

# THE ENTERPRISE OF THE FUTURE

ELECTRONICS INDUSTRY EDITION



GLOBAL CEO STUDY

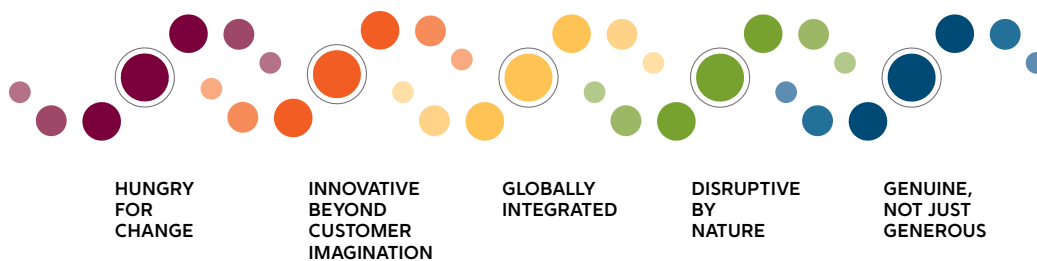


## INTRODUCTION

We conducted 1,130 interviews with chief executives, general managers, business leaders and public-sector heads in the course of completing the research for our third biennial Global CEO Study, which aims to identify the key characteristics of the Enterprise of the Future.<sup>1</sup> Here we focus on the responses of the 74 CEOs who run electronics companies. Almost all of these leaders were interviewed by IBM executives in face-to-face meetings lasting one hour.

Our findings show that the Enterprise of the Future is:

- **Hungry for change**
- **Innovative beyond customer imagination**
- **Globally integrated**
- **Disruptive by nature**
- **Genuine, not just generous.**





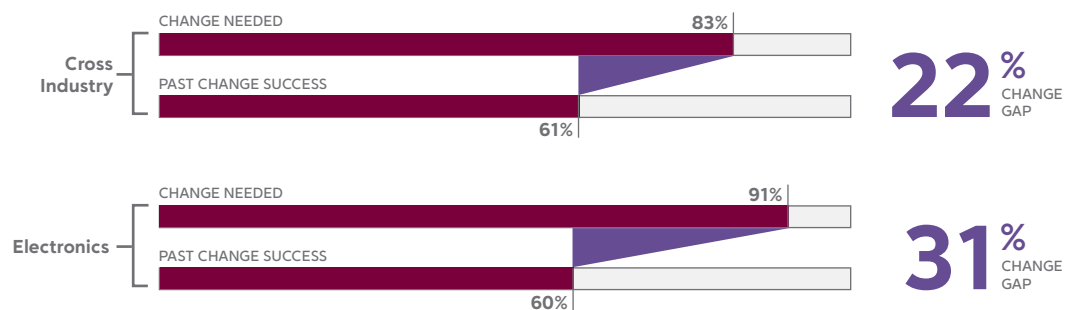
# HUNGRY FOR CHANGE

Electronics CEOs are acutely aware of the need for change, but unsure how to manage it. How can they capitalize on market shifts in related industries and digital convergence?

Electronics CEOs are even more aware of the need for change than their peers in most other industries. Ninety-one percent anticipate substantial changes over the next three years, compared with 83 percent of the total survey population. But the gap between those who expect major change and those who have previously succeeded in managing it is also much bigger (see Figure 1). In fact, it is bigger than in any other industry except media/entertainment and automotive manufacturing.

FIGURE 1 THE CHANGE GAP

Electronics CEOs are struggling to keep up with the increasingly hectic pace of change.



Moreover, the gap is growing, as both the speed and the scale of the change with which electronics CEOs must contend increases. In 2004, market factors dominated the corporate agenda – and 60 percent of electronics CEOs believe that they are still very important. A number of respondents expressed concern about higher commodity prices, shorter product lifecycles, the rising power of retailers and other such market issues in their conversations with us. Now, however, the shortage of talent, globalization and technological issues weigh almost as heavily on their minds.

Forty-eight percent of electronics CEOs worry about being able to recruit skilled workers and people with global management experience – a perennial theme in this year’s Global CEO Study, as the battle for brains becomes more intense. Forty-seven percent are also anxious about the challenges associated with operating on a global basis, the implications of digital convergence and the risks involved in developing new technologies.

This is hardly surprising. The electronics industry is already more globalized than most; many electronics products are designed in one country, manufactured in a second and assembled in a third. Technological innovation also plays a crucial role in the sector’s success – as evidenced by the high proportion of engineers and technicians it employs. And the digital revolution is transforming consumer electronics, with the emergence of new ways of distributing music, movies and books, new advertising models and entirely new industries.

.....  
“Our corporate culture is characterized by gradual change. We have good ideas but lack the speed and driving force to implement the necessary changes.”

CEO, Industrial Automation  
Company, Europe  
.....

## Implications

The electronics industry faces huge changes over the next few years. Some of these changes will stem from technological advances and shifts in the marketplace. But electronic components also play a critical role in many other industries, including the telecommunications, media/entertainment, medical device and automotive manufacturing sectors. Electronics CEOs will therefore need to keep a close eye on what is happening in these related industries and markets. They will need to analyze the changes taking place and identify which ones are most likely to affect their own organizations, using tools like scenario planning to evaluate the opportunities and risks and decide on the best course of action.

Electronics companies will also need to bolster their change management skills, by grooming a new generation of leaders and building the capabilities required to operate in a completely different environment. One way of doing this might be to recruit people from related sectors that have also experienced major change to supplement their internal expertise.

## Case study

### ABB: ENGINEERING ENTERPRISE-WIDE CHANGE

Switzerland-based ABB launched its Step Change Program in 2003 to improve productivity and cut costs. Hundreds of measures were identified and executed on schedule, resulting in annual savings of more than US\$900 million. Launched in 2005 and still underway, the One Simple ABB Program is reducing organizational complexity and establishing common, global processes for Finance, Human Resources and Information Services.

The impetus for these programs was a decision in late 2002 to focus on the company's core expertise in power and automation. This meant selling noncore businesses – such as upstream oil, gas and petrochemicals units – and outsourcing nondifferentiating functions.

ABB's change programs today consist of a broad portfolio of initiatives with specific business and financial objectives. With members representing five global divisions, group functions and geographic markets, the ABB Executive Committee tracks progress and provides regional accountability. With its proven change-management capabilities, ABB is well-positioned for the future – an organization engineered for change.

The results? ABB's successful focus on its strengths as a global leader in power and automation technology, and its improved productivity and cost structure, were driven largely by these enterprise-wide change programs. In 2007, ABB's net income increased to a record US\$3.8 billion.<sup>2</sup>



# INNOVATIVE BEYOND CUSTOMER IMAGINATION

Electronics CEOs are eager to serve newly affluent consumers. But what should they do to understand the needs of different market segments and keep their customers loyal?

Electronics CEOs believe that greater global prosperity will be good for business. Indeed, they are more optimistic than their peers in other industries in this respect. Four-fifths of them think that the increasing purchasing power of middle-class consumers in rapidly emerging economies and asset-rich baby boomers in developed countries will have a positive impact on their companies, compared with just two-thirds of the total survey population.

They are also prepared to back their convictions with cash – and plan to raise the amount they invest in reaching newly affluent consumers by an average 27 percent over the next three years.<sup>3</sup> This is significantly more than the 19 percent by which the total sample plans to increase its expenditure, although it brings the electronics



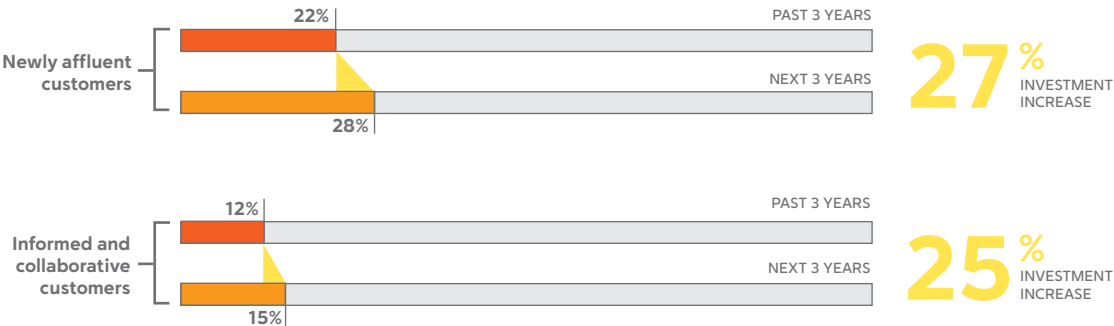
industry’s spending into line with that of other industries, rather than putting it at the forefront. Most electronics companies intend to focus on expanding into new markets, particularly the BRIC economies (Brazil, Russia, India and China); targeting mature Internet users; and developing new products that cater to the growing demand for mass luxury.

Electronics CEOs likewise welcome the advent of increasingly well informed and collaborative customers; two-thirds of them regard this trend as positive. And, collectively, they plan to increase the amount they invest in serving such customers by an average 25 per cent over the next three years (see Figure 2).

.....  
“The emerging middle class wants top-end products.”  
CEO, Consumer Electronics Company, Asia  
.....

FIGURE 2 THE INVESTMENT PRIORITIES OF ELECTRONICS CEOS

Electronics CEOs plan to invest more in serving newly affluent consumers than in serving informed and collaborative customers.



In fact, most electronics companies are already focusing on end users to a much greater extent than before, regardless of the specific sub-industry or part of the value chain in which they operate. This is particularly clear in the consumer electronics sub-industry, where consumers are increasingly becoming producers of content, too. But many electronics companies will need to invest more heavily in market intelligence and customer loyalty programs to ensure that their end users keep coming back.

## Implications

New geographic and demographic markets are emerging, and more knowledgeable consumers are increasingly dictating the products and services they want. If electronics companies are to capture these opportunities, they will have to understand how the preferences of different customer segments vary with age, income, location and the like.

They will also have to create customer loyalty programs to offset the impact of the programs many retailers have launched. Both Panasonic and Sharp Electronics have already taken this route, with post-sales support programs for customers who buy their high-end TVs. The former provides set-up and troubleshooting advice, while the latter offers a wide range of services, including technical support, home repairs and discounts on installation services for surround-sound packages.<sup>4</sup> Other consumer electronics manufacturers may well want to consider similar measures.

## Case study

### NINTENDO: BUILDING MARKET SHARE THROUGH CUSTOMER COLLABORATION

In the early 1990s, Nintendo's share of the game console market was 61 percent, but by the mid-2000s, it had fallen to 22 percent.<sup>5</sup> To regain its leadership position, Nintendo needed to find new ways to delight gamers – and to bring gaming to new audiences.

To do that, Nintendo went straight to the source – gamers themselves. The company established an online community by offering incentives in return for customer information. The company also selected a group of experienced gamers based on the value and frequency of their community contributions. These “Sages” were given exclusive rewards, like previews of new games, in exchange for helping new users and providing community support.<sup>6</sup>

Through this community, Nintendo has gained valuable insights into market needs and preferences. This has influenced everything from game offerings – like an online library of “nostalgic” games that appeal to older gamers – to new product design – for example, the intuitive controls of the popular Nintendo Wii system, which have helped attract new, casual gamers.<sup>7</sup>

By leveraging the loyalty and expertise of its core customer segment, Nintendo has successfully connected with two new ones – women and older men. This collaboration seems to have paid off: Nintendo is once again ahead of its competitors, with 44 percent market share.<sup>8</sup>



# GLOBALLY INTEGRATED

Many electronics companies are already global, but not yet fully integrated. How can they acquire the right skills and partners? How can they globalize their brands and products?

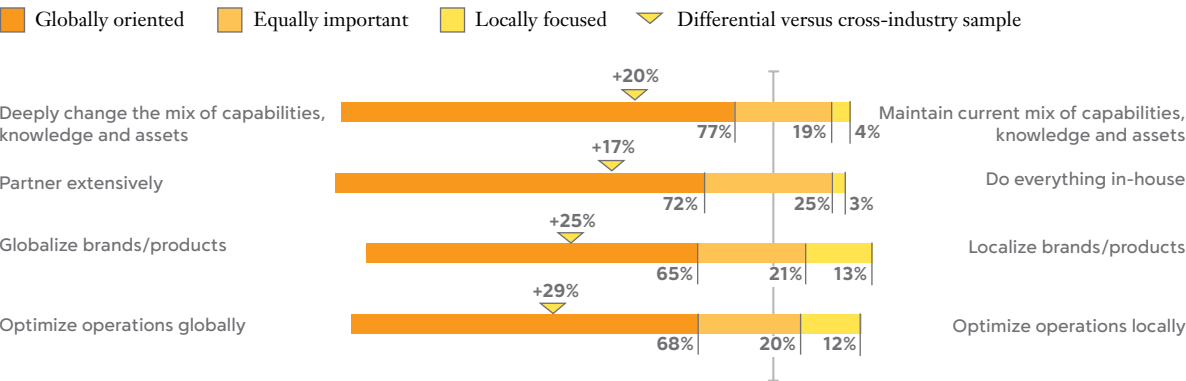
Most CEOs, irrespective of the industry in which they operate, plan to make sweeping changes in their companies over the next three years, recognizing that globalization will require new business designs that facilitate faster and more extensive collaboration and the ability to reconfigure rapidly when new opportunities emerge. However, the electronics sector is already very globalized, and electronics CEOs are overwhelmingly global in their perspective.

We used data clustering techniques to analyze the responses of all the CEOs who participated in our survey. Sixty-four percent are “globalizers” or “extensive globalizers”; the remaining 36 percent are either “blended thinkers” or “localizers.”<sup>9</sup> In the electronics industry, by contrast, 88 percent of CEOs are “globalizers” or “extensive globalizers,” while only 12 percent are “blended thinkers” or “localizers.”

Moreover, many electronics CEOs have more ambitious plans for expanding overseas than those in other industries. The background research we undertook to supplement our survey findings shows that 72 percent of the electronics companies participating in our study intend to enter China, while 49 percent are looking to India, 29 percent to Russia and 27 percent to Latin America. The percentage of electronics companies planning to move into these markets is more than double the average for the total survey population.

So it is hardly surprising that electronics CEOs are focusing on global integration to a much greater extent than their peers in other industries. Their priorities are very similar: to change the mix of skills, knowledge and assets their companies possess; form new partnerships that will enhance their ability to innovate; globalize their brands and products; and optimize their operations worldwide. But the number of electronics CEOs who are concentrating on these goals is between 17 percent and 29 percent higher than it is in the total sample (see Figure 3).

**FIGURE 3 ELECTRONICS CEOS ARE COMMITTED TO GLOBAL INTEGRATION**  
Electronics companies are focusing on global integration more intensely than companies in most other industries.



Nevertheless, global integration is very difficult – and electronics CEOs, like CEOs in other industries, face a number of obstacles. One of the biggest problems confronting them is the recruitment and retention of talented people at every level, from skilled workers in new manufacturing sites to managers with international experience and top executives who understand the challenges of running a global business. Three-quarters of electronics CEOs say that shortage of talent is a major issue (versus 57 percent of the total survey population).

.....  
“The most relevant barrier will be lack of people and managerial skills: we should have invested more in the past, but when we have the need, it’s often too late.”  
CEO, Office Equipment Company, Asia  
.....

Intellectual property protection is a second key concern; 43 percent of electronics CEOs are worried about counterfeiting and piracy (compared with 17 percent of the overall sample). This is understandable, given that intellectual property theft costs the U.S. economy alone about US\$200 billion a year – and the electronics industry is one of the main victims.<sup>10</sup>

## Implications

In an increasingly connected world, geography matters less and less; suppliers, employees, ideas and customers can originate anywhere. However, any electronics company that wants to realize these opportunities will have to become globally integrated. It will need, for example, to integrate its back-end production processes, by collaborating more closely with its supply chain partners and adopting lean manufacturing techniques. It will also need to integrate front-end activities such as sales and marketing – and that, in turn, will mean integrating the systems that underpin those processes.<sup>11</sup>

The industry as a whole will also need to implement effective employee recruitment, retention and development programs to ensure that it can acquire the right mix of capabilities, and take better steps to protect its intellectual property. Hardware piracy could, for example, be substantially reduced, if not eliminated, thanks to a new technique for “locking” microchips so that they cannot be used by anyone other than the patent holder.<sup>12</sup>



## Case study

### PANASONIC: BUILDING A GLOBAL BRAND

When Konosuke Matsushita established his electrical appliances business in 1918, he probably never envisaged that it would become a worldwide leader in the development and manufacture of electronic products for a wide range of consumer, business and industrial needs.<sup>13</sup> Even now, however, many people outside of Japan might not recognize the name of the company he founded; its Panasonic brand is much better known than Matsushita Electric itself.

Matsushita Electric thrived in postwar Japan by manufacturing affordable household goods for a new middle class. Its products were sold under several brand names, including National and Technics.<sup>14</sup> But it was the Panasonic speakers the company started exporting in 1955 that launched its most popular brand. The Panasonic brand now covers everything from computers and microwave ovens to power supplies and sophisticated optical sensors.<sup>15</sup>

In January 2008, Matsushita therefore announced that it will change its name to Panasonic Corporation effective October 1, 2008. It will also unify its corporate brands under the Panasonic umbrella around the world over the next few years. The new Panasonic Corporation plans to remain faithful to Matsushita's original philosophy of putting customers first and "starting every day fresh." But the change of name and brand unification – under the slogan "Panasonic ideas for life" – are part of a bold plan to make the company a truly global corporation with a global brand and globally integrated operations.<sup>16</sup>



# DISRUPTIVE BY NATURE

Electronics CEOs plan to make major business model innovations over the next few years. But will they be enough to offset the shift in value from hardware to software and services?

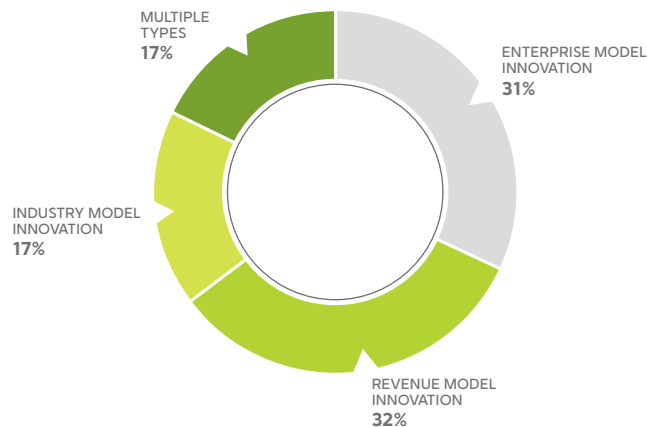
.....  
“We are having a lot of conversations about software as a service, service-based business models and changing our enterprise model.”

*CEO, Medical Devices Company,  
North America*  
.....

Seventy percent of electronics CEOs plan to implement extensive business model innovations over the next three years. Most of them are concentrating on enterprise model innovation and revenue model innovation (see Figure 4). However, unlike their peers in other industries, they are almost equally divided in their preferences; 32 percent intend to reconfigure their products and services or introduce new pricing structures, while 31 percent intend to focus on differentiating themselves more effectively, collaborating with external partners and making internal improvements (versus 23 percent and 39 percent, respectively, of the total sample).

**FIGURE 4 ELECTRONICS CEOS ARE DIVIDED IN THEIR PLANS FOR BUSINESS MODEL INNOVATION**

Electronics CEOs are focusing almost equally on developing new value propositions and rethinking how their companies operate.



The fact that most large electronics companies already have an extensive network of partners may, perhaps, explain this difference in priorities. Nine-tenths of semiconductor companies collaborate with other organizations to stimulate innovation, as do some two-thirds of office equipment, network equipment and consumer electronics producers. Indeed, the popular Apple iPhone contains components from 16 different manufacturers.<sup>17</sup> Nevertheless, partnerships will play an even bigger role in the industry's future development.

Another 17 percent of electronics CEOs plan to change their industry models. It is typically more difficult to redefine an existing industry, enter a new industry or create an entirely new industry than it is to

#### TYPES OF BUSINESS MODEL INNOVATION CONSIDERED

##### Enterprise model

Specializing and reconfiguring the business to deliver greater value by rethinking what is done in-house and through collaboration (as Cisco has done by focusing on brand and design while relying on partners for manufacturing, distribution and more).

##### Revenue model

Changing how revenue is generated through new value propositions and new pricing models (as Gillette did by switching the primary revenue stream from razors to blades).

##### Industry model

Redefining an existing industry, moving into a new industry, or creating an entirely new one (think music industry and the Apple iPod and iTunes).

.....  
“We have started the transition  
from products to solutions.  
Strategic relationships will  
lead this transformation.”

*CEO, Network Equipment Provider,  
Europe*  
.....

make internal improvements, form alliances with other organizations or change pricing structures. Yet the fact that so few electronics CEOs (an even smaller percentage than the average for the total survey sample) are attempting industry model innovation is somewhat surprising, given that the Internet is blurring the boundaries between the telecommunications, media/entertainment and electronics industries, and creating new opportunities for many electronics companies.

The pattern of business model innovation also varies from one sub-industry to another. The semiconductor sub-industry is focusing primarily on improvements in efficiency, for example, as a growing number of companies outsource part or all of their manufacturing to become “fab-lite” or “fabless” players, rather than remaining integrated device makers.<sup>18</sup> The network equipment sub-industry is consolidating and diverging; some companies are striving to do everything alone, while others are using third parties to manage their sales and servicing activities.<sup>19</sup> And the device manufacturing sub-industry is moving into the mobile Internet services market.<sup>20</sup>

## Implications

As digital convergence, common IT standards and increasing competition continue to reshape the industry, many electronics companies will need to adopt new business models to capture the opportunities that emerge. Some of these opportunities will require collaboration with companies in other industries; and some will lie in the development of software and services rather than new devices, as the competitive advantage shifts from hardware manufacturing to the provision of compelling services and experiences.

Both these trends mean that electronics companies will need to invest in forming partnerships to pursue new technologies, markets and customer segments. They will also need to hire visionaries who can think beyond their own sub-industry and challenge the status quo; pilot new products in the market place, using realtime feedback to make iterative improvements; and create an adaptable workforce that can embrace changes in the way business is done.

## Case study

### NOKIA: MAPPING A FUTURE IN MOBILE INTERNET SERVICES

Nokia is the world's largest handset manufacturer, but it is fast making a name for itself with the provision of mobile Internet services, too. In August 2007, the Finnish giant took on Apple iTunes, with the launch of its own downloadable music service aimed at Europe's mobile phone users.<sup>21</sup>

Nokia's Ovi portal – the word means “door” in Finnish – enables consumers to access their existing social network communities and content, as well as acting as a gateway to the company's online services. These include the Nokia Online Music Store and Nokia N-Gage, where users can try and buy music and games from a wide range of artists and publishers; and Nokia Maps, a navigation service that offers maps and city guides.<sup>22</sup>

Most telecom operators were initially wary about Nokia's move into the world of the mobile Internet. But the company has since won over four of Europe's five largest operators: Vodafone, Telefónica, France Telecom and TIM (Telecom Italia Mobile). It has also acquired Navteq, the company that supplies its maps application, and struck a deal to put Google's search engine directly into its high-end multimedia phones.<sup>23</sup>

Nokia's bold break into software and services is a rare instance of industry model innovation in the electronics industry. But it is starting to pay dividends. In July 2008, the company announced that second-quarter revenues from the division had reached 119 million euros (US\$75.3 million), a 42 percent increase over the previous quarter.<sup>24</sup>



# GENUINE, NOT JUST GENEROUS

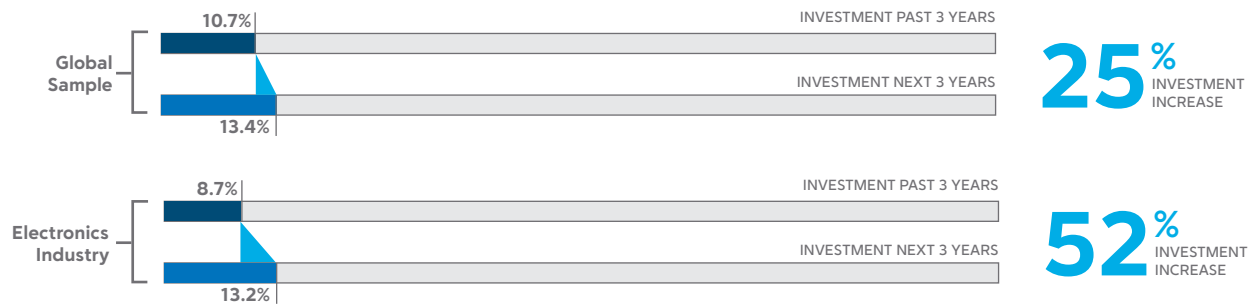
The electronics industry is working hard to reduce its environmental footprint. But is it ready to manage other aspects of corporate social responsibility?

Most CEOs, whichever industry they represent, believe that their customers are increasingly concerned about corporate social responsibility (CSR) – i.e., acting in an ethical fashion that considers the needs of the workforce, society and the environment, as well as those of investors. Electronics CEOs are no exception, and 70 percent believe that the trend toward CSR will be positive for their businesses.

Collectively, electronics CEOs intend to raise the amount they invest in CSR initiatives by 52 percent over the next three years. This is more than the increase they plan on making to serve more prosperous and knowledgeable consumers. It is also significantly more than the average increase across industries, putting the electronics industry's level of investment on par with that of the total survey population (see Figure 5).

FIGURE 5 ELECTRONICS CEOS ARE GENERALLY POSITIVE ABOUT CSR

They plan to increase the amount they invest in CSR by significantly more than the global average over the next three years.



.....  
 The environmental issue is an overwhelming concern for us. All our customers are talking about it.”

CEO, Consumer Electronics Company, China  
 .....

However, environmental factors rank nearly six times higher than socioeconomic issues on the agenda of electronics CEOs. This is probably a reflection of growing public concern about climate change; new environmental laws, like the European Directives on the Restriction of Hazardous Substances and disposal of Waste Electrical and Electronics Equipment; and greater scrutiny from non-governmental organizations. Greenpeace International has, for example, started monitoring the top electronics companies and produces a quarterly “Greener Electronics Guide,” which rates manufacturers on their toxic chemicals and recycling policies and practices.<sup>25</sup>



## Implications

Electronics companies will have to understand and address environmental issues more proactively, and publicize the measures they are taking more effectively. They will, for example, have to develop innovative new products and services that meet the dual goals of good corporate citizenship and profitable growth, and provide better recycling facilities. Consumer electronics manufacturers like Sony and retailers like Best Buy have implemented free e-recycling programs in the United States, but European peers are pursuing even more aggressive measures.<sup>26</sup>

Electronics companies must also be prepared to manage a wider range of CSR expectations. They, for example, have a duty to provide safe and fair working conditions for their employees and ensure that their suppliers are doing likewise. To this end, the leading firms have banded together to establish the Electronics Industry Code of Conduct. However, adherence to the code is voluntary, and labor standards in some developing countries, where many components are produced, are still reputed to be quite poor.<sup>27</sup>

## Case study

### EPSON: GREEN TO ITS CORE

Epson announced, on the eve of European Green Week in June 2008, its "Environmental Vision 2050" program, the latest in its effort to address climate change and biodiversity.<sup>28</sup> Already, Epson has reduced the energy consumption of its inkjet printers by 73 percent over the last four years and of its projectors by 90 percent during the last decade. Now, Epson has set carbon emission reduction goals of 90 percent across the entire lifecycle of its products and services.

Epson plans to assemble a team of global experts from product manufacturing, basic facilities and other departments to explore ways of improving the environmental impacts of its cleanrooms, the single largest source of direct CO<sub>2</sub> emissions at Epson. Convinced emission reduction starts at design time, Epson will conduct reviews to shrink part sizes and weights and reduce part count. Epson will also engage suppliers to reconfigure production centers and realign distribution and logistics. In addition to product innovation, Epson will also examine new business models based on reuse, leasing or renting to extend the service life of its products.

According to Akihiko Sakai, Executive Officer, Corporate Strategy Office, Seiko Epson Corporation, "It is not a matter of whether or not we can achieve these goals. We all that know failure would have dire consequences and is simply not an option."

## BUILDING YOUR ENTERPRISE OF THE FUTURE

Electronics CEOs generally agree with the CEOs in our overall survey sample about the features that will characterize business in the future. Their responses suggest that the successful Enterprise of the Future – as we have called it – will be hungry for change; innovative beyond customer imagination; globally integrated; disruptive by nature; and genuine, not just generous.

But the challenges they face differ from those of other CEOs in several respects. They are more worried about managing change, recruiting and retaining people with the skills they need and protecting their intellectual property. They are also much more concerned about becoming globally integrated.

So how can they prepare their companies for these challenges? How can they hire the skilled engineers and technicians they require to develop new products and services? Create an adaptable workforce and infrastructure to ensure that viable new ideas can be quickly exploited? Find the partners they need to help them capitalize on digital convergence, the potential of the mobile Internet and the changes taking place in other industries that use their components? Make their global operations as efficient as possible?

We look forward to learning more about where you think your business and the electronics industry as a whole are heading – and working with you, as you build your Enterprise of the Future.

For additional information about the Global CEO Study or to discuss these industry implications further, we invite you to e-mail one of the following contacts:

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## ABOUT IBM GLOBAL BUSINESS SERVICES

With business experts in more than 170 countries, IBM Global Business Services provides clients with deep business process and industry expertise across 17 industries, using innovation to identify, create and deliver value faster. It offers one of the largest Strategy & Change practices in the world, with over 3,250 strategy professionals. The IBM Institute for Business Value, part of IBM Global Business Services, develops fact-based strategic insights for senior business executives around critical industry-specific and cross-industry issues.

## NOTES AND SOURCES

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