



Bridging the CIO-CEO gap: It takes two to tango



Vlad Krotov

College of Business, D2F-130 Abu Dhabi University, P.O. Box 59911, Abu Dhabi, UAE

KEYWORDS

IT strategy;
Information systems;
Executive
relationships;
CIO;
CEO

Abstract Despite the growing importance of information technology (IT) in organizations, chief executive officers (CEOs) and top management teams exhibit an alarming degree of distrust toward IT and chief information officers (CIOs). This CIO-CEO gap can be explained by several factors including failure of IT to deliver value, poor understanding of IT by business executives, lack of a clear vision with respect to IT, different worldviews of business executives and technology specialists, lack of a shared vision in relation to IT, poor relationship skills of CIOs, and criticism of IT by so-called experts in the popular and academic press. These factors stand in the way of a good CIO-CEO relationship, IT alignment with organizational goals, and improvement in organizational performance with the help of IT. Bridging the gap requires a set of joint and independent actions by the CIO, the CEO, and the entire top management team. Recommendations for both CIOs and CEOs include communication, knowledge sharing, and developing a shared vision in relation to IT. CIOs are advised to focus on business value and develop managerial, leadership, and political skills. CEOs should establish an appropriate reporting structure for the CIO, educate top managers regarding IT, and increase personal involvement in and support of the IT function and the CIO.

© 2015 Kelley School of Business, Indiana University. Published by Elsevier Inc. All rights reserved.

1. The rise of the CIO

The organizational role of chief information officer (CIO) has increased with the persuasiveness of information technology (IT) in business. IT is now used to fuel business operations and improve organizational performance in virtually every industry. Yet, CEOs and top management teams exhibit an alarming degree of distrust toward IT and CIOs. In this article, I will examine the factors that create this

executive relationship gap between CEO and CIO, and offer recommendations for bridging the chasm. This may be accomplished via joint and independent actions on the part of the CIO, the CEO, and the entire top management team.

A historical perspective on the role of IT in organizations is key to understanding the origins of the CIO-CEO relationship gap. Prior to the 1970s, the role of computers in organizations was rather straightforward: large mainframe computers were used to solve computationally intensive scientific problems and to help information-intensive organizations process large volumes of transactional data. Attitudes,

E-mail address: vlad.krotov@adu.ac.ae

however, began to change; the 1970s saw the emergence of information systems that allowed companies not only to streamline their organizational processes, but also to gain a sustainable competitive edge and redefine competition within their industries. Two legendary examples of the strategic use of information systems include the SABRE reservation system developed by American Airlines and the ASAP hospital supplies ordering system introduced by American Hospital Supplies. These paved the way for a new wave of managerial thinking regarding how IT can be used for improving organizational performance.

The origins of the Semi-Automated Business Research Environment (SABRE) computer reservation system can be traced back to the 1950s, when American Airlines began to research new ways of improving its manual ticketing system (Glaser, 2004). The SABRE system went live in the mid-1970s, allowing travel agents to book flights using a remote computer terminal. Initially, the system helped the airline eliminate inefficiencies associated with the manual keeping of flight records and to improve the speed and quality of customer service offered by travel agents. But, over time, the system propelled American to a leading position in the travel industry. This was accomplished by increasing the number of travel agents with access to remote reservation terminals and giving American Airlines flights a priority in displayed search results. Moreover, the data captured by SABRE allowed American to devise various promotional programs, improve plane yields, and successfully survive the airline price wars. Between 1977 and 1986 SABRE contributed \$1.5 billion to the company's bottom line.

Another winner in the 1970s strategic use of IT was American Hospital Supply Corporation's Analytic Systems Automatic Purchasing (ASAP) information system (Glaser, 2004). ASAP was an efficient, computerized system for managing the procurement of hospital supplies. It linked hospitals with suppliers of medical products, enabling hospitals to order supplies online. The system was designed to be responsive to the specific needs of hospitals, allowing them to maintain their own item codes and suggesting substitutes for out-of-stock items. By providing hospitals with information, services, and features that other suppliers of medical goods could not, American Hospital Supply Corporation quickly became the vendor of choice among hospitals. At the industry level, the company was able to switch the nature of competition among hospital suppliers from cost-based to quality of service-based.

SABRE and ASAP, together with some other widely publicized examples of the strategic use of IT, switched the focus of executives from automation

and cost cutting to using information systems for improving customer service, increasing quality of products and services, and creating new distribution channels. The position of CIO was created around the same time in response to the numerous strategic opportunities afforded by information systems. The new, more glamorous title for the role of senior technology manager reflected the increased expectations toward this position. A CIO was now expected to not only develop IT infrastructure and coordinate the use of technology throughout the firm, but also to lead IT-dependent strategic initiatives and support the business strategies of the entire organization.

In the 1990s, a decade typically associated with the increased digitalization of business and the glory days of Internet companies, the CIO position reached the peak of its prominence (Austin, Nolan, & O'Donnell, 2009). The mass media repeatedly ran stories of twentysomething technology wizards starting companies out of parents' garages, attracting millions in venture capital and, a few years later, raising billions via an initial public offering (IPO). 'Internet changes everything' was the motto of the 1990s business landscape. Changes induced by the Internet influenced the composition of top management teams, too. Business school-types were increasingly replaced by computer nerd-types in corporate boardrooms. CEOs of well-established firms looked up to their CIOs in the hope of acquiring some of that 'dot-com magic' that could reenergize their companies and help them gain a competitive edge. CIOs were often at the helm of widely publicized and generously funded IT-dependent strategic initiatives. CFOs and COOs had no choice but to free some space for CIO authority in their organizations. Around the same time, it became somewhat of an axiom among scholars and practitioners that a CIO should report directly to the CEO in order to improve the contribution of IT to organizational goals.

2. The fall of the CIO

By the late 1990s, CEOs were receiving mixed signals about the value of IT and the contribution of CIOs to the enterprise. At the time, technology stock was rapidly growing in value. Many members of the public adamantly believed that the Internet would remain a bottomless source of business opportunities for companies and investors alike. Some overly optimistic investors—such as Alberto Vila, a manager of Amerindo Technology Fund—ridiculed those who doubted that the technology sector would spur unprecedented long-term growth: "If you're out of this sector, you're going to underperform. You're in

a horse and buggy, and I'm in a Porsche. You don't like tenfold growth opportunities? Then go with someone else" (Graham & Zweig, 2003, p. 16).

Examples of companies using the Internet to gain competitive advantage could be found in abundance; Dell Computers was one. A second-tier computer manufacturer prior to 1994, Dell used IT to power its 'direct model': a tightly integrated value chain model designed to cut costs associated with supply chain coordination among computer manufacturers, reduce inventory levels, improve the speed of product delivery to customers, and create customization opportunities at negligible marginal cost. Dell's virtual storefront, Dell.com, went live in 1995. Michael Dell, founder and CEO of the company, made the following comment about the Internet's potential for his business (Mendelson, 2000, pp. 15–16):

We think about Internet commerce as a logical extension of our direct model. . . I'm only half joking when I say that the only thing better than the Internet would be mental telepathy. Because what we're all about is shrinking the time and the resources it takes to meet customers' needs. And we're trying to do that in a world where those needs are changing.

Dell's direct e-commerce model produced impressive financial results for the company. By the end of 2000, Dell's online sales averaged \$40 million per day and represented approximately 50% of the firm's total sales. Over a 5-year period sales grew at an annual rate of 49%, increasing from \$3.5 billion in 1994 to over \$25 billion in 1999. Profits experienced an impressive 62% annual rate.

Unfortunately, success stories like those of Dell were offset by equally impressive and perhaps even more numerous accounts of disastrous IT projects that resulted in tremendous financial losses (IT Cortex, 2008):

- In 1993, the London Stock Exchange abandoned its paperless share settlement system project, Taurus, after more than 10 years and an estimated project cost of £800 million.
- In 1994, Budget Rent-A-Car, Marriott Corp., and Hilton Hotels sued American Airlines over the failure of Confirm, a reservation system costing \$165 million.
- In 1998, Fox Meyer, a \$5 billion drug distribution company, sued Anderson Consulting for \$500 million over a failed SAP implementation project—which, according to the company, led to its bankruptcy.

The numerous internal IT failures and ever-increasing costs associated with IT infrastructure were more vivid to the typical CEO than were the widely publicized Internet success stories. An article published in the *McKinsey Quarterly* observed that toward the end of the 1990s, CEOs had less confidence in IT and their CIOs (Earl & Feeny, 1995, p. 145):

Many organizations are experiencing a crisis of confidence in their information systems and in the chief information officers who lead them. General managers are tired of being told that information technology can create competitive advantage and enable business transformation. What they observe and experience are IS project failures, unrelenting hype about IT, and rising information processing costs.

The numerous internal IT failures and increasing IT costs that most companies experienced by the late 1990s put many CIOs in a shaky position. Still, CIOs were able to hold on to their jobs and preserve most of their weight in the corporate boardroom thanks to the amorphous Y2K problem that was created and then successfully resolved by techies.

This reprieve quickly came to an end. The NASDAQ peaked in March 2000 and went into a free fall soon thereafter. Between March 2000 and October 2002, the United States experienced the worst market crash since the Great Depression, with stocks losing \$7.4 trillion—over 50% of their value (Graham & Zweig, 2003). By 2002, most dot-coms and telecoms were either bankrupt or had lost the majority of their value. IT professionals, accustomed to frequent calls from recruiters and setting their own salaries, became unemployed. The public finally recognized that high stock prices do not necessarily equate with dot-coms' ability to generate profit.

By 2003, CIOs were in survival mode (Overby, 2003). The average compensation of CIOs in large companies decreased from \$434,000 in 2001 to \$363,000 in 2003. IT budgets were cut by 14%. Companies increasingly tried to hire young, inexperienced IT professionals for the CIO position, citing lack of strategic goals in relation to IT as the main reason for the decreased expectations toward this role. Some senior managers wondered whether they even needed a senior technology leader when the company could, for example, purchase off-the-shelf software solutions and outsource maintenance and support to India. The Sarbanes-Oxley Act of 2002 gave CEOs an additional reason to put CIOs where they previously belonged: under the CFO. Phil Schneidermeyer, CIO practice leader for executive recruiting company Highland Partners, described the abysmal state that CIOs found themselves in as follows (Overby, 2003):

CIO is no longer the same level of position. Companies are stepping back and saying the job isn't that big anyway. We're making less investment in IT. We have a smaller headcount. We're not going global and doing any mergers. We're done with ERP. We're sending it all off-shore. Therefore, we don't need the caliber of CIO we may have had in the past.

3. The CIO-CEO gap and organizational performance

Despite economic recovery following the 2002 dot-com crash and another boom cycle fueled by growth in the real estate and financial sectors, the relationship between the CEO and CIO has been permanently strained. Over the years, the CIO-CEO gap has remained stable and alarming. Even today—when mobile technology, social media, and business analytics are once again changing the competitive landscape of virtually every industry—CEOs exhibit a certain degree of distrust toward IT and senior technology leaders.

Consider the fact that in 2007, during another global economic boom cycle fueled by financial speculations regarding the real estate sector, a survey of CEOs by Forrester Research revealed that only 60% of respondents were satisfied with the overall performance of their IT function. [George Colony \(2008\)](#), the founder of Forrester Research, was not sanguine about this finding: "If only 60% of your top executives were satisfied with the performance of the CFO, that would signal meaningful distrust in the financial operations of your company."

Similarly, the 2014 State of the CIO survey conducted by *CIO Magazine* revealed that 48% of respondent CIOs acknowledged their IT group was viewed by peers as a mere cost center or service provider ([Nash, 2014](#)). Only 25% of the CIOs surveyed reported that the IT function within their organization was viewed as a true partner in accomplishing business goals and strategic targets.

Research shows that a good relationship between a CIO and his/her top management team contributes to strategic alignment of the IT function and organizational strategy, leading to improved performance of the organization ([Johnson & Lederer, 2010](#)). Similar findings regarding the link between CIO-CEO mutual understanding, performance of IT units, and contribution of these IT units to organizational performance have been made by industry surveys. For example, the aforementioned 2014 State of the CIO survey revealed that the 25% of CIOs who reported a good relationship with their organizational colleagues control the majority (65%) of IT spending, devote a higher

proportion of their time to strategic initiatives, drive business innovation, and enjoy extra pay ([Nash, 2014](#)). Thus, ensuring a good relationship between the CIO and the CEO is not just a matter of improving organizational climate. Mutual understanding between CIOs and CEOs contributes to performance of IT units, ensures alignment of IT units with organizational goals and strategies, and ultimately leads to greater performance of the entire organization.

4. Factors contributing to the CIO-CEO gap

Unfortunately, several internal and external factors stand in the way of a meeting of the minds between CEO and CIO. These factors include failure of IT to deliver value, poor understanding of IT by business executives, different worldviews of CEOs and CIOs, lack of a shared vision in relation to IT, lack of relationship skills among CIOs, and constant criticism of IT by so-called experts in the popular and academic press. Each complication widens the CIO-CEO gap and, consequently, prevents organizations from improving their performance with the help of IT.

4.1. Failure to deliver value

While the notion of creating value with IT looked promising on paper to some companies and helped justify many huge IT investments, CIOs often faced substantial difficulties delivering value to their organizations. In many instances, unrealistically high expectations for IT's business potential went unfulfilled. The so-called CHAOS report published by [The Standish Group \(1995, p. 2\)](#) revealed the following alarming statistics on IT initiatives:

A staggering 31.1% of projects will be cancelled before they ever get completed. . . 52.7% of projects will cost 189% of their original estimates. The cost of these failures and overruns are just the tip of the proverbial iceberg. The lost opportunity costs are not measurable, but could easily be in the trillions of dollars.

The widely publicized stories of successful IT projects leading to competitive advantage, such as American Airlines' SABRE and American Hospital Supply's ASAP, were soon followed by equally impressive stories of disastrous IT projects resulting in tremendous financial losses. The numerous IT failures have led many CEOs to question the ability of CIOs to deliver value to the organization. It should be noted that CIOs are often responsible for the skeptical attitude that many CEOs have toward

them. According to Chris Feola, CIO and executive vice-president of AskSam Systems Inc., a data management company (Levinson, 2004):

If you're a CEO and you've been through four or five CIOs who have left chaos in their wake, your reaction to a new CIO coming in and saying, "I've got a piano, you've got a barn, let's put on a show," is "No, the last time we did that we were rounding up livestock for six months."

When, despite the odds, an IT project *was* delivered, executives often had problems recognizing the value produced. The automation era—the time when IT was used primarily to produce more visible benefits, such as reduction in labor expenses—was largely over by the beginning of the 1990s (Mittra & Chaya, 1996). Benefits provided by the IT function thereafter have increasingly been indirect and 'soft,' and thus difficult to measure and observe (Tallon, Kraemer, & Gurbaxani, 2000). Even more disappointingly for the CEO, it was empirically confirmed that some IT-enacted benefits were enjoyed not by the businesses implementing IT, but rather by the customers of those businesses (Hitt & Brynjolfsson, 1996). While such improvements in customer service may increase revenues or profit and even lock in switching costs, the benefits are often difficult or impossible to attribute directly to the system. In still other cases, many of the benefits used to justify the system are never captured.

4.2. Poor understanding of IT by business executives

Complicating things even further, many CEOs have difficulty understanding implemented IT solutions and how they create organizational value. Most CEOs come from finance and marketing backgrounds (Savitz, 2011), and thus often lack the knowledge and experience necessary to understand how IT works and the technical challenges facing CIOs in facilitating IT support of organizational strategy and operations. Another part of the problem is that the assets employed by the IT function, such as hardware and software, are intangible in nature. This makes it difficult for senior management to understand and appreciate the value created by these assets. McFarlan (2004) described this problem in value perception as follows:

The [IBM] 7094 took up a room ten times the size of this [auditorium]. It looked like a \$10 million machine. Hundreds of lights winked, tapes spun, disk arms went in and out. You could see and feel the value. By last year, all the power of that machine was in a seven-dollar chip.

Some CEOs go so far as to deliberately isolate themselves from IT. These leaders think that computers are akin to typewriters and that they would be more productive delegating to their assistants tasks like document composition, email correspondence, and software installation (Carr, 2003). Other CEOs, conversely, are technology enthusiasts who take pride in being able to use and keep up with technology. Mostly self-taught, these individuals frequently display an unrealistic and flattering self-assessment of their IT knowledge and skills. This makes these CEOs less receptive to the technical advice provided by technology experts and unjustifiably confident when dealing with IT matters. As explained by Rodger Riney, founder and CEO of Scottrade (Pastore, 2010):

[Our CIO] has a monumental task in trying to educate 10 people (or a couple dozen if you include directors), half of whom think they're pretty good at IT because they have an iPhone they can tap on and make cool things happen. He brings us all down to earth and says that the iPhone is only the front end, and it's what's underneath it that [really] counts. . . a very, very complicated system with many interdependencies.

4.3. Different worldviews of CEOs and CIOs

CIOs' inability to explain technical matters to senior executives is only the tip of the iceberg of a much deeper problem between the two roles: different worldviews. CIOs often have an education and a background in fields where logic and technical details of a message take precedence over the written and verbal packaging of that message. Largely, CIOs live a world where logic and technical elegance are praised, while ambiguity is avoided at all costs. Thus, CIOs often have trouble explaining to CEOs technical matters in a language that the CEO can understand and, most importantly, in a language that can influence him/her. The reverse is also true: Many CEOs have an educational background, worldview way of thinking, vocabulary and, consequently, communication style that are quite alien to someone with a degree in Computer Science and whose professional life revolves around solving highly complex yet well-structured technical problems. This difference in worldviews is illustrated by Gregory Babe, CEO of Bayer. At some point, Babe noticed that his keenly intelligent CIO had a very logical view on business, which prevented him from being effective in ambiguous business situations. Recognizing potential in his CIO, Babe decided to mentor

him: "I helped him to see that at the executive level, most of what you deal with is political, not logical, and you have to learn to work with that" (Pastore, 2010).

4.4. Lack of shared IT vision

IT plays a unique role across different organizations and industries. Some companies exhibit a low level of operational and strategic dependency on IT. In this case, the organizational IT unit is more likely to be viewed as a cost center that must be scrutinized by the CFO. Consequently, the main goals of the CIO in charge of that unit would be to optimize IT spending. Other organizations may exhibit a high degree of dependency on IT in both operations and strategic initiatives. Here, the CIO will play a crucial role within the organization and will report directly to the CEO. The main goals of the CIO will be to ensure a high degree of reliability of the IS infrastructure and to lead IT-dependent strategic initiatives initiated by the CEO and the top management team. Regardless of which category a company falls into, CEO and CIO must develop a common understanding of the role that the CIO and the IT unit are expected to play within the organization (Preston & Karahanna, 2009). Moreover, this common vision in relation to the IT function must be communicated continuously across the enterprise to ensure convergence of the IT function and other organizational areas on common business goals (Johnson & Lederer, 2010). Thus, the main problem in CEOs' IT value perception is often not the potential of IT to deliver value, but rather differences in expectations between CEOs and CIOs regarding the nature of the value that has to be delivered.

4.5. Lack of relationship skills among CIOs

As organizations entered the digital era of the 1990s, technical expertise and competency in management were no longer sufficient qualifications for the role of CIO. To lead organizations in IT-dependent strategic initiatives and deal with failure factors, an executive in charge of the IT function was expected to possess strong relationship-building skills. As explained by Philip Garland, CIO of PricewaterhouseCoopers (Red Hat Inc., n.d.):

The relationship side of the CIO and of the IT organization in general is absolutely critical because having strong relationships will help build trust, and if you have trust you can be effective. . . if you are effective, you are going to be able to add more value to the client and to the business, and the business will pull you

in. . . to have important strategic discussions for the future.

Since many CIOs come from technology and engineering backgrounds, they often lack these political and influencing skills. This leads to a high termination and turnover rate among the technology leaders and deprives CIOs from opportunities to deliver value.

4.6. Criticism by 'experts'

Outside company walls, executives are inundated by harsh assessments of the value of IT as voiced by notable economists and business gurus. In 1987, Nobel Prize-winning economist Robert Solow observed: "We see the computer age everywhere except in the productivity statistics" (Brynjolfsson, 1993, p. 67). Widely quoted in the popular and academic press, Solow's Paradox—as it was initially called—evolved into the 'productivity paradox.' Similarly, Morgan Stanley chief economist Stephen Roach (1991, p. 85) concluded that "the massive investments in technology simply have not improved productivity; on the contrary, they have made service organizations less profitable and less prepared to compete on other fronts."

In a *Harvard Business Review* article entitled "Strategy and the Internet," Michael Porter (2001) penned what might be considered an obituary, acknowledging the death of many of the promises the 'digital economy' had been expected to deliver to businesses. Porter argued that instead of being a source of competitive advantage, the Internet had led to the erosion of competitive advantage for many e-commerce pioneers. While not denying the potential value of the Internet, Porter concluded that the Internet can be a valuable business tool only if harnessed to sound business strategy.

Two years later, Nicholas Carr (2003) resurrected an argument made 8 years previously by Francis Mata and his colleagues (Mata, Fuerst, & Barney, 1995). Their contention, echoed by Carr, was that most of the elements of an IT application—including hardware, software, and technical skills—are readily available to all companies. According to resource-based view (RBV) logic, non-rare resources cannot serve as sources of competitive advantage (Mata et al., 1995). While not denying IT's value in its ability to increase organizational efficiency or effectiveness, Carr argued that IT had largely become a commodity similar to electricity. If IT is indeed a commodity, as Carr contends, then the only way a company can gain an edge over its competitors is by finding ways to spend less on IT.

Today, as IT has become even more pervasive in organizations and society at large, the criticism of IT has adopted a somewhat broader, societal

perspective. For example, it has been argued that accessibility of information via the Internet has decreased attention span, analytical abilities, and the reading comprehension of knowledge workers (Carr, 2008). These trends are believed to threaten the future social and economic development of nations around the globe. Moreover, myriad studies have been published in the popular and academic press detailing how social media threaten private lives and cost companies billions in bandwidth and lost productivity. Not surprisingly, these publications nourish a certain degree of negative thinking in relation to IT among top executives.

5. Closing the CIO-CEO gap: Recommendations

Addressing the issues that contribute to the CIO-CEO gap will require a joint response from the top management team and CIOs, together with stand-alone actions and decisions that should be carried out by CIOs within their area of competence and by CEOs at the organizational level. The recommended action items for bridging the CIO-CEO gap are discussed next.

5.1. Recommendations for the CEO and the CIO

5.1.1. Develop a shared IT vision

Depending on the company's industry and the degree of operational and strategic reliance on IT, both the CIO and the CEO need to formulate an explicit vision regarding the role that the IT function is expected to play in supporting organizational operations and strategies (Preston & Karahanna, 2009). This vision must be communicated across the enterprise to ensure cooperation and corresponding resource allocation to the IT function. A formal strategic information systems planning process can be used to capture and legitimize this vision, align it with the organizational vision, and communicate this vision across the enterprise.

5.1.2. Communicate and share knowledge

Continuous communication and knowledge sharing are essential toward ensuring a common understanding of the IT vision, as well as continuously adhering to it (Johnson & Lederer, 2010). By sharing their technical and business knowledge, CIOs and the rest of the top management team will be in a better position to overcome obstacles standing in the way of aligning the IT function with the organization, and to eliminate negative sentiments on both sides that are a result of miscommunication rather than real problems and disagreements.

According to Suzanne Woosley, a board member of Fluor, a \$22 billion engineering, construction, and project management company: "It is absolutely essential for business competition to have somebody in the C-suite who is able to understand and articulate new ways of looking at the world that come from understanding how technology is changing" (Pastore, 2010). Similarly, CEOs should take a more active role in coaching CIOs regarding vital aspects of senior leadership and communication.

5.2. Recommendations for the CIO

5.2.1. Focus on business value

Although senior technology leaders often have business backgrounds, it is easy for a CIO to lose this focus while addressing numerous operational and technical problems that present from the IT function. Not surprisingly, lack of valuable contribution is one of the most frequently raised charges against IT. According to Bill Glassen, CIO of Cashman Equipment—a company that sells and leases Caterpillar construction equipment—lack of attention to quantifiable business value often got CIOs in trouble with their top management teams: "If the president of the company said one day, 'Hey, I want to do e-commerce,' the CIO bought tons of servers, hired Web programmers, basically spent a lot of money, frequently without building a business case" (Overby, 2003).

Technology should always be viewed not as an end in itself, but rather as a means of achieving broader organizational objectives. Consider Kumud Kalia, the CIO of Direct Energy (Mathews, 2007):

When Direct Energy introduces something new into the market via its Web channel, CIO Kumud Kalia leads much more than the IT piece; he co-owns the business outcome regardless of how well the technology platform works. If the business's expectation is that 20,000 customers will register in the initial round, and that goal isn't met, Kalia takes charge of finding out what happened. "I'll go back and ask about the marketing campaigns, brainstorm new ways to attract customers, check about the branding of the URL or change the marketing message a bit," he says. Kalia has been operating at this expansive, strategic level since he started at Direct Energy, and he has earned formal acknowledgment of his role with the addition of the title executive vice president of customer operations.

A CIO can delegate authority and eliminate the number of direct lines so that he/she can devote more time to ensuring the contribution of IT to organizational performance.

5.2.2. Develop managerial, leadership, and political skills

To deliver organizational value, CIOs must of course possess IT competencies; however, they also need managerial, leadership, and political skills (Enns, Huff, & Higgins, 2003). Even before the emergence of the CIO role, it was recognized that a senior technology manager should be knowledgeable and versatile in performing traditional managerial functions such as budgeting, financial planning, human resource development, and communication. An IT unit is a part of the overall business and therefore should be run like a business, with the same kind of fundamental management rules (Overby, 2003):

[For Sheleen Quish, the CIO of U.S. Can Company] that has meant taking a critical look at the IT department she took over in late 2000 after her predecessor, who reported to the CFO, left after just a week on the job. What she found was “ugly, ugly stuff.” Half her employees were unqualified, and projects were initiated via ad hoc requests. The operations unit had purchased three new systems on its own, and vendors had installed them. The IT infrastructure was falling apart. No wonder the packaging manufacturer had lost faith in IT and its leadership. Says Quish, “I almost walked out after a week.” Quish knew she could improve things. What was important was to do so in a very public manner. “I ran IT improvement as a public reengineering effort,” she says. “[The business] saw me fire people. They saw me put projects into very disciplined request processes. Focusing a light on ourselves, while scary, was healthier, and it gave us some baseline credibility.” A year in, Quish was reporting not to the CFO but to the CEO.

While management skills are certainly valuable in managing daily operations of the IT function, achieving strategic results for an organization requires influencing peers and leading the IT function in conceiving and implementing IT-dependent strategic initiatives. Thus, a CIO needs to become a business leader rather than a competent manager of IT and related business issues. According to Louie Ehrlich, CIO of Chevron: “It’s imperative that we become, over time, more business strategists and transformation leaders than we are today” (Pastore, 2010).

5.3. Recommendations for the CEO

5.3.1. Establish an appropriate reporting structure for the CIO

Once a clear IT vision is formulated, the top management team should establish an appropriate organizational and reporting structure for the CIO.

Historically, it was popular practice for senior technology leaders to report to cost-conscious CFOs. Under this structure, spending of the IT function can be subject to greater scrutiny and thus optimized or simply maintained. This may be an appropriate reporting model for organizations pursuing cost leadership, but not for companies focused on quality or other forms of differentiation (Banker, Hu, Pavlou, & Luftman, 2011). According to Bayer President and CEO Gregory Babe, with IT driving most of the innovative business strategies today, “it has become critically important that the CIO be at the executive table, acting as a business person who can advise me and be trusted to help us come to the right conclusions about achieving our business strategy” (Pastore, 2010).

5.3.2. Educate top managers in IT

Gone are the days when computers were viewed by senior executives as proletarian tools reserved exclusively for the secretarial class. With IT so persuasive in business and social life, and offering numerous opportunities for creating and sustaining competitive advantage, all C-suites need to become chief digital officers. To ensure familiarity and understanding of IT among managers and across the enterprise, a CEO may consider investing in user training and making the IT function an integral part of job rotation programs aimed at mid- and senior-level managers.

5.3.3. Get more involved in IT

An effective IT function begins at the top with the CEO. Myriad empirical studies have shown that executive involvement in and support of the IT function is one of the most important factors underlying successful IT value creation within the organization (Young & Jordan, 2008). For example, the personal involvement of MillerCoors’ CEO Leo Kiely toward supporting his CIO Jeanine Wasielewski proved to be crucial in the integration of Miller and Coors after the merger of the two business entities (Pastore, 2010):

“I give her feedback on what I’ve heard from the organization and where the squeaky wheels are,” Kiely says. “I coach her on how to effectively impact a particular player or a particular department.” Kiely also has offered to ‘fly cover’ to protect the IT team during particularly complex projects. He’ll sit in with Wasielewski’s team as they describe their implementation challenges and how they plan to overcome them, and then he will convey these themes to the business units. “I’ll show support and an understanding of the issues,” says Kiely. The CEO’s endorsement, and the interpretation

he offers of IT's plan as the ultimate IT-business liaison, effectively warms up potentially frosty constituents.

This is a simple yet powerful recommendation for the CEO.

6. Conclusion

Instead of finding various flaws in CIOs and IT organizations, and subjecting themselves to the influence of so-called experts who paint a dismal picture of IT, CEOs should take an active part in ensuring the alignment of IT with organizational strategy and using IT for creating organizational value.

References

- Austin, R. D., Nolan, R. L., & O'Donnell, S. (2009). *The adventures of an IT leader*. Boston: Harvard Business Press.
- Banker, R. D., Hu, N., Pavlou, P. A., & Luftman, J. (2011). CIO reporting structure, strategic positioning, and firm performance. *MIS Quarterly*, 35(2), 487–504.
- Brynjolfsson, E. (1993). The productivity paradox of information technology. *Communications of the ACM*, 36(12), 67–77.
- Carr, N. G. (2003). IT doesn't matter. *Harvard Business Review*, 81(5), 5–12.
- Carr, N. G. (2008, July 1). Is Google making us stupid? *The Atlantic*. Retrieved June 14, 2014, from <http://www.theatlantic.com/magazine/archive/2008/07/is-google-making-us-stupid/306868/>
- Colony, G. (2008, January 30). My view: The CIO and the CEO. *Forrester*. Retrieved June 14, 2014, from http://blogs.forrester.com/george_colony/08-01-30-my_view_cio_and_ceo
- Earl, M. J., & Feeny, D. F. (1995). Is your CIO adding value? *McKinsey Quarterly*, 2, 144–161.
- Enns, H. G., Huff, S. L., & Higgins, C. A. (2003). CIO lateral influence behaviours: Gaining peers' commitment to strategic information systems. *MIS Quarterly*, 27(1), 155–176.
- Glaser, J. P. (2004). *The strategic application of information technology in health care organizations*. Hoboken, NJ: John Wiley & Sons.
- Graham, B., & Zweig, J. (2003). *The intelligent investor: The definitive book on value investing*. New York: HarperCollins.
- Hitt, L., & Brynjolfsson, E. (1996). Productivity, business profitability, and consumer surplus: Three different measures of information technology value. *MIS Quarterly*, 20(2), 121–142.
- IT Cortex. (2008). *Failure examples of IT projects*. Retrieved June 14, 2014, from http://www.it-cortex.com/Examples_f.htm
- Johnson, A. M., & Lederer, A. L. (2010). CEO/CIO mutual understanding, strategic alignment, and the contribution of IS to the organization. *Information & Management*, 47(3), 138–149.
- Levinson, M. (2004, October 18). CIOs: How to work with your boss. *IT World Canada*. Retrieved June 14, 2014, from <http://www.itworldcanada.com/article/cios-how-to-work-with-your-boss/17595>
- Mata, F., Fuerst, W., & Barney, J. (1995). Information technology and sustained competitive advantage: A resource-based analysis. *MIS Quarterly*, 19(4), 487–505.
- Mathews, C. (2007, July 30). Ready for a strategic CIO? *CIO*. Retrieved June 14, 2014, from http://www.cio.com/article/126602/Ready_for_a_Strategic_CIO?page=1&taxonomyid=3171
- McFarlan, W. (Producer). (2004). *The new strategic weapon: Information technology* [Video].
- Mendelson, H. (2000). *Dell Direct* (Case No. EC-17). Stanford, CA: Graduate School of Business, Stanford University.
- Mitra, S., & Chaya, A. K. (1996). Analyzing cost-effectiveness of organizations: The impact of information technology spending. *Journal of Management Information Systems*, 13(2), 29–57.
- Nash, K. S. (2014, January 1). State of the CIO 2014: The great schism. *CIO*. Retrieved June 14, 2014, from http://www.cio.com/article/744601/State_of_the_CIO_2014_The_Great_Schism
- Overby, S. (2003, October 15). The incredible shrinking CIO. *CIO*. Retrieved June 14, 2014, from http://www.cio.com/article/29840/The_Incredible_Shinking_CIO
- Pastore, R. (2010, June 9). What CEOs expect from CIOs. *CIO*. Retrieved June 14, 2014, from http://www.cio.com/article/596384/What_CEOs_Expect_from_CIOs?page=1&taxonomyid=3156
- Porter, M. E. (2001). Strategy and the Internet. *Harvard Business Review*, 79(3), 62–79.
- Preston, D., & Karahanna, E. (2009). How to develop a shared vision: The key to IS strategic alignment. *MIS Quarterly Executive*, 8(1), 1–8.
- Red Hat Inc. (n.d.). Meet the enterprisers. *The Enterprisers Project*. Retrieved June 14, 2014, from <https://enterprisersproject.com/meet-enterprisers>
- Roach, S. S. (1991). Services under siege—The restructuring imperative. *Harvard Business Review*, 69(5), 82–91.
- Savitz, E. (2011, December 5). The path to becoming a Fortune 500 CEO. *Forbes*. Retrieved June 14, 2014, from <http://www.forbes.com/sites/ciocentral/2011/12/05/the-path-to-becoming-a-fortune-500-ceo/>
- The Standish Group. (1995). *The Standish Group report: CHAOS*. Retrieved June 14, 2014, from <http://net.educause.edu/ir/library/pdf/NCP08083B.pdf>
- Tallon, P., Kraemer, K., & Gurbaxani, V. (2000). Executives' perceptions of the business value of information technology. *Journal of Management Information Systems*, 16(4), 145–174.
- Young, R., & Jordan, E. (2008). Top management support: Mantra or necessity? *International Journal of Project Management*, 26(7), 713–725.