

Leadership in the Age of the New Normal: Technology Is Pushing CIOs to the Forefront

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Over the past decade, unprecedented advances in technology, coupled with business decentralization, have created a “new normal” work culture in which mobile employees can do their jobs from the corner Starbucks as easily as from the corner cubicle. In addition, the worst global recession in decades, longer and deeper than forecasters could have anticipated, has brought pressure on companies to refocus their priorities, simultaneously reducing costs and requiring workers to be ever more productive.

The technological underpinning of every aspect of business today necessitates that chief information officers take on a greater leadership role within their companies. CIOs with a clear vision understand that virtualization, advanced collaboration tools, and increased mobility can drive efficiencies and cut costs. At the same time, technology raises other issues: Companies need solid strategies for maintaining information security and for balancing innovation and operational excellence.

The executive in the best position to develop these strategies is the CIO. Because technology affects every facet of business, CIOs must be more than just service providers to the rest of the business—they must become true partners with the CEO and the board, analyzing where costs are occurring and suggesting strategic uses of technology to drive competitive advantage and economic growth.

CIOs with a firm command of technology’s advantages and challenges will be well-positioned to provide meaningful solutions for a changing corporate landscape.

Following are some of the issues that should be top-of-mind for CIOs today.

Virtualization: A Double-Edged Sword

Virtualization’s shared hardware model offers companies numerous advantages. In a traditional model, every department has its own servers, databases, and software applications, which frequently leads to low utilization and excessive cost. The typical enterprise uses about 25 percent of its server capacity, meaning 75 percent of the money spent on that equipment is doing nothing for the company.



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Moreover, all of this hardware has to be powered on—and cooled—even though it's working at only a quarter of its capacity. That adds significant cost and huge, unnecessary environmental impact.

On top of the cost and environmental impacts, this inefficient use of technology also leads to poor service to the CIO's internal customers. With dedicated departmental hardware, the CIO and IT staff must work with each department to schedule downtime for maintenance or to address performance issues.

There is a solution to this problem, however: virtualization. Virtualization enables data center hardware to be shared across multiple corporate business units.

Downtime can be greatly reduced or even eliminated with virtualization. Shared hardware allows applications to be moved from one server to another at will, so maintenance can be done at any time without disrupting end users. Moreover, this model uses more of the equipment's capacity, increasing efficiency so fewer servers are needed. That saves money—not only in the cost of buying equipment, but also in decreased energy consumption and cooling, making it a “greener” solution as well.

Despite these advantages, virtualization can create challenges that call for leadership from the CIO. Departments may simply prefer having their own dedicated servers. That issue is more emotional than real, so it's up to the CIO to explain to internal customers that while they no longer have their own box, they are, in fact, are benefiting from better service and greater flexibility. Besides reduced downtime, virtualization also allows for shifting of data-center capacity and storage. If the Finance Department needs more capacity at the end of each quarter to close out the books, for example, that can be easily accommodated.

Information security and confidentiality are other issues that may arise. Human Resources may demand its own server—accessible by no other departments—to protect employees' personal and financial information. In that case, the CIO's challenge is to explain that with current technology and virtualization techniques, even the most sensitive information is as secure as before, even if it is physically running on shared hardware. The fact is, some elements of IT, such as the network, have always been shared.

CIOs will need to think strategically if their companies are to make the most of the virtualized world. Patchwork systems from different manufacturers based upon the “cheapest provider” mentality may not work or could be extremely difficult to manage in a virtualized world. CIOs need to know that their infrastructure is tightly integrated and that applications or databases can be moved seamlessly in response to business demand. That calls for a streamlined and aligned suite of solutions. CIOs, therefore, need to take a more strategic approach to their vendors, looking for those that have the breadth of technology and a platform that will allow their companies to move to a virtualized model.

Collaboration: More than a Money-Saver

For companies with the foresight to invest in them, collaboration tools offer a sure way to increase productivity, save money, and drive greater flexibility. There is the obvious benefit of reducing travel costs by using webconferencing or telepresence instead of flying employees around the world for meetings. But the savviest CIOs know that there's a more compelling case to be made for these tools—they also increase the frequency of touchpoints with customers and enrich interactions. A face-to-face telepresence conference

builds rapport and strengthens relationships. The ability to gather all stakeholders speeds decision making, or in the case of sales, accelerates the sales cycle.

The need to collaborate is not new, of course, but its importance has become magnified because processes have changed so dramatically with outsourcing, offshoring, globalization, and mobilization. Colleagues may be working in divergent offices or in different countries, at their homes, or in coffee shops—in today's highly mobile world, we don't know where our colleagues will be from one moment to the next. But just as technology enabled this widespread mobility, it also allows remote employees to work together regardless of time and distance.

Video capability is becoming particularly important for companies, and is an especially valuable collaboration tool for complex interactions. Email is cumbersome for group communication, and because it lacks the context of facial expressions and tone of voice, can easily be misinterpreted. Phone calls are somewhat better, but cannot compare to a face-to-face meeting. And while an in-person meeting is ideal for businesspeople making important decisions, it might not be financially feasible. In that case, telepresence solutions offer the richest alternative, creating live, face-to-face meeting experiences. All of the necessary people can contribute their expertise in meetings without additional expense, resulting in better, faster decisions and reduced risks.

Mobile Networks: A Risk-Reward Balance

The mobile technology that gives workers the freedom to get things done anytime and anywhere also raises complex security issues that CIOs must carefully consider. On one hand, a breach in security can have potentially disastrous consequences. On the other hand, if information is controlled too tightly, it can cause costly delays. It becomes a question of balancing the security need against the likelihood of a breach occurring.

Perhaps the best approach is to think not in terms of system access, but rather in terms of information management and use. CIOs need to develop an information strategy that identifies which information needs to be truly secure, and how it should be restricted. There are several methods, depending on the type of information that needs to be protected:

- **Person-based restrictions:** Some information can be accessed only by certain people, or only at specific times.
- **Location-based restrictions:** Certain information can be accessed only in specific places (documents that can't be taken out of a room, for example).
- **Time-based restrictions:** Regulations, for example, prohibit companies from sharing certain financial information until after specific points of the month or quarter.
- **Technical restrictions:** Some functions, such as printing of payroll checks, can be done only on hard-wired equipment, not wirelessly.

While there's a natural tendency for CIOs and IT departments to favor more rather than less security, it's important for them to consider the business impact. For instance, word could get out about a product launch, giving a competitor an edge and costing a company \$1 million in sales. But if the flow of information is so restricted that it delays the product's entry into the market by six months, the cost could be in the tens of millions.

The good news for CIOs is that security capabilities are getting more sophisticated all the time, making it possible to be more open—say, allowing employees to access networks through firewalls from coffee shops or from home without compromising corporate security. The best systems go beyond just firewalling, actively detecting phishing or denial-of-service attacks. Beyond that, they are built on the assumption that no matter how strong a security system is, someone will still be able to get around it. The answer—and the approach taken by Cisco—is not only to try to detect and block breaches from the outside, but also to watch inside the company for adverse activity, and to lock down the system if any is detected.

Innovation and Operational Excellence: Not “Either/Or”

Some business observers argue that a company’s success is driven either by innovation or by operational excellence, and that you can’t have both. In fact, the two can and should go hand in hand. As an example, moving from paper to “electronic paper” on the Internet was both innovative and increased operational excellence.

One aspect of innovation for CIOs to consider is what kind of innovation a company needs. The answer depends on the product, product maturity, the company’s maturity, and what customers want. For a relatively new product, product innovation might be top priority—adding functionality and features that wow customers. Down the line, when the product is more mature, the focus might shift to process innovation: how to sell the item faster, or more efficiently, or support it better. The market environment also impacts the type of innovation required. If the economy is weak and customers want to save money, then the innovation might be around cutting costs. In a recovering market, the innovation might focus on growth or innovative new business models.

Regardless of the driver of innovation, technology—and, by extension, the CIO—plays a huge role in each of the following five steps of the innovation process:

1. **Sensing:** Companies start by sensing the market, the environment, customers, themselves, where costs and delays occur, quality issues, and so on.
2. **Ideation:** Because “brainstorming is largely a human activity, collaboration technologies can help significantly by bringing many people together from both inside and outside the company to share ideas.
3. **Selection:** Collaboration is a critical element in the process of deciding which products or ideas to pursue.
4. **Development:** Once an idea is selected, it is developed and built. Technology comes into play in collaboration around design and features, as well as the actual production.
5. **Go to market:** Technology is used to reach customers in numerous ways, such as through digital signage and streaming video to phones, and to enable the salesforce and partners to drive delivery to the market and ultimately turn ideas into revenue.

Conclusion

Technological advances and economic forces have brought complex change to the business climate in a short period of time. While companies are adjusting to the “new normal” world of mobility, decentralization, and doing more with less, they are also facing ongoing challenges that will only multiply as the speed of innovation continues to increase.

Because technology lies at the heart of these changes, CIOs will be called upon to help their companies chart their course for the future. It’s time for their role to evolve from one of service provider to one of leader. Those that rise to the occasion will partner with CEOs and CFOs to help manage costs, strategize, and, with luck, weather the next financial storm.

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