

PART ONE

Key Change Drivers and Trends Impacting the CIO Role Today

CHAPTER 1

Why the Role of the CIO Continues to Change

The only way of finding the limits of the possible is by going beyond them into the impossible.

—ARTHUR C. CLARK¹

I am honored to have the opportunity to write the second edition of *Straight to the Top* for several reasons. First, the information technology (IT) market continues to be robust and a constantly changing canvas that allows vendors, consumers, and IT professionals the opportunity to paint their masterpieces with different technical tools and colors.

Second, my editors at John Wiley & Sons and I saw the market opportunity to update the original text, and they had confidence in me to write the succeeding volume in a way that would assist and educate IT and business professionals on the rise.

Third, I am concerned that the chief information officer (CIO) role may be evolving to a dangerously nontechnical role that relies more on business acumen and less on IT experience and knowledge. A less technical CIO role has been a topic in a variety of media outlets for years now, and the volume seems to be rising. In a recent interview with a major media player, the journalist asked me my thoughts on whether the CIO role still needed to be technical. The interviewer suggested rotating other C-level executives through the CIO role on a six-month basis as a way to interject other business knowledge into the role. He indicated that some organizations were experimenting with this unique technique.

When asked whether I supported this process, I answered the question with a resounding *no*. I went on to suggest that it wasn't a good idea to extend that concept and rotate the CIO through other C-level positions, including chief financial officer (CFO) and chief marketing officer (CMO). Can you imagine what would happen to a CIO rotating through a CFO role during

the certification of year-end financials—especially if there are issues and audit management comments? The answer is the possibility of prison.

Regarding the skills that CIOs need today, let me be crystal clear. The CIO *must* have technical knowledge (practical and theoretical) *in addition to* solid business skills in order to be able to succeed in today's complex environments and beyond. I have met many CIOs who are well received in the marketplace and who are accomplished in the delivery of several large and complex projects but who lack the technical skills and the trust of their own staffs. In the first edition of this book, I cited a CIO research report finding that more than 40 percent of IT staff members surveyed thought that their CIOs were not technically savvy enough about their companies' technologies to lead their respective departments.² Today's CIOs need to be technically savvy *and* business savvy.

Let me be crystal clear with my next statement as well. CIOs throughout this and the next decade need to be IT leaders with tremendous business *and* technical skills. They need to understand wireless technologies, security, cloud computing, social networking, virtualization, and business intelligence in addition to the “softer” skills like vendor and contract management, communication, financial management, and IT governance. I still believe that those experiences—combined with the right academic mix of a bachelor's degree in computer science, engineering, or information systems and a master's degree in business—form the killer combination. I'll explore this topic more in Chapter 6, where regional, national, and international executive recruiters weigh in on the skills and experience needed by today's IT leaders.

IT leaders who have great business acumen and experience will undoubtedly need to rely on their subordinates or outside consulting experts for technical skills and IT know-how, but business-only CIOs run the risk of relying on them too much. Concepts in IT networking and operations as well as mobile and cloud technologies—including significant changes in integration technology, software development, enterprise applications, and security—are all fairly technical components inside IT. I believe that CIOs with solid technical grounding are better able to rally their IT departments, gain their respect and trust, and appropriately build a successful multiyear strategy that includes a comprehensive and shared discussion with their subordinates, but not one that is dictated by them due to the CIOs' lack of technical grounding.

An analogy that I used in the first edition stated it clearly and looked at the question of expertise from a different perspective and discipline. Does a CFO need to be well grounded in both financial management and accounting principles? Undoubtedly, yes. Similarly, the CIO needs to be technical in his or her role. Thus, CIO leaders today need to be the full package: savvy in technology and seasoned business professionals.

Since I last penned *Straight to the Top*, I've been busy expanding my career, building my knowledge on the many changing technologies affecting

IT executives today, and learning more about the businesses of the organizations in which I've had the honor of serving. These three accomplishments in continuing education are no small feat. As of this writing, social media is alive and well and becoming more and more important to the CIO strategy every day. No longer is social media just a way for staff members who are bored out of their minds at work to waste time chatting with friends online. Facebook, Twitter, and other technologies are vibrant, are expanding at a mind-boggling pace, and are causing a major paradigm shift in IT strategies today.

In addition, the cloud is no longer an experiment, but rather a viable business model and technical opportunity for organizations looking to roll out applications faster and with more fault tolerance and expandability. Consumer devices are invading organizations at an alarming rate, multiplying with vendor and model variations, and providing throbbing headaches for IT professionals across the globe who adopt them. Old-school technocrats are used to *controlled* environments and systems. Modern-day CIOs need to embrace and manage a changing technology that includes tablets, new smartphones, social networking (including via mobile), and collaboration in the cloud. These are all examples of disruptive technologies that are maturing and causing CIOs to rethink their strategies and governance models.

Consumer tools like Apple's iPad, Google's Nexus 7, Amazon's Kindle, Microsoft's Surface tablet, and Samsung's Galaxy are pushing the limits of tablet computing and moving more IT organizations into a decentralized heterogeneous mobile environment. This, of course, is in addition to the plethora of personal digital assistants (PDAs) on the market and the behind-the-scenes war of the mobile device operating systems. IT standards and governance are being tested every day with new technology releases and consumer adoption of these devices. Bring your own device (BYOD) to work is having a profound effect on IT departments today. I'll have more to say about that in a subsequent chapter, but the bottom line is that the consumerization of IT is happening, and we can't stop it. Those who put their heads in the sand and ignore this trend may be hailed as security hawks, but they won't be loved by the employees of the organization, many of whom are members of Generations X and Y.

Gone are the days of Internet Explorer-only or -dominant browsers, BlackBerry-only business-grade smartphones, and the fat personal computer that stored all programs, data, and processing power on a synchronized platform of local client machines and centralized servers. Nope—we're in for a new ride now. Organizations are deploying cloud-based and mobile applications at breakneck speeds. The integration of data between cloud technologies and on-premise systems is also changing, adding layers of complexity, especially in terms of stability and security.

I recently spoke at a CIO event in Canada about the changing IT landscape and the drivers that are pushing CIOs to reevaluate their strategies.

Although many CIOs in the audience communicated a solid understanding of these drivers—with several able to discuss their strategies in support of mobile, cloud, and social technology—there were a couple who had not developed strategies in one or two of the shifting drivers affecting the IT industry. This perplexed me a bit, but then it hit me months later, when I was in a completely different geographical part of the world.

CIOs have been trying for so long to control their environments through classic governance models with nonflexible standards that some of them have actually been able to stave off disruptive technologies like the ones affecting the marketplace today. I've spoken to many CIOs who block social media web sites from their staff members at work, block access to personal e-mail, don't allow online shopping during business hours, and don't support or allow personal devices on their networks. For the sake of firm control, these CIOs have sacrificed opportunities for both professional and business growth.

Many of the technologies driving change and innovation today in the marketplace may help our teams be more collaborative, open, and remote or mobile in the goals of driving revenue and improving customer support. Thus, it's time for today's IT executives to adapt or die and for the next generation of IT leaders to pressure the existing leadership to improve.

I realized shortly after the conversations in Canada that CIOs in India are not as fluent with the new integration technologies that enable cloud-to-cloud and cloud-to-premise integration. In China, CIOs are light on virtualization technology usage and strategies. Technology is changing fast enough that different parts of the globe are better than others at adopting newer strategies and technologies. And in many cases, slower adoption is a form of risk mitigation.

The State of the CIO

A recent *CIO* magazine article posed the question of whether IT is facing a leadership crisis. According to Aaron Cowan, who leads recruiting for the executive search firm Marlin Hawk, "The talent exists in the market. The world creates the leaders it needs."³

Next-generation CIOs will come from a variety of sources, including the following two:

1. A variety of business units (marketing, human resources, finance, sales).
2. Information technology departments (software development, Web and e-business, IT operations).

According to Forrester Research's Khalid Kark, "We're starting to see more and more CIOs who are not traditional technologists. We estimate anywhere

from 60 to 65 percent of CIOs still have a strong technology background.” And Mark Polansky of executive search firm Korn Ferry stated, “There are some non-IT people who become CIOs. They are the exceptions and not the rule.”⁴

IT resources in the United States, sometimes in the higher ranks, are not as plentiful as they once were. Computer science programs are cranking out fewer top candidates than they did a decade ago. According to Katrina Lane, chief technology officer (CTO) of Caesar’s Entertainment, an \$8.8 billion casino, the company is having a difficult time bringing on board several senior IT staff. Because of a difficult economy and reduced mobility for relocation, she explained, “they can’t get rid of their houses, and you end up having a smaller pool of people to draw from.” Companies that can’t find the right top IT talent may have a harder time growing. According to Tim Campos, director of IT at Facebook, “We can’t hire fast enough. It’s very difficult for us to find the best talent.”⁵

The most recent research from *CIO* magazine, drawn from the annual State of the CIO survey, found that 82 percent of the 596 IT leaders surveyed “expect the global recession will have a negative impact on their organization within the next three years.”⁶ Given the numerous public attacks and theft of data in both small and large organizations, 69 percent are expecting a security-related issue within the next three years.

Fewer CIOs report to their chief executive officers (CEO), a downward trend in the past four years; as of 2012, only 38 percent were reporting directly to the CEO (see Exhibit 1.1). In addition, *CIO* magazine reported that CIOs reporting to the CFOs is on the rise, up slightly to 23 percent.⁷

Fewer CIOs report to the CEO. Twenty-three percent of respondents now report to the CFO, up slightly from 20 percent in 2011 and 19 percent in 2010.

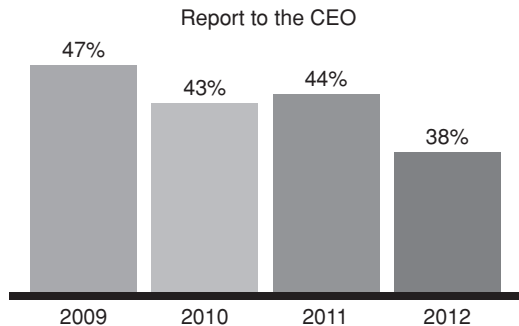


Exhibit 1.1 Strategic Access

To me and to many of the colleagues I’ve discussed the reporting trend with, the results are indicative of stress caused by the end of the U.S. recession, the start of a recession in Europe, a slowdown in China’s growth, and the effects of interrelated commerce across the globe. I’ve been through four recessions in my career. A consistent outcome of each one was more reliance on the CFO for managing the organization’s investments and expenses. I see no difference now in the driver for this year’s trend of an increasing number of CIOs reporting to the CFOs.

IT organizations are increasingly under pressure to deliver during uneven economic times. The perceptions of their business stakeholders have come into play more with this year’s State of the CIO survey. Even though the strategic contributions from most CIOs have grown in recent years, “57 percent of surveyed CIOs believe they are perceived as service providers or technology collaborators.” Only 7 percent are perceived as “game changers,” 30 percent as “IT partners,” 27 percent as “service providers,” and 21 percent as a cost center providing no appreciated enterprise value or misunderstood as a cost center as a whole (see Exhibit 1.2). An interesting anecdote is that CIOs reporting to CEOs is highly correlated with the CIOs being perceived as business savvy. Those lucky executives make up 60 percent of the technology leaders, compared to 38 percent with less perceived business value outside IT.⁸

Despite all this bad news, there is a bit of good news: 66 percent of the IT leaders surveyed sit on the management committee (see Exhibit 1.3).⁹ Tenure is also on the rise, with an average tenure of five years and four months.¹⁰

How you think business leaders perceive IT

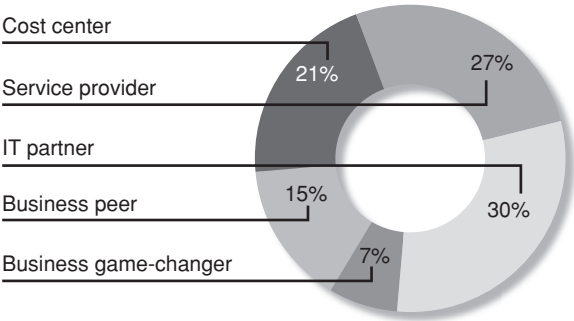


Exhibit 1.2 The Way Others See You

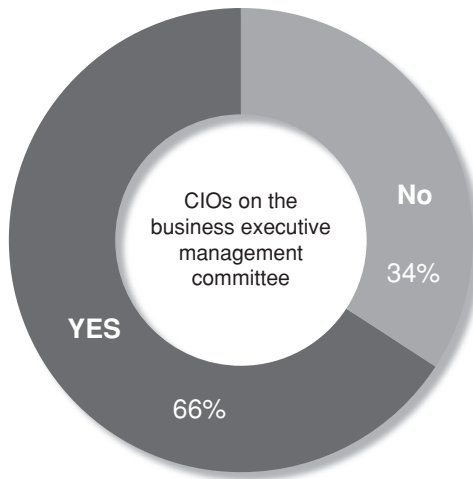


Exhibit 1.3 Do You Have a Seat at the Table?

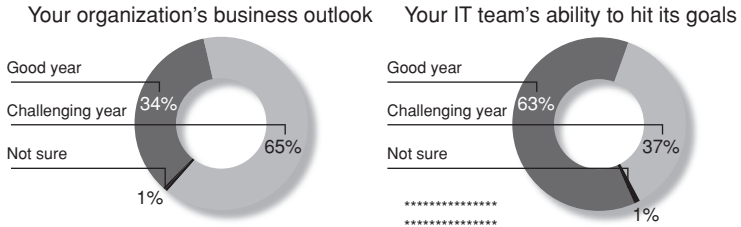
So what does this all mean for the future of IT and CIO leadership trends? According to the survey, the CIOs felt much better about their ability to meet their current year goals: 63 percent reported having a good year, 37 percent reported a challenge, and 1 percent were not sure. Regarding the organization's business outlook, the statistics were practically reversed: 65 percent saw a challenging year, and only 34 percent had a positive attitude for a good year (see Exhibit 1.4).¹¹

How Important Are Core Technology Skills?

Keen IT skills are very important today in order to be successful as a CIO. Some of the research in the market today indicates that technology skills for CIOs rank as a much lower priority than business acumen and communication skills, which are at the top of the list of must-have skills. Many CIOs whom I've spoken with over the years and encountered in peer meetings, at conferences, and on conference calls still do not appear to have sufficient knowledge of many of the components driving IT today; they appear to rely heavily on their trusted subordinates to give them advice and help them make technical decisions.

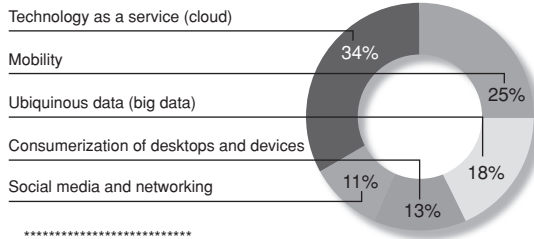
This was evident in my recent trip and presentation to a group of CIOs in North America. Although the majority of the IT leaders I spoke with had solid business plans and were investing in many of the technologies that are

The Outlook for 2012



What's Driving Change

You say these trends will have the most profound effect on the CIO role in the future:



What You Want to Do

Favorite ways to spend your time in the next 3 to 5 years:

Driving business innovation
Identifying opportunities for competitive differentiation
Developing and refining business strategy

Least favorite ways to spend your time in the next 3 to 5 years:

Managing IT crises
Negotiating with IT vendors
Controlling costs

Exhibit 1.4 What the Future Holds

Source: www.cio.com, December 15, 2011, and January 1, 2012

rapidly penetrating into the marketplace today, a few had no real strategy for leveraging technologies like cloud computing or social media and still relied heavily on subordinates to do the IT heavy lifting.

During two other speaking engagements—one in South Asia, and the other in China—I also noted a lack of technical knowledge associated with today’s trending technologies, including cloud computing, cloud integration technology, social media, and, in some cases, virtualization. Several of the Indian and Chinese CTOs and CIOs I spoke with were unfamiliar with new cloud-based integration technologies from recognizable vendors such as Dell, Software AG, and IBM. What became obvious to me as I researched this book is that the adoption rate of leading technologies *does* vary greatly across the globe, and it is often correlated in some way to technology spending trends in regions and countries. North America and Europe typically lead the globe on technology innovation, but that landscape is starting to change.

Relying solely on technical subordinates can be a dangerous decision for today’s IT leaders, mainly because CIO subordinates will in many ways determine how successful the CIO is. What if a subordinate ill advises a CIO and the outcome of a major initiative is a flop? Worse yet, what if revenue or customer support is affected? This can sometimes result in the CIO losing his or her job. As a CIO, I can’t imagine leading a team of IT professionals without having solid technical skills. I would never put my career in the hands of subordinates by relying on them to make decisions on strategy and technology that I am responsible for. CIOs need to have modern-day core technology skills and experience *in addition to* many other “soft” skills, including business acumen in the sectors in which their organizations reside. CIOs need to be the *whole* package.

In the first edition, I noted the following important IT skills for CIOs:

- Applications and architecture alternatives
- Database management systems
- Networking and wireless technologies
- Collaboration systems
- Security

As a result of spending forecasts and the 2012 State of the CIO survey of IT leaders, the technical skills to have now are the following:

- Cloud computing and virtualization
- Integration technologies (middleware)
- Mobile devices and wireless technologies
- Telecommunications

- A renewed focus on security—including data loss and prevention
- Big data, analytics, and the integration of business intelligence
- Social media and networking

In the first edition, I highlighted an architecture commonly found inside an organization's data center or maintained by a hosting partner. Exhibit 1.5 displays the components that were likely to be found in a data center six or more years ago. To fully understand this architecture, CIOs need to understand networking concepts; database knowledge and integration techniques; clustering; and operating system scale and performance. This architecture is still used by technology professionals today.

Fast forward to today. The architectures of today include many components used six years ago, but they expand to include additional integration technologies and often rely on external public and private cloud computing solution providers and virtualization. A common change to the architecture depicted in Exhibit 1.5 is the use of virtualization technologies in place of dedicated servers. Virtualization offers many advantages to prior data center and system configuration. Some examples of virtualization technology benefits are (1) a higher utilization of server capacity (density), often resulting in an overall lower total cost of ownership, (2) reduced energy consumption, (3) an increased fault tolerance of server resources, (4) faster provisioning of server resources, and (5) major improvements in disaster recovery planning and execution as a result of being able to replicate data and systems across data centers. More and more CIOs are incorporating cloud computing into their enterprise architectures. I'll discuss cloud computing in much more detail in Chapter 7.

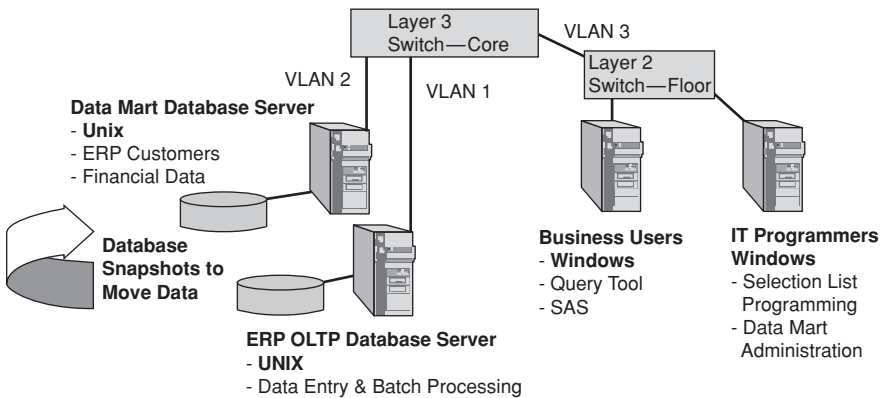


Exhibit 1.5 Sample IT OLTP to Decision Support Architecture

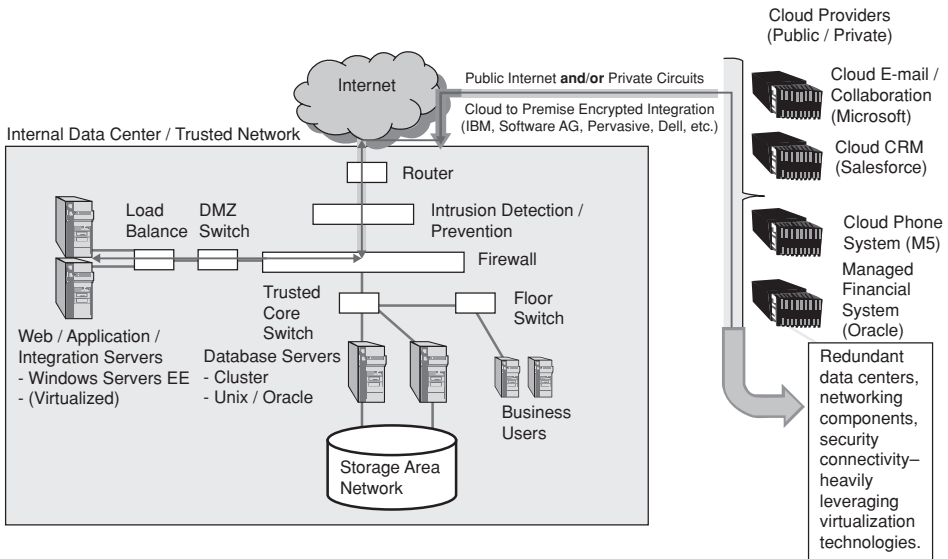


Exhibit 1.6 Cloud/Integration Architecture

Exhibit 1.6 highlights the complexity and integration between on-premise data centers and cloud provider data centers. This technique also brings in a whole new component of vendor contract negotiation that requires CIOs to focus on system uptime, the provisioning of servers, the use and cost of disk space, service level agreements (SLAs), security, data integration, and penalties for failed SLAs. The more CIOs leverage cloud computing solutions, the more integration that's typically required and the more we need to pay attention to the services and SLAs the cloud vendors provide.

Virtualization has also moved from servers to many other networking and client computing devices. It's common for a cloud provider to leverage virtualization technology to provision load balancers, firewalls, intrusion detection and prevention devices, and even switches. While virtualization technologies are mature in the data center, they are still evolving on the client side—specifically, the user computer or laptop. The increase in user mobility is pushing the limits on virtualization technologies applied to individual computers, mainly by the requirement to work offline and away from the corporate network. Vendors such as Citrix and EMC/VMWare are making progress solving the offline virtualization need and are expected to reach critical mass with regard to maturity in the next few years.

Exhibit 1.7 is an example of a green IT architecture, in which energy use and server utilization (via higher density) is achieved through virtualization technologies and blade computing. Some SAN disk systems today incorporate smart

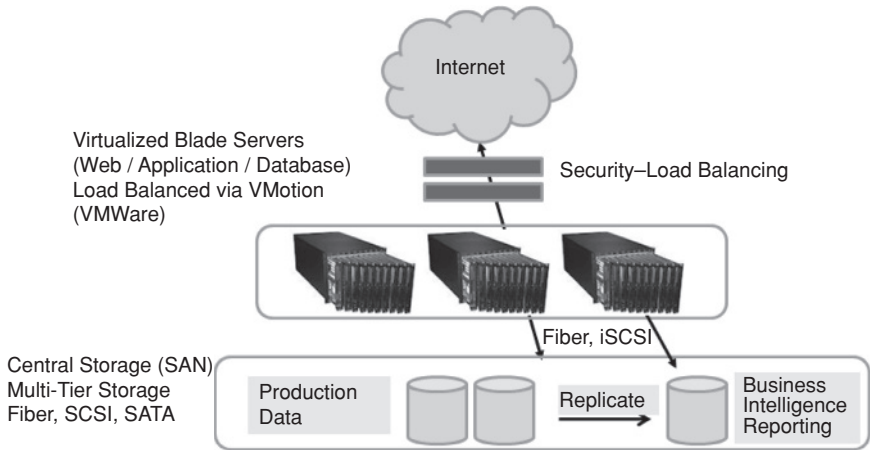


Exhibit 1.7 Sample Green IT Architecture

energy-sensitive technologies built in to automate the migration of data from high-speed, high-energy drives to low-cost, low-energy drives based on usage.

To round out this introductory chapter, I asked my distinguished CIO/executive panel two questions about the CIO role today and why it has changed in recent years. Their insights and responses are listed in the CIO survey below.

CIO SURVEY

What are the top three roles of the CIO today?

- Managing and leveraging technical innovation to enhance business and create opportunity.
- Providing prudence and guidance in a culture of transformation for businesses and customers.
- Encouraging management and mitigation of risk upstream and downstream by fostering a hardened and crisis-resistant business ecosystem across our supply chain—from source to sale, concept to distribution—in an environment of change.

—Martin Gomberg, former CIO; SVP and Global Director, Business Protection, A&E Networks

- Building an ecosystem that allows us to bring our clients and customers closer to our organizations.
- Being entrepreneurial—being nimble with changing landscapes (regulation, market changes, new lines of business).
- Building a global workforce.

—Sanjay Khatnani, President, J2 Solutions

- Knowing how to use IT as a lever for transformation.
 - Being able to invest in an optimal and rigorous manner while ensuring that IT is used appropriately.
 - Optimizing the management of know-how and expertise in a climate of manpower and resource scarcity.
- Denis Garon, Associate with the Secretary of the Chief Information Secretariat of the Council of Treasury

- Being a trusted business counselor and partner. Credibility is established through relationship.
- Being a business change agent.
- Marketing, publicizing, and selling technology solutions to internal customers.

—Joel Schwalbe, CIO, CNL Financial Group

Why has the CIO role changed in the last three to five years?

- Technology advancements are simplifying the lower layers in the technology stack (infrastructure in the enterprise architecture and up).
- Cloud computing is shifting the focus on solution delivery away from traditional IT delivery and putting more capabilities in the hands of business leaders.
- Financially, IT will never see spending like we did during the Y2K, dot-com boom. Tight budgets will remain for the foreseeable future.
- Consumer and employee expectations are blurring. Personal computing and computing done in business transactions and at work are no longer acceptable to have outdated and cumbersome solutions for commerce when people are used to simple, elegant solutions in all other situations.

(Continued)

CIO SURVEY (*Continued*)

- The IT debt of the past 10 to 15 years of solutions remains unpaid and is severely hampering the ability of most corporate shops.

—*Peter Classon, Partner, LiquidHub Inc.*

- I think the importance of data has made the CIO role more of a transformation role than it has ever been. Data analytics, social media, and data mash-ups can provide the information organizations need to make strategic change and progress as never before.

- The professionalism and expertise of cyber criminals has forced the CIO to take on a leadership role in the protection of digital assets.

- The advent of SaaS, IaaS, and cloud-based solutions has allowed the CIO to move from a developer of solutions to an integrator of key solutions, which allows an investment in the outcomes rather than the development. CIOs need to be more focused on the outcomes and less on how the outcomes were developed.

—*Ed Anderson, International CIO, World Vision International*

- There is much more emphasis on relationships and business and less on technology—at least, if you want to be successful.

- I focus on solutions to the business problems; whether they incorporate technology or not is irrelevant.

- Business expectations have changed. The status quo is unacceptable—CIOs must always look to identify and take advantage of concepts that will lead to revenue enhancement, risk mitigation, or efficiency gains. IT departments are either viewed as a bunch of “order takers” or considered a strategic element in the business, an extension that ultimately makes the business more competitive.

—*Joel Schwalbe, CIO, CNL Financial Group*

- There is more of a focus on economics (revenue and cost) and risk mitigation.

—*David Swartz, CIO, American University*

What Did I Do to Prepare?

I started out my career by obtaining an undergraduate degree in computer science with a minor in business from the best program I could get into. It turned out that when I graduated from the University of Maryland at College Park, it had the seventh best computer science program in the United States. In addition, Maryland's business program ranked in the top 25. After working several years as a programmer in a consulting firm, where I proactively shared knowledge with coworkers and worked toward being part of a team effort, I became a team leader, then a manager. Becoming a manager gave me oversight over larger projects and consulting engagements.

I enrolled in a graduate technical MBA degree program at Johns Hopkins University to expand my business knowledge and gain additional skills for IT oversight and management. In the early 1990s, I moved to a large financial services Fortune 200 firm to expand my skills and work with larger, more complex systems, including financial systems, real-time trading applications, complex telecommunications delivery systems (terrestrial and satellite for financial feeds), Internet-enabled applications, database management systems, and decision support and business intelligence systems. In 1992, at the age of 29, I published my first article in *LAN Times* magazine.

I bring up my educational and work past because it reiterates a key component in this chapter: that the IT industry is never static and thus requires continuing education to stay ahead. Education to me comes in many forms, not just through academic institutions and degrees. Getting certified and taking continuing education courses in the technologies your company is investing in will pay huge dividends toward your future career. Keep an eye on what other companies and industries are investing in as well. They usually indicate the leading edge of technology investments and thus the technologies being used to drive innovation in the marketplace.

Today, my journey of learning and sharing knowledge continues. I've been fortunate to have authored four books, to have given dozens of presentations around the globe, and to have written many articles. On the continuing education front, I continue to educate myself via books, vendor demos, and technical training sessions to stay up to date on technologies and trends.

I have forced myself to adapt to the changing trends and technologies that many of us are working on today. While adapting to changes, I've completely redesigned my approach to security and integration as a result of the changing technology landscape and tools. I encourage other IT executives to learn a bit from the next generation of IT leaders who are helping to drive changes in IT through their adoption and use of disruptive technologies. As a collective group of professionals, we must push ourselves outside the control

conundrum and comfort zone and adapt to these drivers and new technologies. The drivers and changes will affect the future, whether we like it not. Embrace them or die trying.

In coordination with one of the CIO survey questions, I was recently asked, “What is the most important skill for CIOs today?” After a long pause, I answered, “The ability to say no.” This does not mean that I’m a CIO who subscribes to a negative approach or repressive responses that include “It can’t happen,” “We can’t do it,” “We don’t have enough staff or money,” and so on. What it means is that successful CIOs figure out what they can do and what they cannot do with a limited amount of money and resources (internal and consulting).

The CIOs who are successful know their limitations, as so aptly described by the great Clint Eastwood in *Dirty Harry*, the classic police thriller of the 1970s. San Francisco’s finest, Harry Callahan, had a gun pointed at a criminal who just moments earlier had been on the run, fleeing from the chasing officer. When the criminal was cornered, Callahan said to him, “You’ve got to ask yourself one question: ‘Do I feel lucky?’ Well, do ya, punk?” After a brief moment (and, I’m sure, a Hollywood-inspired reflection), the criminal lunged for Callahan’s gun. In response, Dirty Harry shot and killed the varmint. In the movie *Magnum Force*, Eastwood had the following poetic advice for his lieutenant: “A man’s got to know his limitations.” This is my IT poetic moment and translation regarding what CIOs must know to be successful in this increasingly mobile, social, and consumer device-driven world.

You should know the following:

- Your project pipeline and change effect on the existing portfolio of initiatives.
- Your staff’s capabilities and availability.
- Your customer’s needs, personalities, and business drivers. Not all are up front.
- Your vendor’s products and capabilities. CIOs need to be able to cut through the marketing hype and quickly get to product capabilities in a short amount of time. Time is money for today’s IT executives, and most simply don’t have a lot to spare.
- Your consultant’s capabilities and loyalty. Some may be spies. Others may be looking for a permanent job and lose focus on the engagement at hand.
- Your business peers, demands, needs, and interworkings. I weight this item higher than most of the others.

In closing, and to reword my initial response of no: CIOs today must be well versed in knowing their limitations, must know their business customers well and build trusting relationships, must know and trust their staff’s

expertise and instincts, and respond yes to the difficult questions in their organization. Yes, we can add this new project to the portfolio. Yes, we can meet your needs and time lines and stay on budget. Saying yes today requires noting what it takes to get there—specifically, the exact resources we need to meet an objective and the range of time and money required to meet the demand. That’s the new way of saying yes. The qualification of what it takes to do what is needed.

Recommendations

I advise professionals who aspire to become CIOs—as well as sitting CIOs, currently in the role—not lose focus on the core technology skills that are necessary to run a world-class IT team. Individuals today are more in charge of their careers and planning than ever before. Planning your career earlier while setting clear, measured, and obtainable goals can get you to where you want to be, if you are persistent and patient. The following recommendations are designed for today’s IT professionals to adapt to the changes in technology and business culture to be successful:

- Volunteer to join or lead project teams where you can gain additional IT skills and business knowledge.
- Keep learning. For younger professionals, augment your undergraduate degree with an advanced degree and focus on courses that will enhance your ability to lead teams and drive strategy. I prefer traditional nonprofit educational institutions over the growing for-profit colleges and universities, most of whom offer primarily online degrees. If you do elect to continue your formal education, get into the best school that you can afford. Reputation matters.
- Strengthen your business knowledge. Meet with business peers for lunch or brown-bag sessions to increase your knowledge of the industry your organization represents.
- Take continuing education courses and obtain certification in the latest technologies being used in your organization. If possible, get up to speed on the latest security trends and technologies, social media, cloud computing, integration technologies, and the management of consumer technologies.
- Add consulting experience to your resume. Consulting engagements offer a unique way to learn what businesses need and how to deliver value from an entirely different perspective. The experience is almost required for CIOs today. The executives I know who have consulting experience are better negotiators with their vendors.

- Get engaged with vendors with whom you do business (or may do business with in the future) to learn new technologies and/or processes that can be applied to today's complex business challenges.
- Conduct and attend brown-bag sessions for cross-training and information sharing of technology and business topics in your department and across other departments.
- Attend vendor seminars and demonstration sessions on the latest and relevant technology topics.
- Read periodicals and other publications to gain additional insights and perspectives on executive leadership and strategic planning.
- Conduct research, when applicable, and review the best practices and vendor solutions needed to solve real business problems. IT advisory firms like Forrester Research and Gartner have great analysts and super research across a wide-ranging set of technologies, vendors, and strategies.
- Share ideas and best practices with your peers and subordinates. Create a culture of learning.

In closing, CIOs with strong and *current* technical skills, business acumen, a drive to win, and an attitude of sharing will add tremendous value to an organization and grow. For those still on the rise to the CIO spot, start doing what it takes for the next job above yours. You're likely to get promoted faster if you demonstrate the skills that are required in the position above yours. Keep doing this all the way to the top.

Notes

1. Arthur C. Clark, Inspirational Quotes, www.inspirational-quotes.info/motivational-quotes.html (accessed on July 28, 2012).
2. Lorraine Cosgrove Ware, "What Do You Think of Your CIO?", *CIO Research Reports*, September 15, 2003, www2.cio.com/research/surveyreport.cfm?id=63 (accessed February 26, 2005).
3. Meridith Levinson, "CIO Role: Is IT Facing a Leadership Crisis?", *CIO*, October 21, 2011, www.cio.com/article/print/692324 (accessed July 20, 2012).
4. *Ibid.*
5. Kim S. Nash, "Business Disconnect," *CIO*, January 1, 2012, 45.
6. "CIO Magazine 2012 State of the CIO Survey—Executive Summary," *CIO*, January 1, 2012, 1.
7. *Ibid.*, 31.
8. *Ibid.*, 1.
9. *Ibid.*, 31.
10. *Ibid.*, 34.
11. *Ibid.*