not just IT leaders, should be accountable for capturing the value from this class of IT investments.

The evaluation of stay-in-the-race investments should reflect their role in minimizing risks and costs. Some investments carry a significant cost reduction prize, which in turn can be converted into a business case. Others—for instance, investments in disaster recovery capabilities or in the network infrastructure—are aimed at avoiding future disasters, so they are more difficult to quantify and must sometimes be measured against the cost of reduced service levels if failure occurs.

One common mistake is to apply a single criterion—usually net present value—to all IT investment decisions. The result is a portfolio that comprises only investments that can be justified by their NPV. Too many companies forgo investments that are difficult to justify and thus leave value on the table.

Instead, decision criteria should be matched with the type of IT investment they are meant to illuminate. Most of the basic scale IT investments can be justified by their potential for cutting costs or mitigating risks. Investments tied closely to business unit goals (to win the race) are appropriately judged by their NPV. Rule-changing innovations, with their higher level of risk, must be approved as calculated bets, with accountability tied to the success of a range of projects rather than each one.

**Moving to a differentiated IT strategy**

Companies moving from a uniform approach to an IT portfolio should consider several steps that will help them to evaluate their opportunities and to design an IT strategy that uses technology to develop their top-line potential.

- **Assess and design initiatives around external opportunities.** Companies should begin by examining their industry position and their aspirations for growth. External opportunities will suggest both the capabilities that might help them meet their aspirations and the way IT can support the development of those capabilities. Among financial institutions, a market leader might see the greatest potential in reducing the cost of selling securities and improving integration with its brokers. IT’s role would be, first, to create a trading platform that operates on a more efficient scale and frees up capabilities so that the company can focus on external growth opportunities and, second, to improve communications in the brokerage channel. An attacker, by contrast, might see its IT systems as a source of competitive advantage that would help it to quickly test and launch novel products to attract new customers and win market share. Creating such a dialogue between the business and IT is critical for setting the business unit's aspirations.

- **Understand internal IT capabilities.** If companies create an IT strategy without considering the strengths and weaknesses of their existing IT assets and capabilities, they may attempt an unachievable strategy or miss out on real opportunities. Managers should realistically assess the gaps and strengths of the current IT organization and the way it contributes to business performance. They can then focus new investments on closing performance gaps or capturing new opportunities. One financial-services company going through this process decided that the performance and user interface of its internal trade-processing systems were so good that it could offer them to clients as a new direct-trading service. A competitor in the same market had plans to copy this strategy, but a quick assessment of its systems showed that they could not easily be extended to support higher volumes. The competitor therefore changed its business strategy.

- **Differentiate governance.** What companies learn from internal and external assessments can help management decide which capabilities to place in which category and how much to invest in each of them. Governance models vary among companies, but basic IT capabilities are generally managed for cost effectiveness and productivity—increasingly in shared-services centers and often offshore. IT investments to generate a competitive advantage must be aligned more closely with the business units they support and thus are often embedded within those units. But truly disruptive rule-changing investments frequently fail to gain traction in a business unit, sometimes because the new business capabilities they enable could cannibalize existing ones. Therefore, they often require a distinct management approach, a special set of decision criteria, and often a separate organization.
Most companies today manage information technology against short-term performance rather than long-term health. But organizations that focus only on stay-in-the-race or win-the-race priorities that can be realized in the short term miss out on IT investments that could help deliver a strategic competitive advantage. By distinguishing among different IT investments, companies can use technology for more than simply attaining competitive parity; this approach can help deliver significant top-line growth and market advantages.

Managing innovation: An interview with BP’s CIO, John Leggate

BP’s CIO, John Leggate, is accountable not only for running the massive digital infrastructure and applications that support the global energy company but also for supporting and driving innovation through digital technology in every part of the business. Leggate believes that the ability to identify new technologies and deploy them at scale is essential to gaining and maintaining a competitive advantage. David Craig, a principal in McKinsey’s London office, spoke with Leggate about how a large company identifies, pilots, and implements rapidly evolving digital technologies.

The Quarterly: How do you identify new technologies?

John Leggate: We collaborate with the businesses to scan continually for innovations of every kind. These include new digital technologies and new ideas or business concepts, such as offshoring. What we’re after is the ability to identify and adopt, as quickly as possible, innovations that can make a substantial business difference to BP. To achieve this, we have to be able to scale innovations—if we can’t scale it, it’s of no use to us.

We are very systematic because the digital-technology innovations we’re looking at need to be adopted quickly, and that’s a very different experience from traditional technologies in our sector. The core mechanical technologies of the oil and gas sector—like pumps—often change at a slower pace. Some are absolutely fit for purpose for a decade or more, but in our arena new systems can be obsolete within 18 months.

Vital statistics

- Married with two children; lives in London

Education

- Earned degree in engineering from Glasgow University

Career highlights

- BP (1979–present)
  - Currently serves as CIO, responsible for digital technology, systems, and business processes across 150 business units; member, BP’s group senior leadership team; group vice president, procurement and supply chain management
  - Previously served as president of BP’s Azerbaijan International Operating Company, held posts in management and operations of BP’s North Sea oil and gas assets
- Began career in marine consultancy and nuclear energy

Fast facts

- Honored as Commander, The Most Excellent Order of the British Empire (CBE) by Queen Elizabeth II for outstanding contribution to and leadership of the international digital-technology agenda (2004)
- Fellow of the Institute of Electrical and Electronics Engineers, chartered engineer
- Elected fellow of the Royal Academy of Engineering in July 2005

Quarterly: How do you look for new ideas?

John Leggate: Our process is based on the venture capital model. We look for developments, early signs of change, then evaluate them and, in some cases, adopt them. To scan, we tap into an ecology of thought leadership around the world—vendors, academics, experts of all kinds, CIOs and business leaders at companies in many different industries, venture capitalists, and other boards. I personally spend two weeks a quarter proactively scanning for ideas, and many members of my leadership team do so as well. I
spent time in South Korea last year trying to understand a specific technology better that's in use there, and I sit on the advisory board of a venture capital firm and watch the deal flow for possible opportunities.

In our scanning process last year, we ended up with 80 to 100 ideas that seemed interesting to us, from digital rights management to motes, peer-to-peer networks, RFID tagging, collaboration tools, and next-generation visualization. We have a formal process to evaluate ideas. Our chief technology officer has a team and they filter these ideas based on their economics, their scalability, and their relevance to our technology plans. They cull them down to about 20, and then we test these remaining possibilities.

**The Quarterly:** Is there anything you can do to help seed adoption?

**John Leggate:** Yes, we hold an event we call a Blue Chalk. These are themed meetings where we invite 40 to 60 people from inside our business and from elsewhere, and we talk about innovations that might come from adopting one of the technologies that made it through the filter. Because the business is involved in the event, these people can see firsthand what opportunities are out there and help to create pilot ideas. We've found that this approach seeds adoption much faster than trying to push your concepts onto busy people.

For example, we held an event on RFID tagging, a technology we had been looking at for several months. One speaker was from a brewing company that used the technology to ping barrels in the basements of bars to see which barrels were old and replace them. The liquefied-petroleum-gas team got excited about the possibilities this could have for the bottles we distribute our propane gas in. These gas bottles are continually reused over a 25-year period, and this technology would follow each individual bottle from the filling plant to the end user and back again, providing major gains in logistics, quality, and safety.

I think we did about 50 tests on RFID innovations on the back of the Blue Chalk. Some worked well, others we abandoned. Remember, this is a venture capital model, so you have to be prepared to test, fail, and move on to the next idea.

**The Quarterly:** Are vendors of new technologies—RFID suppliers, for instance—participants in these tests?

**John Leggate:** Yes, and there is mutual advantage in working this way: we don't need to pay for research in digital technologies that could add value to our business, and we get the benefits of being an early adopter. For the vendors, we provide the largest beta site in the world. We run a fair process that allows vendors to come in, and it's clear how we make decisions. The other advantage for vendors is that we have an intellectual network—all the people and organizations we connect with when we scan—a kind of ecology that we build up around the areas we look at.

**The Quarterly:** How do you know that you haven't screened too hard on the front end and missed a topic that might actually be important?

**John Leggate:** We've formed an outside advisory board to review our scanning, filtering, and experimentation process and to challenge us on whether it is good enough. Last year, we began to realize that we were skewed too heavily to North America as a source for ideas and not heavily enough toward Asia. That's one reason I've had a number of trips to Asia recently, scanning for new ideas there.

**The Quarterly:** What is the key aspect for you of running the digital and communications technology function in BP?

**John Leggate:** I think the role of functional leadership in large companies today is thought leadership. Clearly, you have to run the operations too. But thought leadership is the source of competitive advantage. This is where the real value is. The chief information officer has to be a chief innovation officer too. I think that is what you will see more and more in truly great companies.

**About the Author**

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This article was first published in the Fall 2006 issue of *McKinsey on IT*.

**Notes**

1. Wireless remote transceivers.

2. Radio-frequency identification.

3. Named for the Palo Alto, California, café where Leggate and Sun Microsystems chairman Scott McNealy formed the idea.

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