Reimagining Enterprise IT for an Uncertain Future

By Jeanne G. Harris, Allan E. Alter, Stéphane J.G. Girod and Iris A. Junglas

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Point of View
Enterprise IT leaders would be making a mistake if they constructed a single hypothesis about the future and then built their departments around it. That sort of planning may make sense during more stable times, but it makes no sense now, when the future is so uncertain. Instead, what IT leaders need is a posture of futures-readiness, allowing them to adjust to what happens next in the evolving geopolitical, economic, regulatory and technical realms. Envisioning possible futures, their demands on IT and novel ways to meet those requirements will help IT leaders identify strategies they can put in place three or four years from now.

The role of the information technology department is under scrutiny in a way that makes its past challenges seem almost quaint by comparison. There are several reasons for this. One is the increasing power and utility of the technology that exists on the outside. Employees are getting their work done using free Web applications as well as their own laptops and smartphones. Executives can make many of their own technology decisions. Traditional IT function roles are being displaced. No wonder some analysts and executives are asking whether IT departments are necessary anymore.1

It may be an exaggeration to say that IT departments should go the way of telephone operators and secretarial pools, but the function is certainly ripe for reinvention. In a new Accenture Institute for High Performance survey, IT was chosen most often as the function business executives would most like to build from scratch, by a wide margin. And give credit to today’s CIOs for understanding the need for change: IT executives singled out their own function as a target for reinvention by an even bigger margin. (See Figure 1.) IT, the agent of change, is now the target—even by IT’s own leaders.

But how should enterprise IT evolve? How will it be resourced five years from now, and what should be its roles, responsibilities and business goals?

Figure 1: Enterprise IT is at a crossroads
IT is the function that executives would like to rebuild from scratch, when asked to choose just one.

With no constraints, which part of your organization would you want to build from scratch?

<table>
<thead>
<tr>
<th>Information technology</th>
<th>35%</th>
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<tbody>
<tr>
<td>Operations (includes manufacturing, logistics and store management)</td>
<td>22%</td>
</tr>
<tr>
<td>Human resources</td>
<td>19%</td>
</tr>
<tr>
<td>Marketing and communications</td>
<td>10%</td>
</tr>
<tr>
<td>Finance</td>
<td>9%</td>
</tr>
<tr>
<td>Sales</td>
<td>5%</td>
</tr>
</tbody>
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Source: Accenture Institute for High Performance Future of Enterprise IT survey, August 2011
That’s where many executives appear stuck. Less than a third say they have a clear vision of how their IT function will look by that time. Particularly unsettling is the lack of clarity about the CIO position itself. Barely one in five business executives say they know what the CIO role will consist of in five years. (See Figure 2.) For executives with that title, this makes figuring out the future a matter not merely of professional duty but of career survival.

**Prepare for multiple futures**

What to do? To arrive at a new vision of enterprise IT, CIOs and senior business executives should center their efforts on creating enterprise IT functions that are “futures ready.” The “s” at the end of “future” isn’t a typo. It’s our message.

A futures-ready posture recognizes that it is folly to bet on a single outcome. It is much better to recognize the radically different ways in which the business environment could change, imagine how IT might adapt to those changes, and have the judgment, readiness and courage to evolve when the time comes. Good CIOs have always understood the needs of the business, and have passionately advocated for the potential of technology. But that is not sufficient any longer. Today’s IT leaders must recognize that tomorrow’s business world could be very different from today’s.

Enterprise IT doesn’t exist in a vacuum. Our research into the factors influencing business and technology uncovered more than 60 forces that could have an impact on enterprise IT’s agenda and the IT function’s own future. Eight large-scale forces in particular will have the greatest impact.

**Source:** Accenture Institute for High Performance Future of Enterprise IT survey, August 2011

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**Figure 2: Enterprise IT’s uncertain future**

Executives are unable to say what enterprise IT and the CIO roles should look like by 2016

I have clear vision of how the IT function will look like by 2016

<table>
<thead>
<tr>
<th>IT executives</th>
<th>Other executives</th>
</tr>
</thead>
<tbody>
<tr>
<td>disagree</td>
<td>24%</td>
</tr>
<tr>
<td>unsure</td>
<td>32%</td>
</tr>
<tr>
<td>agree</td>
<td>44%</td>
</tr>
</tbody>
</table>

I have clear vision of what the CIO role will look like by 2016

<table>
<thead>
<tr>
<th>IT executives</th>
<th>Other executives</th>
</tr>
</thead>
<tbody>
<tr>
<td>disagree</td>
<td>50%</td>
</tr>
<tr>
<td>unsure</td>
<td>40%</td>
</tr>
<tr>
<td>agree</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Force No. 1. The cultural impact of consumer IT.** Smart phones, social networks like Facebook and China’s Renren, and other consumer technologies have already transformed how people work, play, learn, shop, share, talk and organize. They are instigating big changes in culture, attitudes and workplace norms.

**Force No. 2. Global, Internet-based competition.** Industry leaders from North America, Europe and Japan are continuing their push into new regions, industries and markets. But companies with Internet-based models and emerging market multinationals are challenging and sometimes overtaking them.

**Force No. 3. Vulnerable technology and information.** Individuals, companies, governments and even IT security experts remain exposed to online theft and cyber attacks. The threats may stem from cybercriminals, foreign governments and even business rivals.

**Force No. 4. Increasing pressure for quality and efficiency.** The old pressure to do more with less is intensifying. Companies must improve productivity in the face of global competitors with cost advantages, while still improving product and service quality.

**Force No. 5. The rise of data-driven decision making.** For many companies, information has evolved from a mixed blessing—a word to be followed by “overload”—to a means of acquiring valuable insights. Smart companies are applying sophisticated new analytical techniques and are beginning to embed analytics into their processes and planning.

**Force No. 6. New approaches to innovation.** Companies are rethinking how they innovate. They are including customers, suppliers and outsiders, employing talent from developing nations and turning low-cost products for emerging economies into new products for mature markets.
Force No. 7. The impact of geopolitics and state regulation. Geopolitical issues, government policies and regulations will have a big impact on the flow of information—and on talent, trade, technology, capital and ideas. Among the current developments with the most potential impact: China’s ascent, the future of the Eurozone and the outcome of the Arab world’s ongoing revolutions.

Force No. 8. The possibility of disruptive disasters. Severe natural and man-made catastrophes, wars and unrest could disrupt the use of information technology for lengthy stretches. These sorts of catastrophes are rare and their timing is unpredictable. If they materialize, however, their impact—including decreased foreign investment, recession and labor flight—could figure into IT deployment decisions.

A connected world?
Future IT needs will be determined in large part by the interplay of these forces. And futures-ready IT leaders will anticipate what futures could emerge, how they would affect their company’s strategy and operational requirements, and what will be required from enterprise IT. (See Figure 3.)

That is easier said than done. Most of these forces are packed with uncertainty. In combination, they could lead to futures that are neither flat nor connected.

Many technologists and opinion-shapers believe they know what’s coming: a flat and increasingly connected world with exponential growth in data and computer intelligence. Global mobile data traffic will grow 30 times by 2015, says one report; another says it will grow 50 times by 2020.2

This is the world that the IT industry, Silicon Valley leaders like Amazon and Google, and venture capitalists are investing in. And we’ve certainly come a long way down that road: 35 percent of the world’s population was online as of 2011, nearly double the percentage of 2006.3 Half of all executives surveyed in 2010 said IT will be important for reaching customers globally and entering new markets.4

But continued growth in connectivity isn’t assured; how flat the world really is, remains to be seen. Many things could affect the flow of information online, including Europe’s strict data privacy regulations, America’s hodgepodge of laws (such as the Patriot Act or industry-specific laws like HIPAA and the Gramm-Leach-Bliley Act), China’s limits on the Internet and India’s push to monitor online and mobile communications.5

Figure 3: Futures-Ready IT
Unlike IT organizations that just focus on aligning with operational or strategic requirements, a futures-ready IT organization also looks at the forces that determine the future business environment and the futures that may arise. As the future becomes more clear, and companies adjust their strategy and operating model (its blueprint for carrying out their strategy and coordinating operations) to match it, IT decision makers adjust their organization’s enterprise IT to meet the requirements. By thinking ahead, IT can prepare for what the future will bring.
Globalization could shift into neutral or reverse if the economic crisis in Europe worsens and the US dips into another recession. Just imagine a world in which (pick your poison) the Euro breaks down, high unemployment leads to political instability, political pressure causes protectionism to trump free trade and access to foreign labor, relations between economic powers decline, or high energy prices undo global supply chains.

Some policymakers and organizations are already imagining the worst. Christine Lagarde, the managing director of the International Monetary Fund, warned recently that without decisive action by the world’s policymakers, we could easily slide into a “1930s moment—a moment where trust and cooperation break down and countries turn inward.” Similarly, the World Economic Forum’s Global Risks 2012 report warns “the potentially potent combination of chronic labor market imbalances, chronic fiscal imbalances and severe income disparity... could lead to a retrenchment from globalization. The signs already exist that the world is becoming more fragmented, inconsistent and mistrustful.”

Business people and policymakers have a mutual interest in avoiding these backward steps. But even if our political leaders help us avert the most frightening possible futures, other events could occur that affect how companies use technology. Resistance to data-gathering on individuals, laws that harshly penalize companies when their customers misuse public networks and websites, or even prolonged sunspot activity interfering with electronic communications could cut consumer use of the Internet and compel companies to operate without it.

Executives are paid to anticipate what might go wrong, and what might be different tomorrow than it is today. Twenty-seven percent of them expect companies to start seeking alternatives to the Internet within the next five years. Executives may prefer to live in a technology-friendly world with a strong economy, vibrant international trade, and no barriers to cloud computing, smart phones or other technological advances. But the future they want may not be the world they get. (See "Visions of the future.")

About the research

The Futures of Enterprise IT project brought together an international team of researchers and experienced executives in IT, organizational design and scenario planning from inside the Accenture Institute of High Performance, assisted by academic researchers from Northwestern University, the Wharton School of Business and the University of Houston.

In the first phase, Institute researchers identified the forces that will affect the future of enterprise IT by applying Accenture’s proprietary and rigorous future-visioning methodology. This phase included a thorough review of the academic literature, the business and technology press, and research reports on the future of the IT organization, the CIO role and trends that will affect business use of information technology.

In the second phase, we interviewed dozens of academicians, executive recruiters, IT executives and experienced Accenture consultants in the areas of business strategy, global trends and enterprise IT to identify current IT organization, business and legal trends.

This phase was supplemented by data from three Institute studies: its 2011 “Futures of Enterprise IT” survey of 152 senior business executives and 162 IT executives in the U.S., France, U.K. and India, its “IT Consumerization” survey of 4,100 employees in 16 countries, and its 2010 New Waves of Growth study.

To develop our alternate futures, the Institute, in the third phase, conducted a Delphi study using 38 Accenture executives, together with interviews of outside analysts.
Visions of the future

What if the world becomes fragmented instead of more global in the next five years? What if people become afraid of using technologies instead of eager to engage with them? Those real possibilities suggest at least four alternative futures, and each would place entirely different demands on enterprise IT:

Race to Innovate

**The future state:** A peaceful, interconnected world creates conditions for information, trade, labor, ideas and capital to flow freely across borders. This is an ideal environment for innovation and the use of IT, and also for fierce global competition.

**Implications for business use of IT:** Organizations that fail to stay current will quickly fall behind their competitors. All companies will need a flexible and agile IT infrastructure, incorporating state-of-the-art applications and analytics. Executives will invest in IT and innovation when they see an opportunity for market differentiation. When they don’t, they will push their CIOs to cut IT costs.

**Implications for IT leaders and their IT organizations:** Users and customers will have extremely high expectations of their IT departments. They will not only demand access to the latest technologies, but expect their IT function to implement new systems in little time—weeks or even days. Nevertheless, the IT organization will shrink as more of its work gets done by others. And if IT is not what drives market leadership, the CIO position will become a service delivery role instead of a strategic one.

Wary Retrenchment

**The future state:** In this scenario, globalization remains strong. But cybercrime and privacy concerns reach such high levels that consumers and companies no longer feel safe online. They refuse to share information via social media and greatly scale back other activities on the Internet. A significant segment of society refuses to use technology for personal transactions. IT innovation slows down.

Implications for business leaders: Senior business executives will be deeply involved in IT oversight and decision-making in companies whose strategies rely on exploiting IT and information. In companies where IT is not strategically differentiating, IT oversight will be handled at a lower executive level or by the individual business units. The same will be true for information management.

**Figure 4: Four alternate futures**

<table>
<thead>
<tr>
<th>Society engages with technology</th>
<th>Global integration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RACE TO INNOVATE</strong> A future of intense global competition driven by information and innovation</td>
<td></td>
</tr>
<tr>
<td><strong>WARY RETRENCHMENT</strong> A future of security-induced caution and stifled innovation</td>
<td></td>
</tr>
<tr>
<td><strong>LUMPY AND LOCAL</strong> A future of localized competition and decentralized IT</td>
<td></td>
</tr>
<tr>
<td><strong>WORLD WIDE SHRED</strong> A future of cyber-warfare and crisis management</td>
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Implications for business use of IT: Customers will be reluctant to trust companies with their data, and companies will likewise distrust each other and their employees. Companies will even start seeking alternatives to the Internet. Security worries and reduced access to customer data will limit how companies use IT and information. Doing business will become more complex, projects will slow down, and business costs will rise. Governments will respond by cooperating on setting security standards, establishing a legal right to privacy and fighting online crime.

Implications for IT leaders and their IT organizations: Security will become such a high priority that the IT leadership will report to the executive in charge of risk management. Companies will minimize their use of public clouds and rely more on proprietary networks, private clouds, secure
data centers and new security technologies and procedures. IT organizations will assign security coaches to improve the security practices of their managers and employees.

**Implications for business leaders:** Executives will need to connect IT risks to other business risks—legal, brand, and market—and understand what constitutes acceptable risk. Some companies will form global risk councils to oversee major IT and data management decisions, such as changes to data strategy and data architecture.

**Lumpy and Local**

**The future state:** The global marketplace starts falling apart. Protectionism and suspicion divide trading partners. Trade, labor exchange and currency agreements break down, and countries fail to agree on common data protection laws. High energy prices make global supply chains difficult to maintain. Consumers are still technophiles, but their preferences for local over foreign companies now extend to consumer IT.

**Implications for business use of IT:** International companies will be able to manage few operations on a global basis. (Finance might be an exception.) They call upon IT to help them reorganize their business operations: build and replicate local processes, use local providers and use in-country data to analyze local markets. IT will also be used to develop and deliver products, services and marketing that cater to local tastes.

**Implications for IT leaders and their IT organizations:** IT departments will be organized in a geographically federated model. Global CIOs will negotiate the overall IT strategy, data standards and security policies with local IT leadership teams who have autonomy over other decisions. Country IT units will host data in their own backyard, use local instead of U.S. cloud service providers, and set up local IT innovation centers. The best local practices will be copied in other countries.

**Implications for business leaders:** Country executives will work closely with local CIOs to localize their IT operations and business processes. They will also evaluate innovations and best practices in other country business units that can be applied in their region.

**World Wide Shred**

**The future state:** State-sponsored cyber attacks and even cyber wars break out. Even technology companies can’t keep up with the attackers’ tricks and arsenals. People avoid the Internet, and extremely trustworthy data becomes scarce and valuable. The global economy is crippled by globalization’s demise.

**Implications for business use of IT:** In this threatening environment, a reputation for security will become a competitive differentiator. Companies will retrench from the Internet and Internet-based business models and revert to private networks. Their geographically decentralized IT organizations will focus on keeping business processes operating as efficiently and securely as possible within their regions. Online business will be cut back or abandoned.

**Implications for IT leaders and their IT organizations:** The global IT function and the CIO will report to a powerful Chief Security Officer. Everything the function does will be through the prism of security, risk mitigation and crisis management. Local IT groups will assume more responsibility, and will focus on designing and operating private corporate networks and applications within their country, to replace ones that have been disrupted.

**Implications for business leaders:** Local executives responsible for operations will need to develop alternative ways of getting work done and serving customers. They adjust to making decisions with less information than before.
Rethinking IT delivery

IT will almost certainly need to stretch its capabilities to meet tomorrow’s business needs, whatever future arises. Take the “race to innovate” future, the outcome closest to a flat, networked world. IT groups will be under incredible pressure to quickly complete projects. A CEO might ask the CIO to create a new IT-enabled business service in a week, or build a new corporate IT infrastructure in one month. The very idea would have been laughable five or 10 years ago. Now, 34 percent of IT executives think companies will probably be able to do that by 2016, and another 30 percent think it’s at least a possibility. (See Figure 5.)

CEOs will also ask their CIOs to reduce IT costs while helping them reduce business costs. More than 42 percent of IT executives think global multinationals are likely to radically lower their IT costs by 2016. CIOs already know many methods of reducing IT costs while increasing value, but they may have to come up with newer, more radical solutions.8

If business executives and employees get tired of waiting for IT to give them what they need, they will take matters into their own hands. Our global study of consumer technology found that 43 percent of employees now say they feel comfortable making technology choices on their own. Perhaps this isn’t surprising in an era when people are increasingly downloading apps to their smart phones and when business managers can (theoretically at least) bypass the IT function and “rent” software services from outside vendors, without needing much help in implementation.

Indeed, in the not-too-distant future, it will likely be even easier for non-IT managers to manage IT. Cloud services combined with data integration and data stream publishing technologies could make it possible for divisions within companies to select technology the way a consumer shops, as opposed to having technology handed down by a centralized IT department.

Simple, standard personal productivity and enterprise applications could be available for download by the equivalent of an Apple AppStore or Google Market. Complex applications and needs could be custom-built by service providers and specialized contractors. Employees could build their own apps by creating mashups out of information streams. And this storefront of applications could be managed by a broker who selects the best services to put in the store’s virtual aisles.

This model won’t work in every situation. Companies cannot rely on cloud services without a reliable security and legal environment. Certainly there are some core applications which would need to be managed centrally, if only to provide consolidated reporting and information. But if the trends continue, much of the work that IT organizations now do could evaporate in the future.

Figure 5: Infrastructure in a month. Overall, more than half of executives say it will be possible to build a new IT infrastructure in just 30 days.

To what extent do you consider it likely that companies will be able to set up a new IT infrastructure in a month by 2016?

Source: Accenture Institute for High Performance Future of Enterprise survey, August 2011
Becoming futures-ready

What makes an organization futures-ready isn’t a particular IT organizational structure or technical architecture. It isn’t adhering to one ideal model for the CIO role or IT management. All of these will and should vary by industry, existing capabilities, and the particular future that unfolds. What makes an organization futures-ready is a certain focus in how it thinks and plans its enterprise IT future. In particular, the futures-ready IT organization will:

Be worldly visionaries. Futures-minded IT leaders think about technology’s future without being techno-centric. When they plan enterprise IT’s future, they will weigh social, political, economic and demographic forces and uncertainties that will affect their company’s business, not just the technological ones. They will realize it’s dangerous to assume the future will be a continuation of the present, or an optimal environment for IT. When they plan their future IT function, they will plan it with multiple futures in mind.

Open up the process of creating the new enterprise IT. The new enterprise IT organization can’t be designed only by the old one. The executives who forge the new enterprise IT will make sure the process is inclusive, not insular. It will be led both by the top IT and non-IT executives. This leadership team will engage business line managers and users from many geographic regions and cultural backgrounds alongside IT architects and emerging technology experts. Planners will seek input from employees, customers and other members of their business ecosystem, and engage outside experts who can articulate what the forces shaping enterprise IT’s future will demand.

Seize the future that has already arrived. Not all futures support IT innovation. But whenever possible, a futures-ready IT organization will take advantage of new technologies that create new business possibilities, such as context-based services (cloud services that recognize where you are and what you are doing), social IT (Facebook, LinkedIn and other new communication channels) and platform-as-a-service (cloud services for building or running new cloud services). They will also apply new management and information-gathering tools like crowdsourcing. This new kind of IT organization will be eager to explore new ideas and driven to test them.

Shatter the boundaries of the possible. Like Olympic athletes looking to break the four-minute mile in the days before Roger Bannister did it, IT leaders will accept the challenge of performing at a level once considered out of reach. They will investigate radical ways to reorganize IT to attain radical goals. How would they meet a demand to cut the IT budget by 90 percent? A challenge to create new IT infrastructure in a week? Permission to toss all their legacy systems and rebuild their IT from scratch? These companies will explore how to do the risky and seemingly impossible. And as they do, they will find breakthrough IT practices and invent the IT organization of the future.

Make IT roles fit business needs, not technologists’ ambitions. Some companies need strategic, transformational CIOs. But in some futures and with some business strategies, companies may have more modest IT needs and will instead need IT leaders who are more focused on specific goals, such as cost reduction or ensuring security. These companies will be better served by a CIO who is more of a manager than a strategist, and there is nothing wrong with that.

Envisioning the future of enterprise IT and becoming futures-ready is a tough task. It will require the imagination to challenge old assumptions, and the courage to act upon new insights. But it’s a task that no responsible IT leader can shirk.

Enterprise IT is at a true crossroads. An epoch-making technology transition—the advent of cloud computing and consumer IT, which puts low-cost, powerful and simple-to-use computing into the hands of billions of people around the world—is intersecting with a moment of geopolitical, macroeconomic and legal uncertainty. Throw in the joker in the deck—the potential downsides of our dependence on the Internet—and the uncertainty for enterprise IT grows exponentially.

IT leaders have both the opportunity to seize today’s business and technology opportunities, and the burden of preparing for increasing competition and discontinuous change. Betting a company on a single future is naive and misguided at best, and irresponsible at the worst.
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Accenture is a global management consulting, technology services and outsourcing company, with more than 244,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world’s most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US$25.5 billion for the fiscal year ended Aug. 31, 2011. Its home page is www.accenture.com.

About the Accenture Institute for High Performance

The Accenture Institute for High Performance creates strategic insights into key management issues and macroeconomic and political trends through original research and analysis. Its management researchers combine world-class reputations with Accenture’s extensive consulting, technology and outsourcing experience to conduct innovative research and analysis into how organizations become and remain high-performance businesses.

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