(Technology-Enabled) Innovation

A Weapon to Win the Battle for Competitive Advantage

Stephen David and Ralf Dreischmeier

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On July 19, 1588, a beacon atop a hill on the coast of England sent out a signal, setting off a sequence of events that was to change the course of Western history. One of the greatest armadas ever assembled had just been sighted in the English Channel. The fleet stretched for more than seven miles and had 130 ships and more than 30,000 men. The Spanish were coming!

By comparison, the English defenders had at their disposal fewer than 60 ships—along with less than one-fifth of the manpower and only one-tenth of the cannons.

The Spanish had a simple plan: destroy the English at sea and then proceed to London and obliterate the English monarchy. But over the course of the next two weeks, the English picked the Spanish Armada to pieces in a series of decisive skirmishes. In the end, the Spanish lost half of their ships and more than two-thirds of their men. The English, on the other hand, didn’t lose a single ship.

In the years leading up to this battle, a primary area of focus for the English—and one that ultimately proved the linchpin to victory—was technology-enabled innovation. The English ships were much smaller and had more than twice the agility of their lumbering opponents. They also sat much lower in the water, making them far more difficult targets. Their cast-iron cannons were able to fire more than ten rounds at a time, compared with the Spanish bronze cannons, which had to cool for three minutes after every shot. The English also had vastly better communications and intelligence on local tides, currents, and winds, which enabled them to always have the best attack position.

This battle changed history: it marked the end of Spanish dominance in Europe and the New World, and the corresponding rise of the British Empire.

**Today’s Challenge**

Many businesses today face a different but no less daunting challenge—surviving against mushrooming competition. This competition is coming from both conventional quarters and, increasingly, unconventional ones, including rapidly developing economies. One of the few surefire ways to come out on top against these competitors is by excelling at innovation. In fact, it may be the only viable way for many companies to differentiate themselves, especially in the current environment, because most organizations that have survived the Great Recession to date have already squeezed most of the inefficiencies and excess costs out of their businesses. In short, it’s going to be increasingly tough to compete on the basis of cost-cutting. Companies need to innovate to win.

Innovation can play a particularly key role in attracting and retaining customers. Many companies have essentially taken the customer for granted for years, resulting in subpar customer experiences and some of the lowest trust ratings for companies and brands on record. Innovation that translates into new and better products, services, and ways of doing business can do much to reverse that trend.

The problem is that most companies, including your competitors, know that innovation is essential—and they are investing accordingly. BCG recently conducted a global survey of nearly 1,600 senior executives and found that, after hunkering down in 2009, companies have put innovation back on the front burner in 2010. Innovation is at the top of their priority lists—72 percent of survey respondents said that their company considers it a top-three strategic priority—and they are increasing their innovation spending,

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albeit carefully. And fully 84 percent of respondents said that their company considers innovation to be an important or extremely important lever for reaping the benefits of an economic recovery.

Many of these companies, however, will likely fall short in terms of results. Indeed, our survey indicated that roughly half of executives are unsatisfied with the return on their innovation efforts. Where will they go wrong? Some won’t know what to focus on. They’ll devote all of their attention to the pursuit of new products and services and ignore the systems and processes underlying those products and services. They’ll also ignore business-model innovation. Many companies will also neglect the organizational and cultural changes necessary to support innovation. Finally, and critically, many companies will underutilize what can and should be a powerful enabler of innovation—information technology. Indeed, for many companies, IT is the closest thing to a secret weapon that they are likely to find. It can play a determining role in who succeeds and who fails.

This paper is about how to become more innovative as a company, and how technology—specifically, information technology—can help you get there. It should be emphasized that these are not, however, small challenges. Companies will need to move on multiple fronts simultaneously, and the demands on leadership will be significant. But the payoff for success can be substantial. And the cost of not acting—or acting and failing—stands to be equally large.

Disruptive Innovation

Disruptive innovation—the kind that changes the rules of the game and delivers decisive competitive advantage—seems to be on everyone’s lips in the corporate world. The fact is, however, that most companies haven’t mastered how to get it done. Why is this? First, they probably haven’t defined innovation in the context of their particular company. Disruptive innovations aren’t often going to be simply a new size or color of something you already have. They are going to be whole new business models or combinations of ideas never conceived before.

Second, companies often confuse creativity with innovation. The first is an activity and the second is an outcome. Few companies succeed in being innovative by sequestering tee-shirted, sandal-wearing employees in multicolored rooms to brainstorm new ideas. Innovation goes beyond ideas to execution and sales. Commercialization is one of the most critical components of innovation.

Disruptive innovation is also about focus. (See the sidebar “Driving Innovation: Lessons from Procter & Gamble.”) A scattershot, random approach, which is what many companies essentially take, is destined to fail. A company’s innovation resources are finite and need to be targeted at the right things in order for innovation to deliver.

Last, few companies stop and think about what has to be in place before the ideas start rolling in. Obviously, a new vision and a burning platform, or reason to change, have to be articulated by the leaders. But other fundamental questions concerning people, processes, and metrics need to be asked and addressed as well. Among them are the following:

- Do we have too many people who can say no and too few who can say yes?
- Are our business processes, such as new-product cycle times, too slow and inconsistent to create competitive advantage?
- Is our organization highly insulated, and does its reward system foster too much individual ownership?
- Do we hold people accountable for results?
- Do we measure our progress in areas such as the number of initiatives in the pipeline, how long they have been there, and whether they are meeting their initially promised goals?
- Is our decision-support system accurate, timely, inclusive, and wholly mechanized?
Driving Innovation
Lessons from Procter & Gamble

BCG senior advisor Stephen David (coauthor of this paper) reflects on his experiences at the consumer giant.

At P&G, where I worked for more than 30 years and served as both a general manager and CIO, we knew very early on that we needed to become much more innovative. The problem was that through the late 1990s until about 2000, we never saw an innovation we didn’t like. We threw a lot of ideas at the wall and hoped something would stick. Not much did, though, and we didn’t make many of our financial goals. It wasn’t until we defined what innovation was to us and made clear choices on where we needed to focus—for example, on beauty care and Western Europe—that we truly made progress. And we did make progress. In fact, we emerged a different company.

There were three other key ingredients in this transformation. One was a fundamental change in how we viewed innovation: we decided it was going to be the catalyst for change. This was probably the single biggest factor that turned us around.

The second key ingredient was strong leadership, which helped drive the vision throughout the company. Most companies strongly resist change. Employees fight it because it is uncomfortable or represents too much risk. When I once asked a young P&G brand manager why he wasn’t testing more alternative media for his brand, he replied, “No one at P&G ever got fired for running more TV copy.” This sort of thinking won’t change on its own. Most organizations don’t overcome their resistance to change until they are confronted with a new vision and strong leadership from above to do something different, or with an overwhelming burning platform—something that literally has the potential to destroy the organization’s status quo. We witnessed that firsthand at P&G.

The third essential ingredient was IT. Our IT organization made a substantial contribution toward improving P&G’s agility, communications, and intelligence. It was the glue that held the company together as we engineered this overhaul—and the tool that allowed us to leverage our collective abilities. It really was the critical enabler.

The exhibit “Elements of Disruptive Innovation” on the next page summarizes the characteristics of disruptive innovation. Its first key point: disruptive innovation is about unique new business models, products, services, or business processes that materially change or make obsolete the status quo and produce sustainable long-term results. Its second key point: in this day and age, most disruptive innovation will have as a vital element information, content, or a delivery method that requires information technology. An example of this is the new and emerging mobile marketplace, where revenues and margins of the core business are eroding and new business models are required to fill the revenue and profitability gap. Companies are employing new, more integrated customer propositions and new technology-enabled business models to address the issue.

The Role of Information Technology

IT organizations have a unique function and vantage point in most companies, one that confers an increasingly critical role in the race to build innovation capabilities. This is based on the fact that much of the value that companies have created in the past has come from optimizing their vertical silos (for example, improving R&D or marketing and sales). While this will continue to be important, it is getting harder to differentiate one company’s activities from another’s in these areas. In the future, companies will increasingly need to look to improve their competitiveness along horizontal lines—that is, on pain points in their supply-chain, forecasting, and market-research processes. No function is better suited to see across these internal and external boundaries than IT. This is also where agility, transparent and accurate information, and new tools come in. All are in IT’s domain.

As an example of the potential value that IT can add, consider the customer experience often provided by multichannel consumer-retail companies (for example, financial-services and telecommunications firms). Nothing irritates customers more than dealing with inconsistent information from different sources in the same company. But how many times do you find that a major retailer’s online information and offerings are different from those of its brick-and-mortar stores or branches, or even its call centers? Customers often feel as if they are dealing with three different companies. And what do they do in such circum-
stances? After they get over being annoyed, they either go to another store or start to game the system, playing one group against the other to get the best deal—none of which is good for the company. IT is uniquely positioned to help retailers bridge these gaps and standardize information across channels, creating a seamless, loyalty-building experience for the customer.

The IT organization can play a similar, larger role in enabling and helping to drive a company’s broader innovation campaign. The fundamental question, then, is whether the IT organization is up to the task. Has it moved beyond just doing its back-office transactional duties? Does it have a CIO who has run a line business in the past and can articulate and lead the development of the new skills that will be needed to deliver the innovation vision?

A leading mobile operator demonstrates the scope of the role IT can play in driving business innovation. The telecom industry is going through a massive shift, and incumbents have to transform themselves accordingly to find new sources of future revenue growth. This particular company believes that innovation should play a key part in that effort, and it has implemented a new operating model for information technology to facilitate that change—a model that looks very different from the old one.

The company has defined innovation as one of its core technology capabilities. It has established an innovation team and appointed a head of innovation, who reports directly to the chief technology officer, who himself sits on the company’s executive board. The team’s members have a mix of technology and business backgrounds and were either drawn from the company’s “rising stars” or carefully chosen from the external market. The team has the flexibility to work very differently from the rest of the organization, but innovation remains a process, one that needs management, monitoring, and measurement.

Although the innovation team is situated in the technology function, it works closely with the business units and the business development team. Expectations for the innovation team are high but realistic. The team has committed to a return of ten times the total innovation budget within two to three years. However, individual investments are not measured in terms of their specific return on investment; in fact, failing (but failing fast) is an expected outcome for a lot of the initiatives. With strong support from the CEO and the CTO, this team is expected to play a primary role in the company’s success going forward.

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**Elements of Disruptive Innovation**

- **A degree of uniqueness (for the company or the market):**
  - Not yet proven
  - Not yet sold
  - Not yet documented
  - Not yet successfully implemented

- **Successful innovation (IT-enabled business innovation):**

- **Information technology that is core to delivery of the change:**
  - The underlying technology (either as a process enhancement tool or embedded in a product or service)
  - The IT organization itself

- **Change:**

- **Uniqueness:**

- **Impact:**

- **A significant, sustainable impact on the business:**
  - Revenue growth
  - Cost reduction
  - Operating performance
  - Behavior (customer or internal)

**Source:** BCG analysis.

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**THE BOSTON CONSULTING GROUP**

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Making It Happen

So how do you become a more innovative company—and maximally leverage IT to help you get there? Putting the CIO in the driver’s seat can be a good start, given his or her unique perspective on the organization and IT’s enabling capabilities. But there are a host of other things you need to do as well, from installing the right metrics and incentives to optimizing the number of layers and spans of control. Below, we touch on some of the more important ones and offer some self-diagnostic questions that can start you down the path.

Speed and Agility

◊ Do we have speed-to-market data for our competitors, especially those that are best in class?
◊ What do people further down in our organization say about the efficiency of our day-to-day decision-making and business processes?

Culture

◊ Do we encourage curiosity?
◊ Do we value an external focus on customers and consumers?
◊ Do we foster a networking and partnership mentality, with both internal and external partners?

Reward Systems

◊ Do we have a reward system for both teams and individuals that is based on total shareholder return or ROI-type criteria?
◊ Do we reward results rather than simply activities or longevity?

Organization

◊ How many layers do we have—and need?
◊ What are the relevant spans of control?
◊ Do we have clear objectives and organizational alignment?

Commercialization Mentality

◊ Do we think and act on all types of innovation—for example, business process innovation as well as product innovation?
◊ Do we routinely simplify, standardize, and mechanize processes?

IT Structures

◊ Is IT organized to support innovation—that is, is it integrated into the business units?
◊ Do our base information systems provide accurate and consistent essential business data in a timely fashion?

Innovation Centers

◊ Do we have innovation centers? If so, who runs them and owns them? How should they be linked?
What is the scope of the innovation centers? For example, do they focus on activities such as design, content, and placement that can significantly boost the odds that shoppers will purchase our product?

Is the effort to become more innovative worth it? Empirical evidence clearly suggests that it is. BCG’s own research confirms that innovative companies deliver superior returns for shareholders. Innovative companies tend to outperform on other measures of overall business success as well—witness, for example, the results over time of the Apples, Googles, and Procter & Gambles of the world.

The bottom line: innovation pays. And information technology can play a pivotal role in helping your company get there.

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2. In Innovation 2010: A Return to Prominence—and the Emergence of a New World Order (cited earlier), we looked at the total shareholder returns of the most innovative companies (as identified by our survey respondents) versus those of their industry peers for the three- and ten-year periods ending December 31, 2009; the results were compelling. Globally, on an annualized basis, innovators outperformed their peers by a whopping 12.4 percentage points over three years and by a more modest but still significant 2 percentage points over ten years.
About the Authors

Stephen David is a senior advisor to The Boston Consulting Group in its Atlanta office. You may contact him by e-mail at david.stephen@bcg.com.

Ralf Dreischmeier is a senior partner and managing director in the firm's London office. You may contact him by e-mail at dreischmeier.ralf@bcg.com.

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