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Becoming a Leader Among Leaders

Electronics CEOs reflect on their innovation capabilities

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"Reinvention across the waterfront is required to remain relevant and retain a leadership position."
– Electronics CEO study participant

Introduction

Perhaps more than any other industry, the electronics industry relies on continuous innovation. Innovativeness is an industry hallmark – and a fundamental marketplace expectation.

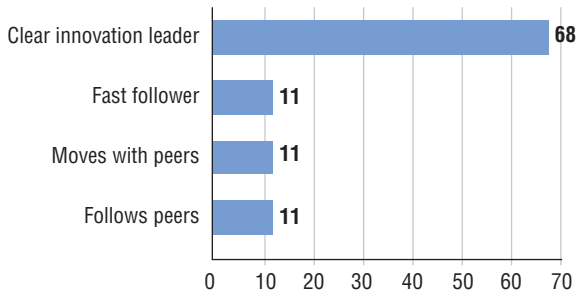
The sheer number of new product introductions is staggering. At the 2006 International Consumer Electronics Show, for instance, consumer electronics companies debuted more than 20,000 new products.[1] As a point of comparison, the auto industry typically introduces around 25 new or substantially redesigned models each year.[2]

Underlying many of these new products are new inventions. In 2005, the top ten U.S. patent filers were all from the electronics industry.[3]

Given the industry's track record, few would question whether electronics companies are innovative. But when we spoke to electronics industry CEOs in our 2006 Global CEO study, we were surprised to learn just how confident they were. Two out of every three electronics industry CEOs considered their company a "clear innovation leader" in the area of new products and services (see Figure 1). The decisive majority perceive themselves not just as innovative, but as innovation *leaders*.

Figure 1. Industry position in regards to products, services and markets innovation.

(Percent of respondents)



Source: The Global CEO Study 2006.

Clearly, this exuberance does not reflect reality. In actuality, there are far more followers than front-runners.

So what does it take to be a real innovation leader in an industry where ingenuity is prized and competition is fierce? How does a company create innovation that really matters?

True innovation leaders create meta-value

As one electronics study participant said, "We have earned our reputation – but here's the challenge: Will customers still view us as a leader five years from now?"

The answer to that question is not clear-cut.

In our CEO Study, 75 percent of electronics CEOs expected fundamental change for their organizations over the next two years. Pressure is mounting on all sides.

Demand seems insatiable. Electronics are everywhere – they protect us, entertain us and make our lives more convenient. They hang from our key chains, sit on our credit cards and may soon be attached to our clothing and food. Gartner forecasts that, by 2010, more than half of the total semiconductor demand (in terms of revenue) will come from products bought by consumers.[4]

The pace of technological change is just as dizzying. Fierce competition from "me too" product manufacturers is driving ever shorter product development cycles. And the electronics industry is powering waves of technology-enabled innovation across many industries. Not surprisingly, in our study, electronics CEOs ranked the impact of technological change much higher than their peers in other industries: Seventy percent of electronics CEOs named it as a major factor as compared to 41 percent across the entire study population.

As with other industries, globalization is providing electronics companies with access to high-skilled, lower-cost resources – and huge, relatively untapped

The Global CEO Study 2006

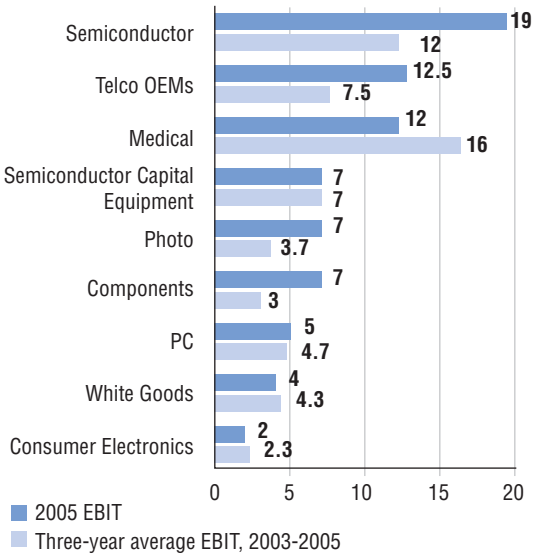
As part of our Global CEO Study, we conducted in-depth, consultative interviews with 765 CEOs, business executives and public sector leaders from around the world.[5] Through these discussions, we explored CEOs' current views on innovation – what was on their innovation agendas, where their innovative energies were focused, and what they were doing to enable innovation. The survey population included leaders of companies both large and small, some public and some privately held. Our sample comprised a broad cross-section of CEOs and public sector leaders, spanning 11 geographic regions and 20 different industries.

As part of this worldwide study, we interviewed 46 electronics industry CEOs and senior business executives – three-quarters of whom are located in North America, Western Europe and China.[6] Over half of the electronics participants manage firms with 5000 or more employees and revenues in excess of US$1 billion.

consumer markets. Hungry for the "basics," these geographic markets provide electronics companies with tremendous growth potential – if firms can satisfy their unique market needs, meet lower price points and outperform the competition.

To sustain a leadership position amid all of this change, it will take more than just innovative products. True innovation leaders are creating what we call meta-value. They are combining solution elements – not just to create something greater than the sum of the parts – but to conceive something *totally different*, thereby producing meta-value. It is this type of solutions focus that has separated electronics segments like medical devices and telecom equipment manufacturers from the pack (see Figure 2). Segments that are creating meta-value solutions are enjoying substantially higher margins, while segments such as consumer electronics and PCs that focus primarily on products continue to endure profitability challenges.

Figure 2. Innovation is driving returns in some segments.
(Average EBIT margin percent)



Source: Annual reports; IBM Global Business Services analysis.

Meta-value redefines the nature of healthcare

Through the use of electronic automated monitoring devices, wireless connectivity and predictive data models, caregivers can now remotely monitor patients' conditions and initiate appropriate healthcare actions. These types of solutions not only allow shorter hospital stays and facilitate higher treatment compliance; they also provide an extra layer of safety and security that may enable the elderly to live independently for a longer period of time. Telehealthcare is also a cost-effective way to offset the rising costs of treating chronic illnesses.[7]

In addition to responding to the challenges of the world's aging population, telehealthcare helps address the healthcare challenges presented by the economically disadvantaged. For example, the Indian Space Research Organization, Apollo Hospitals Group, Philips India and the Dhan Foundation have partnered to create mobile "telehospitals." These vans – complete with diagnostic capabilities, such as x-ray, electrocardiography and ultrasound equipment – travel along predefined routes to serve patients in rural India that can not afford to travel for healthcare. Through high-bandwidth satellite communications, specialists located in hospitals hundreds of miles away can evaluate patients' conditions and offer encouragement and instruction through "video visits."[8]

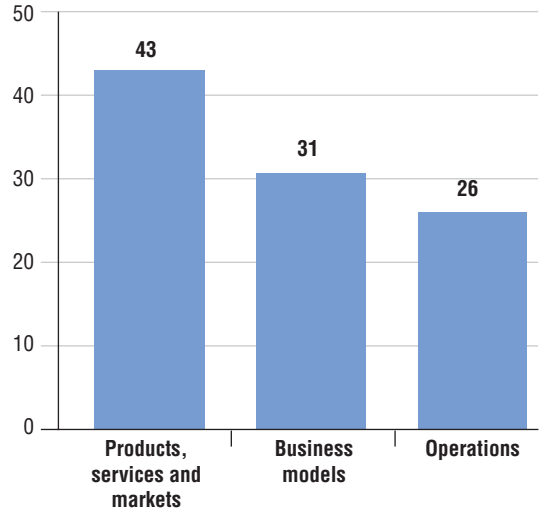
Telehealthcare is a prime example of meta-value. It brings together emerging technologies, products and services to create a totally new concept. Innovative solutions like these require much more than combining hardware, software and communications technologies – for instance, telehealthcare providers must understand the patients' environment, device usability needs, impacts on caregivers and clinical environment integration requirements. Most importantly, meta-value solutions require a deep understanding of what really creates value for the end customer.

Business model innovation changes the game

Increasingly, industry leadership is determined not only by *how* companies innovate – but also by *what* they choose to change. Products, services and markets innovation remains electronics CEOs' highest innovation priority, but relentless competition and intense margin pressure are prompting them to look at other areas of innovation – such as their business models (see Figure 3).

Figure 3. Percent of emphasis given to each innovation area.

(Percent)



Source: The Global CEO Study 2006.

"Previously, product-based innovation was of greatest importance. However, market pressures are driving the importance of business and operational model innovation."
– Electronics CEO study participant

From PCs to Platforms – Intel's new business model

Even industry stalwarts like Intel are rethinking their business models. With growth dropping off in its core PC market, Intel has decided to reinvent itself – from its brand back. The company is shifting its focus from PCs to platforms. These platforms will include software and multiple kinds of chips – not just microprocessors – all targeted at specific segments such as consumer electronics, wireless communications and healthcare. The goal is to provide complete packages to companies that make everything from mobile phones to hospital equipment, ultimately enabling innovative new products that revolutionize entire industries and society in general.

Intel's business model innovation has resulted in dramatic changes, including a completely different organizational model, new kinds of employees and a brand new brand image. The company is now structured around the customer-oriented platform areas, breaking the hold processors once had on how the business functioned. Now joining the ranks of Intel engineers are software developers, sociologists, ethnographers and even doctors. And the fifth-best-known brand in the world is getting a makeover as well – with a new corporate logo and a US$2.5 billion advertising and marketing campaign.[9]

Based on our experience working with clients in the electronics industry, we find that traditional business models often hamstring companies' innovative potential. Product-centric models leave electronics companies exposed to replication and commoditization, forcing survival on wafer-thin margins. And product-line organizational structures also tend to subvert a solutions-oriented perspective, which is critical for fostering the kind of innovation that matters to customers.

Growth imperatives and persistent margin pressure are forcing electronics firms to break their rigid, product-centric molds and design business models that provide more attractive value propositions for their customers – and more attractive margins for themselves.

Business and technology integration makes new business models possible

"There are very few places where technology has no role. I can't think of any."
– Electronics CEO study participant

Eighty percent of the electronics CEO study participants indicate that business and technology integration is important for innovation – but only 45 percent are currently integrating the two dimensions to a significant extent. One electronics CEO explained, "We have a ways to go – we have to be much better."

For CEOs in other industries, staying abreast of technological change and factoring technological possibilities into business strategy development decisions can be a challenge. But electronics CEOs often face the opposite issue. Technological know-how is abundant, and business insight is in short supply. As one study participant put it, "We are an engineer-driven business; we need more business experience."

Given the nature of the industry, electronics CEOs are acutely aware of the dangers of pursuing "technology for technology's sake." However, the siren is strong. And this trap – as one CEO said – can lead to "disaster." Because of business skills shortages and engineering-dominated cultures, electronics companies do not always combine business insight with technological know-how at the right time or in the right measure.

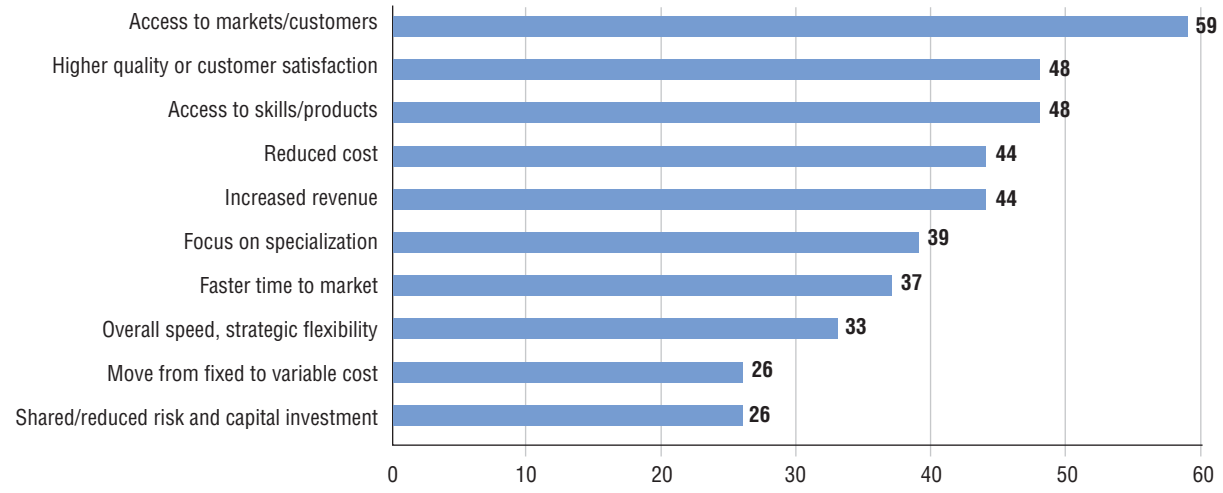
But when considered together, as strategies are initially developed, business insights and technological know-how can result in truly innovative solutions. The right combination can even change entire industries. For instance, the Apple iPod not only changed *why* consumers buy MP3 players (fashion and status, not just to play music), but also *how* music is sold and delivered. Because of its "ingredient" nature, the electronics industry has a unique opportunity to participate in innovative revolutions in industries far beyond its own.

Collaborative innovation – The path to growth

Though electronics CEOs cited a broad range of benefits from collaboration and partnering, access to new markets and customers garnered the highest number of responses by far (see Figure 4). Electronics CEOs were also obtaining important skills and products through partners and collaborators. Contrary to what some might consider as chief motivations to partner, cost reduction was rated lower – and shared risk was at the bottom of the benefit list.

Clearly, electronics CEOs are focused on the growth and competitive advantages made possible through collaboration and partnering. Collaborative partners can provide access to a new technology, a specialized capability, insight about particular geographic markets or customer segments, or simply speed to market. Collaboration is becoming particularly critical in the electronics industry because of digital convergence and the demand for solutions instead of just products. Partnering is often the only way to assemble the diverse set of skills and resources required to implement some of today's complex solutions.

Figure 4. Benefits realized through collaboration and partnering for innovation.
(Percent of respondents)



Source: The Global CEO Study 2006.

Collaboration helps Samsung Electronics enter new geographic markets

Anxious to capture its share of the exploding Indian mobile phone market, Samsung decided to collaborate with local partners to improve its value proposition. To design phones tailored to the specific needs of Indian consumers, its subsidiary, Samsung India Electronics Limited, enlisted the help of the Indian Institute of Technology in New Delhi. Together, they analyzed consumer response to many design aspects – both functional and aesthetic.[10] For instance, one of the market's key unmet needs was language support beyond English and Hindi. Under its India Speaks program, Samsung has launched the C200, a color mobile phone that features menus in six languages and short messaging service and predictive text in five languages.[11] To add even more local color (literally), Samsung collaborated with noted Indian painter, Satish Gujral, to make digital renderings of his paintings available as downloads from Samsung mobile phones.[12] All of its collaborative innovation is paying off. By the end of 2004, Samsung India was selling 100,000 phones per month – with analysts predicting revenue growth of nearly 17 percent.[13]

"We partner well with universities and top researchers, but not at the customer level."
– Electronics CEO study participant

All told, nearly 90 percent of the electronics CEOs we interviewed considered collaboration and partnering important to innovation. Over half of electronics CEOs indicated that customers were their most important source of new ideas. Interestingly, in terms of new idea sources, electronics study participants ranked competitors just as high as their own R&D departments (see Figure 5).

However, despite nearly unanimous agreement on the innovative importance of collaboration and partnering, less than two-thirds of those surveyed are collaborating to a significant extent. And electronics companies still obtain twice as many ideas internally as externally (see Figure 6). At many electronics companies, the engineering mindset is so deeply ingrained that innovation efforts are closed, secretive – and increasingly inadequate.

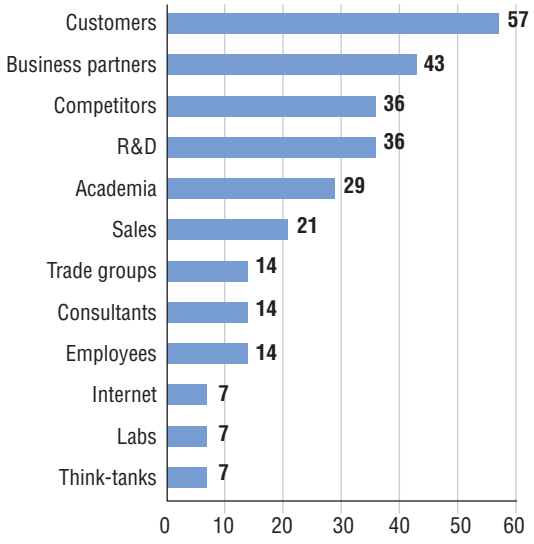
Building a sustainable leadership position

"Innovation is a culture, not a process or policy."
– Electronics CEO study participant

For electronics companies, translating innovative reputations into financial results is a constant challenge, and competitors are anxious to topple market leaders. To strengthen your innovative position:

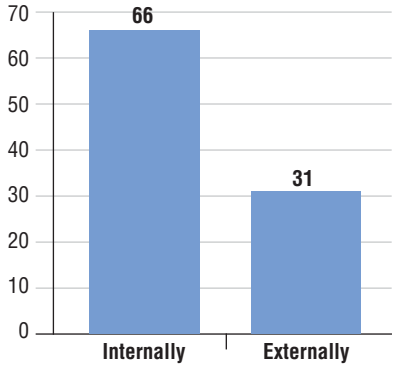
Focus innovative attention where it matters most. Think of your business in terms of components – sets of activities (people, processes and technology) that each serve a unique purpose within the organization and could, in principle, operate as an independent entity. Creating a component view of the business

Figure 5. Most important sources of new ideas.
(Percent of respondents)



Source: The Global CEO Study 2006.

Figure 6. Ideas generated internally versus externally.
(Percent)



Source: The Global CEO Study 2006.

can help you identify activities that need innovation or capabilities that could offer new sources of innovation and differentiation.

- What are your core and non-core components?
- What role do your core components play in driving innovation for your company?

Move beyond product innovation and aim for meta-value. Despite the risk of product commoditization and unrelenting margin pressure, many electronics companies still have offering portfolios monopolized by products. Evaluate your own mix. If you have not already done so, consider services, such as service-after-sales offerings. But keep in mind that complementary, synergistic services may not be sufficient. To differentiate, you need to offer more than additive value; today's market is looking for meta-value. The challenge is assembling new combinations of products, content and services that produce new, emergent capabilities for the end user – such as medical care delivered through mobile phones and electronic games that rival reality.

- Is your portfolio too product-focused?
- What percentage of your revenue is generated by service offerings?
- Does your portfolio yield adequate margins?

Work on the working environment. Instead of searching for one inspiration after another, make innovation more systematic by establishing a working environment where inspiration and creativity naturally flourish. Evaluate your innovation capabilities.

- Are you proactively cultivating a creative climate?
- What processes are in place to find the best ideas internally and externally?
- Are you confident that you have a continuous flow of fresh thinking?
- What mechanisms are in place to develop and grow ideas from inception to delivery?
- How are you using metrics and incentives to drive innovation? Do you measure outcomes from creative processes?

Become a better partner. In this industry, creating higher-margin services offerings and business models that are difficult to emulate increasingly depends on your ability to partner.

- How well do organizations within your company collaborate and partner? Is it a corporate norm to share best practices?
- How are you partnering across your existing value chain and throughout your business ecosystem?
- Do you have the skills, expertise and cultural inclination to partner as extensively as the market demands?

Pair market intelligence with R&D. As the influence of consumerism grows in electronics, it becomes increasingly important to link R&D and market intelligence capabilities.

- How enamored are end users with your products and services?
- Are you integrating insights from customers, partners, competitors and the value chain to drive product and services development?
- Do you have integrated information, processes and tools that produce the business insights required to identify meta-value opportunities?

Undoubtedly, electronics companies are prolific product inventors. And most electronics CEOs believe their companies are innovation leaders. But keep an eye on those that are thinking more broadly about innovation – making strategic changes to their offerings, business models and innovation capabilities. They will be the real long-term leaders.

About the authors

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To register to receive a copy of the complete IBM Global CEO Study 2006, please visit:

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