



The
New Voice
of the
CIO

*Insights from the
Global Chief Information
Officer Study*

Implications for the C-Suite

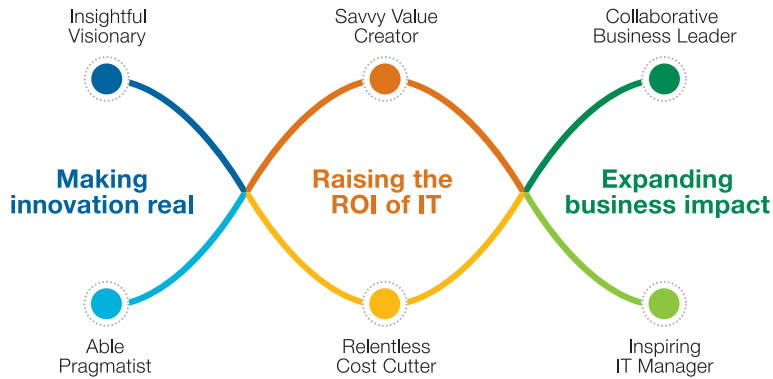


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Introduction

What can members of the C-Suite learn from our face-to-face conversations with 2,598 Chief Information Officers (CIOs) around the world? Perhaps the most notable implication from the Global CIO Study 2009 is the compatibility of primary goals among the broader set of executives.

After thousands of interviews, we found that successful CIOs blend three pairs of roles: Insightful Visionary and Able Pragmatist; Savvy Value Creator and Relentless Cost Cutter; and Collaborative Business Leader and Inspiring IT Manager. By integrating these three pairs of roles, the CIO works to achieve three primary goals: to *make innovation real*, *raise the ROI of IT* and *expand business impact*.



Achieving real results through real partnerships

The voice of the CIO is indeed being heard in new ways – as CIOs are increasingly recognized as full-fledged members of the senior executive team. Successful CIOs are much more actively engaged in setting strategy, enabling flexibility and change, and solving business problems, not just IT problems. And yet, many also told us that attempting such actions can evoke a sense of being “gate-crashers” in their own organizations. Subtle – and not so subtle – resistance from their executive peers outside the IT team can keep CIOs from contributing to their highest potential.

From our prior research with C-Suite executives, we know that Chief Executive Officers (CEOs) must prepare their organizations to compete in an unpredictable future. Chief Financial Officers (CFOs) seek a clear financial perspective while managing risk. Chief Marketing and Sales Officers (CMSOs) need flexible and fast technology to optimize relationships with customers. Chief Human Resource Officers (CHROs) aim for a more strategic and collaborative HR function. And Chief Supply Chain Officers (CSCOs) strive toward a smarter supply chain to manage their complex information flows.

To attain the organization’s most important objectives, members of the C-Suite can engage with CIOs in at least three ways:

- By obtaining key services from the CIO organization
- By partnering with CIOs on important, cross-functional initiatives
- By providing specific services to enable the CIO’s six complementary roles.

Here, we describe how each of these executives can work with CIOs more effectively for the benefit of all.

Implications for the Chief Executive Officer



The CIO Study 2009 highlights what it takes to help grow profits as a CIO today. As technology rises in importance in the eyes of the CEO, the CIO is becoming a critical partner in achieving an organization's business objectives.¹ While each organization sets its own unique strategies, it must address three broad dimensions to succeed. First, organizations have to *manage for value* via sustainable strategies that emphasize long-term value. In today's new economic environment, organizations have to be able to manage costs strategically as they optimize their operations for both effectiveness and efficiency.

Second, organizations have to *position for the future* to achieve growth and capture value. This requires ongoing innovation with regard to products and services, their customers, markets and – ultimately – their entire business model. Finally, organizations have to be able to *effect change* at a faster and faster pace, in an environment that is increasingly complex and unpredictable. Only organizations that can create a *new partnership* between business and technology – between the CEO and the CIO – will be able to deliver against all three dimensions over the longer term.

“Innovation is not always just about new technology. The challenge is integrating different technologies, and in different ways.”

CIO, Chemicals and Petroleum company

Managing for value

The CIO Study 2009 shows that, among other roles, successful CIOs are Savvy Value Creators. The best don't just manage cost effectively within their own IT organization, but leverage information and technology to drive value and efficiencies throughout the entire organization. Today, every process – from customer interaction to supply chain logistics – is increasingly technology based and information enabled.

As a result, CEOs are more dependent on CIO insights to innovate and improve these processes. CIOs can be instrumental in leveraging data and analytics to optimize – and often transform – the way things get done throughout the extended enterprise. Often, this means standardization and globally shared services and processes. Always, it requires close integration between business and technology, as well as transparency and information visibility across many dimensions, constituents and partners.

The *caveat* of ongoing optimization is the fact that getting it wrong is simply not an option. In today's complex environment, risk and exposure grow exponentially. This has never been more evident than in the second half of 2008, where the inability to understand, manage and mitigate both financial and organizational risk was clearly exposed.

To achieve better risk management and increase transparency, organizations must rely on better information and stronger analytics capability. They need to integrate and rationalize business information into the overall risk management process. When CIOs shared their visionary plans for the future, two of their top priorities were *business intelligence and analytics*, cited by 83 percent of our CIO sample and overall *risk management and compliance* (cited by 71 percent of CIOs).

Positioning for the future

CEOs look beyond day-to-day operations to build their visions for long-term success. Being able to execute against the CEO’s future agenda increasingly puts the spotlight on the CIO. Technology has evolved from being an *enabler* of strategy and innovation, to being a *driving force*. CIOs are in a unique position to work with business to understand the “art of the possible” by integrating technology insight with business know-how, becoming what we call in the CIO Study the “Insightful Visionary.”

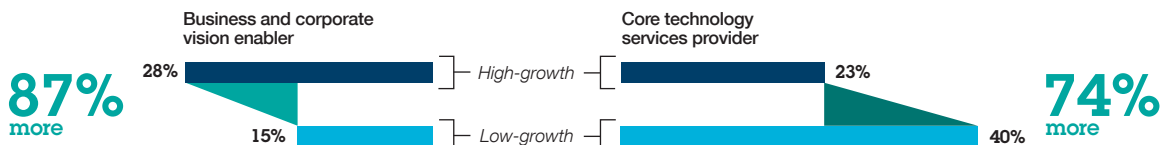
CIOs are asked to understand the implications of a broad set of technologies on their business, including new opportunities, changing market dynamics and potential shifts along the value chain. Insightful Visionaries recognize that these technologies can come from other industries, as well as within their own. Many of today’s innovations related to products, services and business models are based on new possibilities created by emerging and often disruptive technologies.

CIOs who are Able Pragmatists act as key enablers of innovation and provide the foundation for successful growth strategies. CIOs in high-growth organizations spend 87 percent more time *enabling the business and corporate vision* than their peers in low-growth organizations. For example, as CEOs need to make changes to their business models, they require a flexible and dynamic infrastructure and architecture. Organizations that are able to do this quickly and effectively can gain competitive advantage in an era where speed is of the essence.

“Healthcare delivery is increasingly expensive, and consequently, we are considering a variety of changes to the healthcare provider business model. We need to explore new ways of effective and efficient service delivery, including the innovative use of service provider partners.”

CIO, Healthcare industry, Canada

Figure 1 Pragmatic CIOs set the stage for innovation
 CIOs in high-growth organizations spend significantly more time on activities related to enabling the corporate vision versus providing core technology services.



Effecting the change

Today's CEOs face unprecedented change, sorely testing organizations' appetites for rapid change, along with their abilities to deliver it. In fact, our last CEO study identified a significant "change gap" between *the degree of change companies anticipate over the next three years* and *their ability to manage change successfully*.²

High-growth CIOs are doing more to support their CEOs' ability to effect change across the organization. They provide information and insight to enable faster and better decisions; compared to Low-growth CIOs, they *proactively craft data into actionable information* 61 percent more often. They also help organizations manage change by creating a more flexible and scalable technology environment, and acting as a change agent, given IT's unique position of cutting across all parts of the organization.

Reinforcing a CEO-CIO partnership

We see a new type of partnership emerging that effectively integrates the CIO into the senior leadership team. CEOs have much to gain from stronger ties to CIOs who are Collaborative Business Leaders – they can look increasingly to CIOs to balance the various demands in a way that optimizes value for the organization.

“Innovation is not always just about new technology. The challenge is integrating different technologies, and in different ways.”

CIO, Chemicals and Petroleum company

With CIOs as part of the leadership team, CEOs will rely on them to:

- Educate business and functional leaders on the impact of new and emerging technologies – bringing insights from within and outside the industry to their executive peers
- Apply a deep understanding of the organization's mission, business and operations to continuously identify ways in which to improve, and work across the entire organization to identify and support transformational change
- Actively participate in setting, enabling and executing the organization's strategic vision.

Implications for the Chief Financial Officer



The CIO Study 2009 reveals the challenges and goals of today's CIOs. Not surprisingly, many top CIO priorities correspond to those of Chief Financial Officers (CFOs). As noted in the IBM CFO Study 2008, the first goal of the CFO is to strip away the obstructions caused by structural complexity in order to *get to the financial truth and understand the drivers of performance* more clearly, and the second is to *manage enterprise risk*.³ A third important CFO goal is *improved collaboration with the business*.

CIOs can do much to help CFOs achieve these two aims more economically and effectively, thereby fulfilling their own aspirations. As the CIO Study shows, successful CIOs have three overarching goals: to make innovation real, raise the ROI of IT and use their expertise in business and technical matters to positively impact the business. So where – and how – can CIOs and CFOs collaborate to attain their respective objectives?

“We are looking at improving access to information through portals, dashboards, business intelligence and management information systems – thus enhancing our reporting.”

CIO, Public Sector, Africa

Achieving financial truth and performance insight

In order to ascertain the financial truth and get a better picture of how a company is performing, the CFO must first reduce structural complexity arising from the use of multiple systems and data sources, lack of data standards and definitions, and other such causes. Eighty-one percent of High-growth CIOs reported that their *data is reliable and secure*, compared to just 66 percent of Low-growth CIOs.

As Inspiring IT Managers, CIOs can help organizations mitigate structural complexity by helping drive the implementation of technology that enables the components of good governance deemed essential by the IBM CFO Study 2008: *globally mandated standards, a standardized chart of accounts and common, enterprisewide data definitions and processes*.⁴ Used in combination, these four criteria characterize an Integrated Finance Organization (IFO). Adopting enterprisewide standards enables a company to simplify its technological infrastructure by reducing the numbers of financial applications, standalone data marts and warehouses, and by implementing data governance and process management solutions.

These actions, in turn, can allow quicker data access and greater confidence in the veracity of the data. Today, only 67 percent of High-growth CIOs reported that data is readily available for relevant users, compared to 51 percent of Low-growth CIOs. IFOs focusing on improvement in these areas are typically more agile and more effective in executing their plans, and thus better positioned to deliver enhanced financial performance.⁵

Clearly, the CFO is highly dependent on the CIO to help implement the technologies that produce better business intelligence. Fortunately, as Figure 2 shows, most CIOs have similar priorities. When we asked CIOs to identify their visionary plans for enhancing their enterprises' competitiveness, *business intelligence and analytics* was their top answer. As Collaborative Business Leaders working with their CFOs to deeply understand business needs, CIOs can address this need by jointly developing more effective analytics.

Figure 2 CIOs and CFOs share a common vision
 CIOs are already planning to implement solutions to address many of CFOs' top challenges.

CIO priorities	Percent	CFO priorities	Percent
Business intelligence and analytics	82%	Measuring and monitoring business performance	84%
Risk management and compliance	71%	Supporting and managing enterprise risk	66%
Customer and partner collaboration	68%	Aligning finance with the business	75%
Business process management	64%	Continuous process improvement and business improvement	74%

Managing risk and enforcing compliance

Most CFOs regard compliance with the external financial reporting regulations as a “must do” activity to be performed in “silent running, lights out” mode, leaving them free to concentrate on value creation and value preservation. Yet, while two-thirds of CFO Study respondents said their companies had experienced a major risk event in the previous three years, only one-third said that they were prepared or well-prepared to deal with the situation – a consistent finding regardless of company size or industry.⁶

CIOs have traditionally played little part in managing non-IT risks. Instead, they have primarily focused on IT-related risks such as planning for disasters, ensuring business continuity and facilitating compliance with the SAS 70 auditing standard. But enterprise risk management has become a much broader effort that necessarily involves the entire C-Suite. In the next five years, 55 percent more High-growth CIOs than Low-growth CIOs expect greater levels of integration and transparency with their end-customers.

“The main driver of information requests is internal management wanting to know more about what is behind the metrics that are part of regulatory reporting.”

CIO, Energy company, Canada

As members of the senior management team, CIOs can mitigate enterprise risk in various ways. For example, as Savvy Value Creators, CIOs provide methods of managing rising data volumes and make it possible to fully leverage existing data. High-growth CIOs help their customers *proactively craft data into actionable information* 61 percent more than Low-growth CIOs. CFOs can benefit greatly from technology that builds analytical and decision support capabilities to incorporate risk in performance reporting.

Effective enterprise risk management requires a strong analytical foundation, robust performance reporting and clearly defined risk indicators. After these are in place, an organization can “turn on the high beams,” scrutinize its performance more deeply and predict the potential impact of different risks more accurately. Risk-based financial measures are a powerful tool but one that many companies have still to implement. The CIO’s support is essential in enabling them to do so.

Strengthening collaboration with the business

As Collaborative Business Leaders, CIOs recognize the importance of working closely with the CFO and other C-Suite colleagues to leverage technologies appropriately. The best CIOs are Savvy Value Creators who seek to fully understand the priorities of their CFOs. Rather than passively waiting for requirements from CFOs and other end-customers, 87 percent of CIOs in high-growth organizations expect to seek customers’ active input and interaction in the next five years.

An important reason for implementing the right technologies in the right ways is to meet the business requirement to reduce costs. CFOs need CIOs to provide a breakdown of the costs associated with running the finance function’s existing systems – as well as support in developing business cases for any new IT investments. Quantifying the potential cost savings from new and improved technologies is a key element of such business cases.

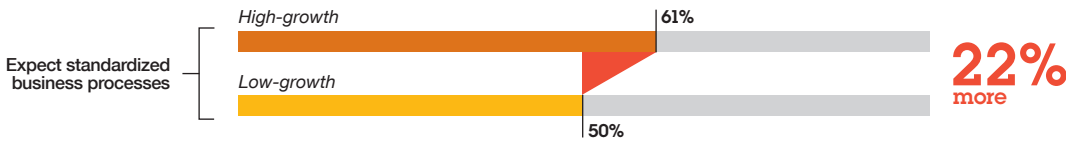
“My ambition is to make business processes faster and cheaper.”

CIO, Insurance industry, The Netherlands

As Relentless Cost Cutters, CIOs aim to simplify and automate infrastructures and processes as much as possible, with High-growth CIOs striving to standardize 22 percent more often than Low-growth CIOs. Other cost-cutting measures include *implementing a virtualized computing environment* – which 76 percent of our CIO sample cited as part of their visionary plans to enhance competitiveness.

The CIO must also be able to implement tools the finance function needs rapidly and efficiently. This can be a major challenge, if an organization lacks sufficient talent. As Inspiring IT Managers, CIOs actively seek and engage the best resources, whether these are experienced financial system professionals or third-party system implementation service providers.

Figure 3 Cost Cutters standardize
Many Cost Cutters aim to simplify and automate processes.



Reinforcing a CFO-CIO partnership

With many similar priorities between them, CIOs and CFOs seem to be a natural team. CFOs will benefit from working closely with their CIOs to gain insight into organizational performance, manage enterprise risk and strengthen collaboration with the rest of the business. High-growth CIOs are expanding beyond the traditional IT realm to help CFOs use technology in ways that extract the most value from data and more fully support CFOs by addressing both business and IT needs.

With CIOs as part of the leadership team, CFOs will rely on them to:

- Establish an information infrastructure that is flexible, scalable and adaptable to implement data standards and streamline the governance of financial and non-financial data for measuring financial performance
- Mitigate risk by improving core capabilities related to information compliance, availability, retention and security
- Help streamline key business functions and operations, emphasizing automation and workflow to standardize processes and optimize costs.

Implications for the Chief Marketing and Sales Officer



Findings from the CIO Study 2009 describe the multifaceted role of today's successful CIOs. For many years, the CIO and C-Suite executives in marketing, sales and service might as well have been on opposite sides of the universe. They disagreed about which technologies to use and who should control them. Customer relationship management (CRM) also required a flexibility and speed that was hard for old IT models to deliver.

Now, however, it seems that the CIO and these sales, marketing and service executives have finally found common ground – for easier reference in this report, we will call this group Chief Marketing and Sales Officers (CMSOs). CMSOs and CIOs increasingly see eye-to-eye about *technologies that can best meet the needs of the business, extracting the highest value from data to enhance the customer experience and navigating digital channels*. Indeed, CMSOs are seeking their CIOs' support as never before.

Identifying essential technologies

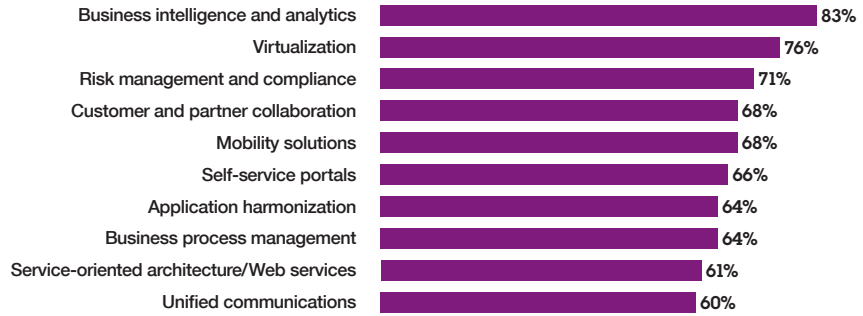
The CIO Study 2009 shows that five of the top ten innovations that Insightful Visionary CIOs aim to implement would directly benefit CMSOs. The most-mentioned innovation plan of High-growth CIOs, *business intelligence and analytics*, can enable CMSOs to target markets more accurately. Other top answers include *mobility solutions* and *collaboration technologies*, which allow more effective coordination of the sales force and improved customer interactions. Also in the top ten are *self-service portals* and *business process management* to facilitate great efficiency and consistency.

“The pharmaceutical industry lives or dies by innovation. Innovation is in our life-blood, and information is absolutely fundamental to the whole innovation process of bringing new drugs to market.”

CIO, Pharmaceutical company, Europe

Figure 4 CIOs have visionary plans

CIO innovation is not limited to IT solutions: risk management and compliance, customer and partner collaboration, and business process management were all responses in the top ten.



NOTE: CIOs were asked to select all applicable answers to the question, “What kind of visionary plans do you have for enhanced competitiveness?”

CMSOs understand the potential benefits from these technologies that are also prized by their CIOs. In a 2009 IBM CRM study, approximately 80 percent of CMSOs reported that they *lacked the necessary data and tools to help them succeed*.⁷ But those with such tools were 2.5 times more likely to score themselves a “5” on a scale of 1 to 5, when asked about two capabilities: how well they *derive value from insight* and how well they *derive value from digital channels*.⁸ In fact, having the right technologies and tools was the single largest differentiator for those scoring themselves highly in this study.

Making data more powerful to serve customers

Implementing visionary tools is only part of the equation; the other is the ability to make the most of available data. Much of the data CRM systems collect is in text format, and much is provided by vendors and partners, so it comes in numerous formats and changes often. Before it can be used, externally sourced data frequently needs to be reformatted, aggregated and supplemented. The many-to-many world of Web 2.0 has exacerbated these challenges, as has the multiplicity of new data sources, including hashtags, microblogs, global positioning satellite retail data and social networks.

“We are focusing on identifying customers’ evolving needs, as driven by external forces, and really putting customers at the heart of our business.”

CIO, Telecommunications industry, New Zealand

CIO Study respondents recognize the need for better data access, reliability and security. High-growth CIOs said *data is readily available for relevant users* 31 percent more often than Low-growth CIOs. As Inspiring IT Managers, CIOs can help CMSOs through intense focus on data, particularly to increase its accuracy and integrate across channels.

In short, the volume of data organizations need to manage is growing exponentially, and much of that increase is due to CRM. As Savvy Value Creators, High-growth CIOs *proactively craft data into actionable information* 61 percent more than Low-growth CIOs. By joining forces, the CMSO and CIO can define meaning and create value by investing in rich customer analytics programs that translate data into insights which, in turn, would ideally lead to initiatives that return more dollars, yen or euros to the business.

Navigating digital channels

Digital channels have affected every area of business, but their impact on marketing and sales has been radical. Creating and managing diverse digital content – including advertising, campaigns, displays, videos, games and applications – is a major undertaking for CMSOs and CIOs alike.

Digital content often sits in decentralized places – with vendors, agencies and on the hard drives of CMSOs and CRM professionals around the world who assume that, if they have the content, they can control and access it. But this assumption is often wrong. According to one estimate, for an organization employing 1,000 knowledge workers, the time that is wasted reformatting information for different applications costs US\$5.7 million a year, while failure to find information costs another US\$5.3 million a year.⁹

Content management is crucial in allowing the CMSOs to capitalize on the content in which they have invested by re-using it as often and as easily as possible. In their role as Cost Cutters, CIOs support more efficient content management and data governance by simplifying and automating processes and centralizing infrastructures. Within five years, 22 percent more High-growth CIOs than Low-growth CIOs expect to implement *completely standardized, low-cost business processes*.

“We need to help the business work more effectively through collaboration and unlocking the value in our data.”

CIO, Quasi-government organization, UK

But delivering content to all these devices requires enormous bandwidth, efficient code-writing and active performance monitoring. What's more, consumers are no longer satisfied with seconds-long response times; they expect millisecond latency. Working together, CMSOs and CIOs can improve wireless access to valuable content that enriches the customer experience.

Reinforcing a CMSO-CIO partnership

The management – and monetization – of data is becoming increasingly critical to organizations and that, in turn, is helping to transform the IT organization's role. As Collaborative Business Leaders, today's CIOs are increasingly involved in making both technology *and* business decisions.

The CMSO-CIO partnership offers CMSOs a far deeper understanding of their customers and markets. By engaging directly with CIOs, they can identify essential technologies, make data more powerful and navigate digital channels better – ultimately making it easier to enhance the end-customer experience by providing the digital content their customers want – in ways they want it most.

With CIOs as part of the leadership team, CMSOs will rely on them to:

- Choose technologies that allow flexibility for the business to meet its needs and be responsive to a global marketplace, including business intelligence and collaboration capabilities
- Analyze emerging information requirements that allow the business to better understand customers, address new ways of interacting with them, and tailor marketing and sales activities
- Develop and execute an overarching information and content strategy to allow fuller utilization of digital content and channels.

Implications for the Chief Human Resource Officer



The CIO Study 2009 brings to light a number of challenges and opportunities facing the IT function. As CIOs aim to make innovation a reality, raise the return on IT investments and expand their business impact, there are three ways that C-Suite executives in Human Resources can help. For easier reference in this report, we will call HR executives Chief Human Resource Officers (CHROs).

First, as a consumer of IT services, the CHRO can work closely with the CIO's team to identify and implement tools and integrate systems that enable the CHRO to *become a more strategic contributor to the business*. CHROs can also work in partnership with IT to *aid in the design and rollout of new technologies* within the business. And lastly, the CHRO can help transform the IT organization through *developing a more productive, adaptable and sustainable IT workforce*.

Using IT to create a more strategic HR function

From the CIO Study, we see *business intelligence and analytics* as the top area where visionary CIOs plan to build their organization's IT capabilities. From an HR perspective, this is welcome news. According to the IBM Global Human Capital Study 2008, only 6 percent of companies state they are *very capable of using data to make strategic workforce decisions*.¹⁰ What holds them back is the *lack of analytical tools and capabilities apply to managing the workforce*; almost half of CHROs we have previously surveyed cite this as a significant problem.¹¹

“People skills are a multi-dimensional influencer of my organization: Specialists are harder and harder to find, and leadership skills will get more and more important – particularly in multicultural, virtual environments.”

CIO, Electronics industry, Austria

Developing an analytic capability to better understand the workforce is critical for any company to perform well, particularly on the global stage. Not only do organizations face challenges in sharing data across HR and other operational systems, such as sales and finance, but also across legacy systems used within the HR function, such as recruitment, training and performance management.

Without timely access to critical information, organizations cannot build a common view of their own human capital. Thirty-one percent more of High-growth CIOs than Low-growth CIOs reported that *data was readily available for relevant users*. CIOs who are Inspiring IT Managers focus on providing the tools and infrastructure that allow CHROs to make better workforce decisions and enhance overall competitiveness.

Rolling out new technologies for greater collaboration

High-growth CIOs are investing more time and attention in collaboration and partnering technologies than Low-growth CIOs, with 53 percent of High-growth CIOs using such tools within their IT organizations and 41 percent within the business as a whole.

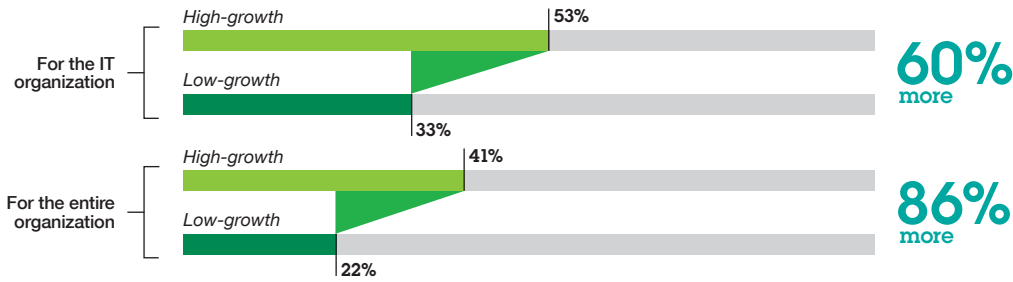
Clearly, in a world that requires organizations to locate and connect talent and business processes regardless of geography, enabling individuals to work productively both inside and outside the firewall remains a core capability.

Improving collaboration provides a unique opportunity for the CHRO and Able Pragmatist CIOs to work together. These executives can partner not only to create a robust and secure platform to support collaboration, but also to put in place the necessary training, incentives and measurements so that these enabling technologies provide value to the business.

“In particular, collaboration – and how we can do it better – is one of the things that keeps me up at night, particularly as we expand around the globe.”

CIO, Automotive company

Figure 5 Able Pragmatists strongly emphasize collaboration and partnering technologies
 High-growth CIOs use these tools much more, both for their own organizations and the entire enterprise.



From our Human Capital Study, we see that many of the “softer” issues such as the *presence of organizational silos, a lack of time to collaborate, and misaligned performance metrics* were viewed as more important than *a lack of collaborative technology*.¹² As Able Pragmatists, the ability to develop a strong collaborative capability enterprise-wide priority lays the groundwork for a true partnership between the CHRO and CIO.

Developing the IT workforce of the future

Talent management within the IT organization is one area where the CHRO can provide guidance and assistance to the CIO. As the CIO Study highlights, building leading technical skills, business acumen and interpersonal capabilities are all critical to the IT function’s success.

To accomplish this, forward thinking CIOs work with their CHROs to take a proactive approach to talent management. They will want to jointly examine the current IT strategy and envision what sorts of skills and expertise are needed today and in the near future. Part of this analysis includes identifying those critical jobs upon which the success of the IT organization truly hinges, and determining how the company can best attract, retain and develop individuals in those pivotal roles. Based on this understanding, the organization can formulate appropriate talent development plans that foster the growth of key skills, capabilities and individuals, and manage the career progress of employees accordingly.

“Technology and people skills are strongly related to each other. The required skills include Web 2.0 and portals, as well as managerial skills, social competence and knowledge of international cultures.”

CIO, Midmarket IT Services company, Germany

Reinforcing a CHRO-CIO partnership

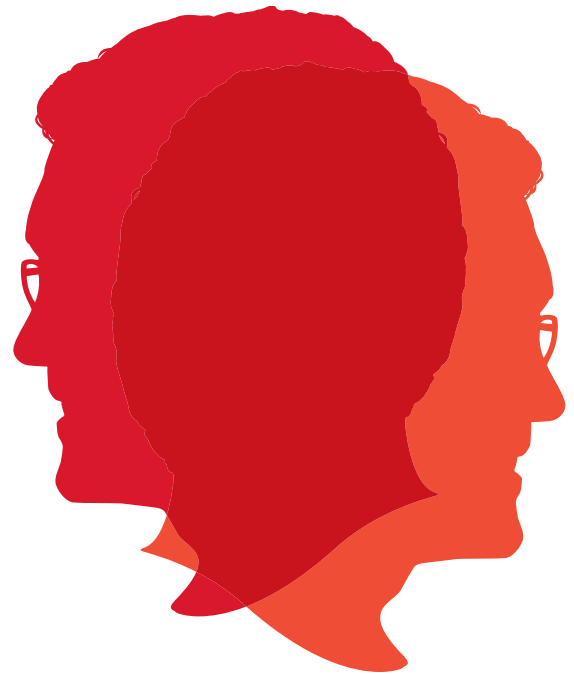
The CIO and the CHRO have much in common. Both oversee valuable assets that strongly influence the ability of the company to differentiate itself. Each is influenced by external drivers that include globalization, innovation and changing demographics. Both executives are regularly asked to do more with less – without sacrificing the quality of their services.

As a result, we see significant opportunities for unique partnerships between these two functions. They can supply each other with essential capabilities and come together to implement transformational change within the organization. Through improved analytics, greater collaboration and improved talent management, the CHRO and CIO relationship is poised to enable the enterprise of the future.

With CIOs as part of the leadership team, CHROs will rely on them to:

- Establish an information platform that improves the accuracy, consistency and integrity of data essential for making strategic workforce decisions
- Provide a unified, collaborative user interface to help business and IT stakeholders work together more effectively
- Work together to plan ongoing development of experienced, highly-skilled IT professionals, particularly for those jobs earmarked as critical to the organization.

Implications for the Chief Supply Chain Officer



In the CIO Study 2009, more than 2,500 CIOs provided a glimpse into what works well as they aim to make innovation real, raise the ROI of IT investments and expand their impact on the business. CIO success in achieving these goals ties directly to the support that C-Suite executives in Supply Chain Management executives require. For easier reference in this report, we will call this group Chief Supply Chain Officers (CSCOs).

CSCOs orchestrate numerous activities, including forecasting, order fulfillment, shipment status and inventory management. Enabling visibility of the information needed to support all these tasks is difficult enough within a single organization, but it can be overwhelming when an entire network is involved. Doing so will require a “smarter” supply chain, enhanced infrastructures that support intense collaboration and advanced analytics. CIOs can help CSCOs meet the myriad of challenges associated with complex information flows – and, in turn, the product, work and financial flows – that are essential to support today’s highly volatile and variable supply chains.

“Among management’s top criteria are supporting critical businesses with effective IT and being able to both monitor the status continuously and perform improvements immediately.”

CIO, Travel and Transportation company, Germany

Acknowledging common goals of CSCOs and CIOs

Despite some current gaps between supply chain operations and technology enablement, we discovered that CSCOs and CIOs profoundly agree on the most important challenges facing organizations. Earlier research by the IBM Institute for Business Value shows that CSCOs regard realtime visibility, risk management, the satisfaction of increasingly demanding customers, cost containment and globalization as their five top priorities.¹³ The 2009 CIO Survey demonstrates that CIOs are not just aware of these priorities; they are actively working to overcome the technological hurdles.

Figure 6 The priorities of CSCOs and CIOs are closely linked
CIOs are already working on many goals that coincide with those of CSCOs.

Priorities	Chief Information Officers	Chief Supply Chain Officers
Visibility	High-growth CIOs actively use collaboration and partnering technologies to facilitate innovation.	Seventy-five percent of CSCOs want realtime visibility inside and outside their organizations. Collaboration is critical to customer replenishment and supplier management programs.
Risk management	CIOs know that their end-customers will expect world-class integration and transparency within the next five years.	Between 80 percent and 96 percent of CSCOs are introducing process controls, creating compliance programs with suppliers and incorporating risk strategies in their supply chain planning.
Customer demands	CIOs have a solid understanding of the existing and emerging needs of customers.	More than 60 percent of CSCOs say that identifying new customer needs and reducing time to market are significant challenges.
Cost containment	CIOs are continuously seeking opportunities to cut costs – for example, by standardizing business processes.	Sixty-nine percent of CSCOs want to cut their supply chain costs.

Developing a smarter supply chain

Effective CIOs support CSCOs by facilitating the development of smarter supply chains. CSCOs need to collaborate with thousands of entities, including suppliers, service providers, contract manufacturers and customers. And they have to interact with numerous financial institutions and government bodies, including regulatory agencies, and import and export tax authorities.

The data flows required to provide integrated realtime information for immediate decision making are immensely complex. Factor in common disruptions (such as unexpected stock-outs, delayed deliveries from suppliers or problems with bad weather) and less frequent, but more serious events (such as plant failures, political upheavals or financial crises), and the magnitude of the challenge is evident.

As Inspiring IT managers, CIOs partner closely with the business to apply technical expertise to address these challenges. Instrumenting the supply chain through the use of sensors, actuators, meters and other intelligent devices enables an organization to capture information in real time, and thus monitor and correct operating processes even while they are happening.

CIOs who are Relentless Cost Cutters continually aim for lower costs and greater efficiency. Part of attaining this goal is to automate many manual activities. Sixty-one percent of High-growth CIOs expect to implement completely standardized, low-cost business processes in the next five years, compared to just half of Low-growth CIOs.

In effect, automation will enable inventories to count themselves. Pallets and cases can monitor their own whereabouts and customers can trigger a replenishment signal whenever they make a purchase – thereby liberating supply chain employees to concentrate on more valuable tasks, such as exception management.

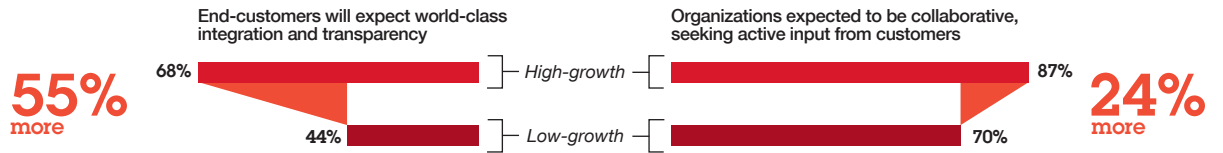
Enhancing the infrastructure for improved collaboration

CSCOs need a robust infrastructure that can connect all the partners in an extended supply chain via integrated transactions and collaborative platforms. With greater interconnectivity, the relevant supply chain participants can be more involved in decisions related to exception management and less encumbered by day-to-day tactics. Collaborative platforms can support shared analysis and enable more rapid, in-stream decision making.

“Technology will play a major role in providing a cost-effective means of collaborating across the extended supply chain.”

CIO, Automotive industry, India

Figure 7 Savvy Value Creators meet customer needs
 High-growth CIOs anticipate much greater levels of integration, transparency and collaboration with customers in the next five years.



CIOs act as Savvy Value Creators by improving such interactions with customers. Eighty-seven percent of High-growth CIOs expect to *seek customers' active input and interaction*, compared to 70 percent of Low-growth CIOs. In the next five years, 55 percent more High-growth CIOs anticipate that their *end-customers will expect world-class integration and transparency*. The most effective CIOs are aware of these needs of CSCOs and their customers, and are already working on plans to address them.

Enabling the use of advanced analytics

To make the most of these technologies, CSCOs will also need advanced analytics to incorporate decision analysis into network planning and execution processes. CIOs are Insightful Visionaries who understand the power of such tools. *Business intelligence and analytics* topped the list of planned IT solutions, named by 83 percent of CIOs as a way to enhance their companies' competitiveness.

Sophisticated algorithms can be used to analyze information, model trends and predict the most likely outcomes. It is possible, for example, to simulate the launch of a new market and use scenario planning to predict variations in demand.

“We are actively trying to improve our data analysis because the business is more and more reliant on our data for decision making.”

CIO, Retail company

Armed with this intelligence, CSCOs can work toward a supply chain featuring these attributes:

- Predictive demand and dynamic sourcing related to customers, human resources, supplies and assets
- Realtime network-wide visibility
- Probability-adjusted risk management
- Flows that are globally integrated and virtually optimized, including *information, product, work and financial*
- Sustainable cost efficiency.

Reinforcing a CSCO-CIO partnership

To realize this vision of making the supply chain much smarter, the CIO and CSCO will need to work hand in hand. Success depends on working with fellow executives to adopt a cohesive approach to managing the business. Focusing on the supply chain is all about bringing the right products and services to the right markets at the right time – and doing so profitably. Improving supply chain profitability is one target that C-Suite executives, regardless of their titles, have in common.

With CIOs as part of the leadership team, CSCOs will rely on them to:

- Implement business processes that enable sense and respond capabilities with advanced analytics and visibility into disruptions and other unexpected events
- Create and maintain a robust and resilient information infrastructure that provides access to trusted, realtime information to support multi-partner collaboration
- Gain sustainable competitive advantage by controlling the vast amount and variety of information, and incorporating predictive capabilities along with historical and present-day analysis to anticipate supply chain opportunities, while reducing risks.

“Our CEO’s attitude is that IT is part of the business and is included across the board...IT is moving up the value chain.”

CIO, Home Merchandise retailer, Canada

Partnering with the CIO

Ultimately, the onus is on the CEO to recruit, groom and set the tone for the CIO to succeed and help lead the organization into the future. This involves requiring – and enabling – the CIO to be a business leader, not just “the technology expert,” along with full acknowledgment of the many roles the CIO is expected to blend.

In many organizations, this will be a journey that requires abandoning the outmoded perceptions of technology teams as “barriers to change” or “not able to speak the same language.” Through our CIO Study findings, the extensive overlap of executive goals is apparent. We believe CEOs will look to CIOs in order to *manage for long-term value* via sustainable strategies, *position for the future* to achieve growth, and help the organization *effect change* at a faster and faster pace.

With CEOs leading the way, more CFOs will tap their CIOs to *get to the financial truth and understand the drivers of performance* more clearly, *manage enterprise risk* and *improve collaboration with the business*. Increasingly, CISOs will work with CIOs to identify *technologies that best meet the needs of the business*, *extract the highest value from data* to *enhance the customer experience* and *navigate digital channels*

Much more than in the past, CHROs will partner with their CIOs to *become more strategic contributors to the business*, *design and rollout new technologies*, and *build a more productive, adaptable and sustainable IT workforce*. And, CSOs will be well-served as CIOs help them *build a “smarter” supply chain*, *enhance infrastructures to support intense collaboration* and *establish advanced analytics capabilities*.

With such compelling potential benefits at hand, we believe members of the C-Suite will shift their perceptions of the IT organization. Rather than expecting CIOs to justify their seats at the executive table, senior management can be better positioned to reap wide-ranging benefits sooner by pushing that gate wide open.

For further information, please see the last page of this report to send an e-mail to the IBM Institute for Business Value, or to download the complete IBM Global Chief Information Officer Study, visit our Web site: **ibm.com/voiceofthecio**.

How our research was conducted

This report features implications for the C-Suite from the inaugural edition of our IBM Chief Information Officer (CIO) study – the latest in the ongoing C-Suite Study Series developed by the IBM Institute for Business Value. To better understand the challenges and goals of today’s CIOs, we met face-to-face with 2,598 of them, in what is the largest known sample of these executives. Between January and April 2009, we interviewed these CIOs, who represent different sizes of organizations in 78 countries and 19 industries.¹⁴

Our analysis used 2004-2007 profit before tax (PBT) growth, relative to peers in their industries, to associate organizations with one of three growth levels: High, Medium or Low. For organizations where this information was not available, we used statistical correlation to assign levels, based on closest overall similarity of answers.

To simplify the terminology in this report, we primarily refer to CIOs who work in organizations with high PBT growth as “High-growth CIOs” and to those working in organizations with low PBT growth as “Low-growth CIOs.” Presenting our findings in terms of these categories offers CIOs a more structured approach to identify where they want to increase their focus and how to do it.

The right partner for a changing world

At IBM, we collaborate with our clients, bringing together business insight, advanced research and technology to give them a distinct advantage in today's rapidly changing environment. Through our integrated approach to business design and execution, we help turn strategies into action. And with expertise in 17 industries and global capabilities that span 170 countries, we can help clients anticipate change and profit from new opportunities.

About the IBM Institute for Business Value

The IBM Institute for Business Value, part of IBM Global Business Services, develops fact-based strategic insights for senior business executives around critical industry-specific and cross-industry issues. Browse through our research library at ibm.com/iibv.

Notes and sources

- 1 IBM Corporation. "The Enterprise of the Future: IBM Global CEO Study," May 2008. <http://www-935.ibm.com/services/us/gbs/bus/html/gbs-ceo-study-implications.html>
- 2 Ibid.
- 3 IBM Corporation. "Balancing performance and risk with an Integrated Finance Organization: The Global CFO Study 2008." October 2007. <http://www-935.ibm.com/services/us/gbs/bus/html/2008cfostudy.html>
- 4 Ibid.
- 5 Ibid.
- 6 Ibid.
- 7 Gonzalez-Wertz, Cristene. "The path forward: New models for customer-focused leadership." IBM Institute for Business Value. October 2009. <http://www-935.ibm.com/services/us/gbs/bus/html/crm-path-forward-whitepaper.html?cntxt=a1005261>
- 8 Ibid.
- 9 Gantz, John F., David Reinsel, Christopher Chute, Wolfgang Schlichting, et al. "The Expanding Digital Universe." IDC. March 2007. <http://www.emc.com/collateral/analyst-reports/expanding-digital-idc-white-paper.pdf>
- 10 "Unlocking the DNA of the Adaptive Workforce: The IBM Global Human Capital Study 2008." IBM Institute for Business Value. September 2007. <http://www-935.ibm.com/services/us/gbs/bus/html/2008ghcs.html>
- 11 Ibid.
- 12 Ibid.
- 13 "The Smarter Supply Chain of the Future: The IBM Chief Supply Chain Officer Study, 2009." IBM Institute for Business Value. February 2009.
- 14 CIOs we interviewed in the following countries were counted in the Growth Markets category: Argentina, Australia, Bahrain, Brazil, Cameroon, Chile, China, Colombia, Croatia, Czech Republic, Ecuador, Egypt, Gabon, Georgia, Ghana, Guinea, Hong Kong, Hungary, India, Indonesia, Malaysia, Mexico, Morocco, New Zealand, Nigeria, Pakistan, Peru, Philippines, Poland, Qatar, Romania, Russia, Saudi Arabia, Singapore, Slovenia, Slovakia, South Africa, Taiwan, Thailand, Tunisia, Turkey, Uruguay, Venezuela and Vietnam. The Western Europe category includes CIOs from: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Israel, Italy, Luxembourg, Monaco, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom. The North America category consists of CIOs from: Bahamas, Canada, Cayman Islands, Jamaica, Trinidad/Tobago and the United States.

Our CIO respondents represented 19 industries. The Communications sector includes: media and entertainment; telecommunications; and energy and utilities. The Distribution sector includes: agriculture; airlines; consumer products and wholesale; food, beverages and tobacco; life sciences; mail, package and freight delivery; professional services; railroads; real estate; retail; transportation and logistics; and travel and tourism. The Industrial sector includes: aerospace and defense; automotive; chemicals and petroleum; computers and office equipment; electronics; energy (production and refining); engineering and machinery; forest and paper products; industrial products; and network and other communications equipment. The Financial Services sector includes: banking; financial markets; and insurance. The Public sector includes: education; government and public service; and healthcare payers and providers.

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