Orchestrating a customer-activated supply chain

CSCO insights from the Global C-suite Study

IBM Institute for Business Value

Chief Supply Chain Officer insights from the IBM C-suite Study

This report draws upon input from the 4,183 CxOs we interviewed as part of IBM's first study of the entire C-suite. It is the 17th in the ongoing series of C-suite studies developed by the IBM Institute for Business Value. We now have data from more than 23,000 interviews stretching back to 2003.

Total CSCOs interviewed	201
Japan	40
Asia Pacific	25
Europe, Middle East and Africa	69
North America	35
South America	32

Introduction

In the first installment of our Global C-suite Study, we spoke face-to-face with 4,183 top executives covering more than 20 industries to learn how CxOs are earning the loyalty of digitally empowered customers and citizens.[1] This installment focuses on the opinions of the 201 Chief Supply Chain Officers (CSCOs) we interviewed.

Our findings show that CSCOs have been working hard to optimize their supply chains. Their main focus remains on getting products and services to market faster and better. But the challenges are growing, as customers use digital media to demand ever more.

CSCOs are still responsible for the “mechanics” of planning, procurement, production, logistics and customer service – and, in many cases, for the receivables and payables of order-to-cash and procure-to-pay processes as well. They have to manage hundreds and thousands of employees and partners in their supply chain ecosystems. They are accountable for controlling costs and increasing efficiencies and productivity, while raising customer satisfaction to an all-time high by delivering the absolute perfect order. And they must do all of this in an environment that is changing rapidly and dramatically.

Given these heavy responsibilities, CSCOs now urgently need to collaborate with an extensive network of suppliers, logistics providers, manufacturers, and other business partners. They must tap into analytical insights at almost every decision point and, ultimately, create customer-activated supply chains.

"The supply chain is the execution engine that keeps the promises the rest of the organization makes."

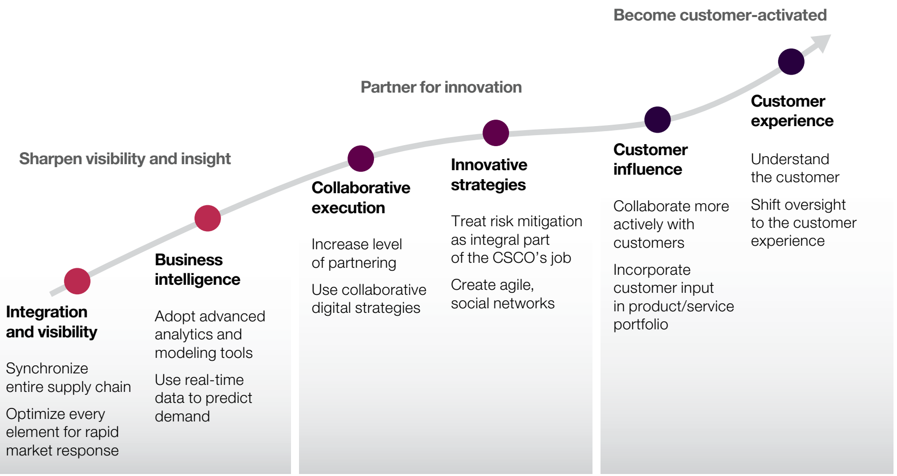
CSCO, Consumer Products, Canada

So how are CSCOs preparing for the future?

Building a customer-activated supply chain is a multi-dimensional process with three distinct phases. The first entails sharpening visibility across the supply chain; the second, partnering for innovation; and the third, becoming truly customer-activated (see Figure 1). We'll discuss each of these steps in more detail.

Figure 1

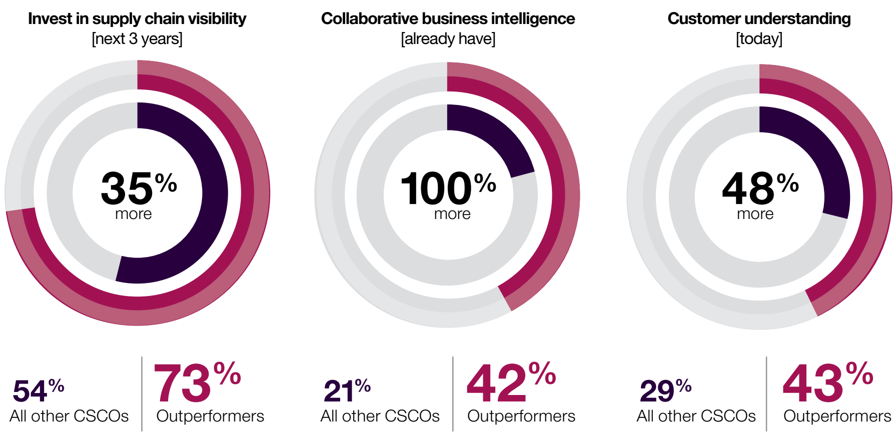
Groundwork: *The path toward a customer-activated supply chain has three phases*



But it's worth noting first that, while most CSCOs are already implementing many initiatives, those in financially outperforming enterprises lead the way.[2] They've invested more heavily in collaborative business information, enabling them to share event status and alerts about service levels and key performance indicators for real-time corrective actions. They also plan to invest more to improve global visibility and communications over the next few years. And they're making more vigorous efforts to gather intelligence from the mass of available customer data to better understand their customers – before their customers ask (see Figure 2).

In essence, CSCOs in outperforming enterprises are adopting an *analytics-led, technology-enabled* approach. There's a lot other CSCOs can learn from them.

Figure 2
Pioneers: *Outperforming enterprises invest more in activities that lead to a customer-activated supply chain*



Sharpen visibility and insight

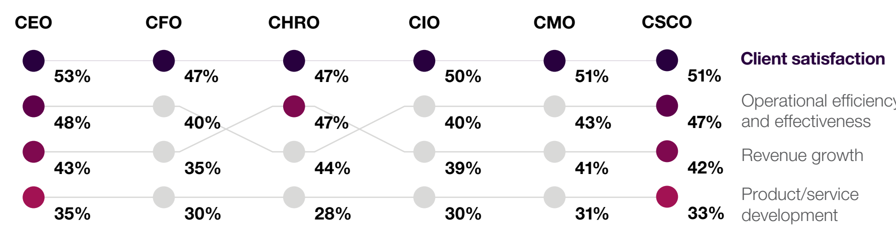
"The greatest challenge in the next three-to-five years will be embracing technology to enhance visibility across the entire supply chain to allow for real-time decision making."

CSCO, Industrial Products, Singapore

Many CxOs – CSCOs included – think their supply chains are effective and efficient (see Figure 3). CEOs award their supply chains reasonably high marks for client satisfaction and operational efficiency. They recognize that their supply chains are strategic assets, both for delivering on the customer promise and for fueling growth.

CxOs in outperforming enterprises rate their supply chains even more highly. A full 65 percent say their supply chains are very effective at satisfying clients, and 62 percent say they are very effective at generating higher revenues, compared with just 42 percent and 27 percent, respectively, of CxOs in other organizations.

Figure 3
Good marks: *CSCOs and CEOs agree on the effectiveness of their supply chains*

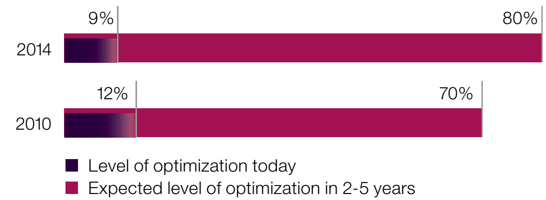


But CSCOs are well aware of how much more they have to do. Three-quarters of the supply chain executives we spoke with are working hard to integrate their entire supply chain ecosystems and sharpen visibility within the next two-to-five years. They told us they're synchronizing and optimizing every element, using modeling tools and advanced technologies to make their supply chains more intelligent, more flexible and better able to respond to rapid changes in the marketplace.

Of course, the supply chain visibility challenge isn't new. But it *is* huge. It entails integrating information flows, workflows, product flows, financial flows and decision flows from disparate data and systems and thousands of contact points to develop and deliver products and services around the world. Managing such complexity requires superb business intelligence and insights.

Most enterprises are still struggling to create a holistic view. In 2010, 70 percent of CSCOs predicted that their supply chain flows would be optimized within five years.[3] Today, only 9 percent say they have succeeded (see Figure 4).

Figure 4
Uphill battle: *Most CSCOs are still struggling to optimize their supply chain flows*



"It's essential to be able to combine structured and unstructured data from different sources and analyze it to extract intelligence."

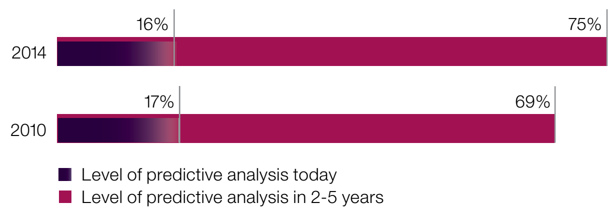
CSCO, Consumer Products, United States

In other words, CSCOs are battling with the same challenges as other C-suite executives in integrating data and using advanced analytics to predict demand. They estimate the amount of information generated by "smart" devices and objects has more than doubled since 2010, but they still lag far behind in incorporating all of this information into insights that will let them forecast what customers need and respond quickly to event alerts (see Figure 5).[4]

Even more important, CSCOs are still trying to figure out how to integrate customer-related data – marketing analytics, customer feedback, social networking data and so forth – into their supply chain processes and product flows. Like CMOs, they must deal with a growing volume of data, arriving ever faster, from an increasing number of sources. And they're finding it difficult.

Figure 5

Blind spot: *Most CSCOs haven't yet mastered the ability to predict demand by combining real-time data*



The issue is thus how to keep up in the digital world. CSCOs in outperforming enterprises are ahead of the game: 33 percent are already investing in integration and visibility, compared with a "norm" of 15 percent.

That said, most CSCOs intend to make much more use of advanced analytics and modeling to optimize cost and service levels in the next few years (see Figure 6). They also anticipate more than doubling the extent to which they rely on social networks to predict demand (see Figure 7). They're changing their business models in light of these plans, with more emphasis on collaborating to seamlessly integrate and automate mission-critical processes, using a continuous stream of real-time consumption data.

Figure 6

High-tech tools: *CSCOs expect to use advanced analytics and modeling much more extensively in the future*

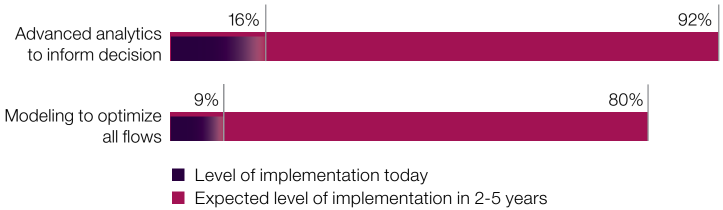
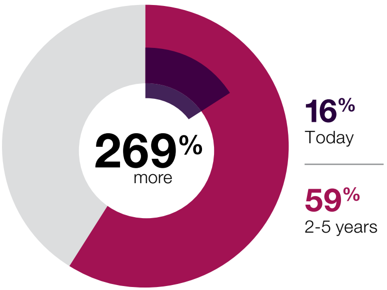


Figure 7

Social solutions: *CSCOs anticipate using social data much more extensively to predict demand*



"Our largest opportunity in the next three-to-four years will be the use of new technologies to serve our customers efficiently in real time."

CSCO, Energy and Utilities, France

Taking action: Sharpen visibility and insight

Synchronize, synchronize, synchronize. Make your supply chain tightly integrated and more visible to respond to variable market conditions. Create a single view of supply and demand, centralize planning, share documents electronically and streamline your processes.

Optimize your flows. Combine advanced analytics with modeling tools to optimize your product, information, decision, work and financial flows. Evaluate the trade-offs between costs and service levels. Utilize resources, including capital, personnel, equipment, vehicles and facilities, more efficiently. Assign the best resources to each task – at the best possible time.

Create a forward vision. Use real-time market and customer-related data to predict and manage shifts in demand. Monitor the social sphere to identify what's hot and what's not. When interest in a particular product or service suddenly surges, demand often surges as well.

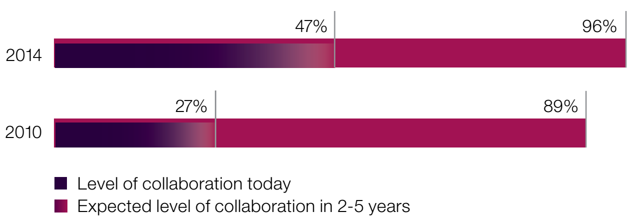
Partner for innovation

The second step in creating a customer-activated supply chain is determining the best way to partner for innovation. CSCOs have substantially increased the degree to which they plan and execute in collaboration with their partners since 2010.[5] They intend to collaborate even more extensively over the next two-to-five years (see Figure 8).

Collaborative networks of worldwide partners who share in decision-making, risks and rewards start and finish with the end-consumer. Many CSCOs, therefore, want to expand their networks to include customers and other external influencers. They're also exploring how to convert traditional competitors into partners.

Figure 8

Joint endeavor: *CSCOs plan to engage in more collaborative planning and execution in the future*



"Our greatest challenges over the next three-to-five years will be creating visibility and *partnerships."*

CSCO, Aerospace and Defense, United States

> *"As we fuse the physical network with the digital network, we must rely upon collaborative teamwork with partners for rapid consumer responses."*

CSCO, Retail, United States

A growing number of CSCOs likewise plan to use collaborative information more extensively, both to manage performance and to make other important decisions (see Figure 9). They realize that relying on external partners to add value – as distinct from outsourcing purely for efficiency improvements and cost reductions – means becoming more transparent. In fact, 56 percent expect the level of organizational openness to increase in the next few years, as more and more enterprises collaborate.

But only 29 percent of CSCOs have an integrated digital-physical strategy to share predictive insights with their supply chain partners (see Figure 10). That's a serious limitation.

Figure 9

***Shared wisdom:** CSCOs expect to use collaborative intelligence more heavily in the next few years*

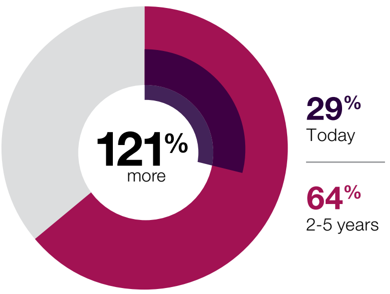
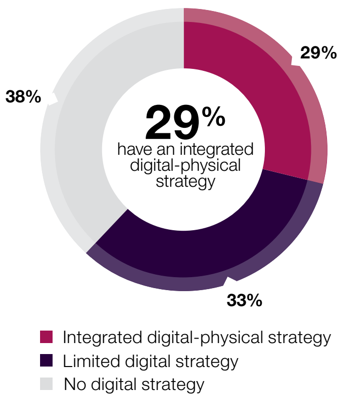


Figure 10

***Roadblock:** Most CSCOs say they don't have an integrated digital-physical strategy*

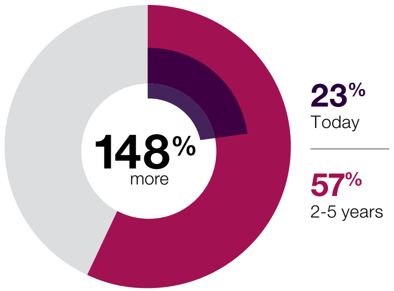


An integrated digital-physical strategy enables a company to combine its physical product/service flows with its digital operating model. Suppose, for instance, that a retailer receives a customer order online. It can immediately determine the most effective and cost-efficient way to deliver the order, using data feeds from its suppliers and service providers to identify the best channel, be it a supplier, distribution center or store.

However, greater collaboration and greater integration of the various components of the supply chain brings the added responsibility of identifying, managing and mitigating the risks inherent in logistics and operations. Managing risk is now an integral part of the CSCO's job, as most recognize (see Figure 11).

Figure 11
Safe hands: *CSCOs recognize the importance of risk-mitigation practices*

Figure 12
Fast forward: *CSCOs want to build agile, on-demand networks of partners to sense, predict and act*



Many firms use analytics to assess the risks and decide how best to manage them. For example, one automotive company uses a modeling program that evaluates financial, economic, political, climatic and environmental risks and constantly monitors potential disruptions. External data feeds provide the input to mathematical algorithms for characterizing the effects of event uncertainties to give management a clear picture of any problems that could impede a critical production schedule.

But the best risk-management practices also include a predictive risk-management strategy. Take the case of an electronics manufacturer that uses predictive analytics for critical parts management. It applies decision rules to data received from thousands of suppliers to predict the probability of a shortage and coordinate a proactive response across its network. Analyzing data patterns helps companies predict potential future outcomes and act preemptively to mitigate the risk or capitalize on an opportunity.

More than half of all CSCOs aspire to reach this stage. They want to create an agile, on-demand network of partners with whom they can share timely information to optimize outcomes – virtually (see Figure 12). Armed with data from real-time sensors capable of tracking every product, wherever it is, they can predict and forestall disruptions before they occur.

Taking action: Partner for innovation

Connect the dots. Collaborate more extensively with your value chain partners, including suppliers, service providers, contract manufacturers, carriers and customers. Focus, collectively, on optimizing your operational and financial performance.

Get a handle on risk. Treat risk management as an integral part of your job. Incorporate risk-management policies and programs with increased process controls and compliance strategies. Use modeling to predict shortfalls in critical supplies, manage disruptions and reduce or eliminate out-of-stocks.

Pool brains. Share information and insights with your supply chain partners to encourage innovation. Incentivize everyone in the ecosystem to share skills, experiences and networks. Reward anyone who comes up with a good new idea.

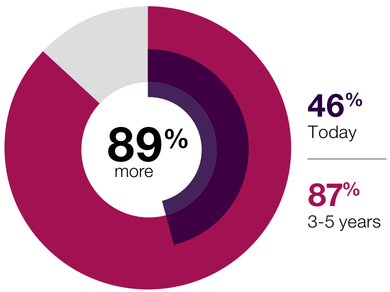
"The main challenge in collaborating across the supply chain is the integration process: there are so many processes that require coordination of multiple actors, and therefore greater constant collaboration."

CSCO, Retail, Italy

Become customer-activated

Figure 13

Closer bond: *CSCOs expect to collaborate much more extensively with customers in the future*



The third and potentially most complex step in creating a customer-activated supply chain involves incorporating the customer's perspective. It requires a concerted effort to integrate the customer's influence across the enterprise and then drive that information into the entire business ecosystem, including all the interconnecting and interacting parts.

The starting point is collaboration. Most CSCOs plan to collaborate much more extensively with their customers in the next three-to-five years, recognizing the influence the customer has on their product and service portfolios and even their pricing strategies (see Figures 13 and 14). They know they can only improve the customer experience if they have a clearer understanding of their customers – and only 35 percent say they currently understand their customers, although 70 percent aspire to do so within the next three-to-five years.

Figure 14

Tailored offerings: *CSCOs anticipate making numerous changes to their portfolios to reflect what customers desire*

More than half of all CSCOs also want to become better at dynamically sourcing and distributing talent and other supply chain assets. Dynamic resource allocation enables an enterprise to handle variations in demand more effectively and immediately. For example, it can re-route shipments already in transit as a result of demand signals from point-of-sale data in stores.

But the links between the supply chain and marketing functions are still not pervasive (see Figure 15). The two functions often operate as self-optimizing, independent entities – and their goals are quite different. The supply chain focuses on controlling production and distribution costs, whereas the marketing function focuses on generating revenues by identifying and responding to customers' needs.

As customers become more demanding and information about them becomes increasingly digitized, so CSCOs and CMOs will have to work more closely together. The days when customers were prepared to wait all day for a package are long gone. They expect services and delivery times that are tailored to their particular preferences, and providing an individualized response entails infusing the supply chain with marketing intelligence.

Robust sales and operations planning (S&OP) processes can partially bridge the gap between the supply chain and marketing function, but such processes generally begin with sales forecasts and historical trend analysis. In the future, by contrast, most CSCOs aim to use actual demand signals (see Figure 16). This, too, has major advantages. It gives a supply chain the flexibility to satisfy customer demand based on the needs of individual customers and their value to the company.

Figure 15

Missing links: *Large parts of the supply chain are not integrated with marketing*

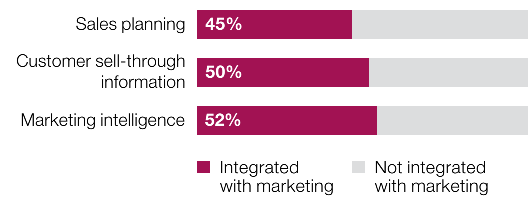


Figure 16

Instant picture: *CSCOs aim to use real-time demand signals to manage their supply chains in the next few years*

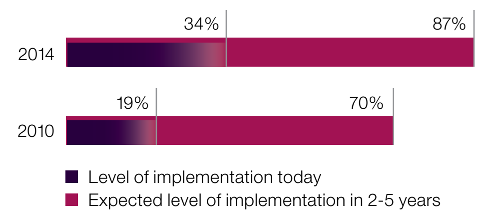
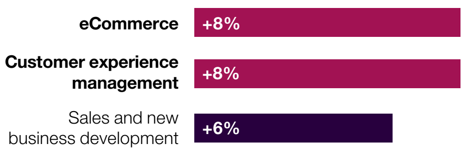
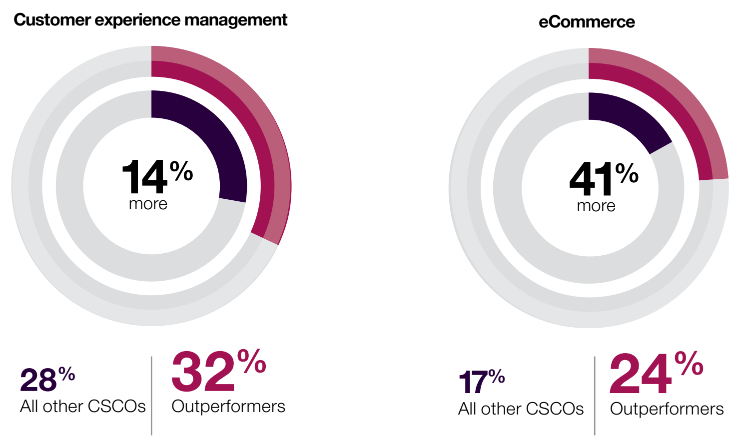


Figure 17
New focus: *CSCOs are shifting their priorities to accommodate changing customer expectations*



CSCOs also hope to become more personally involved in improving their companies' eCommerce operations, managing the customer experience and pursuing new business opportunities (see Figure 17). In fact, a growing number of supply chain transactions involve some form of eCommerce. Even in industries that aren't consumer-oriented, many companies now use eCommerce to process purchase transactions with suppliers and other service providers. But CSCOs in outperforming enterprises are once again in the vanguard; they already spend more time on eCommerce and customer experience management than their peers in other organizations (see Figure 18).

Figure 18
Head start: *CSCOs in outperforming enterprises spend more time on customer experience management and eCommerce*



Taking action: Become customer-activated

Invite customers to the table. Include customers in any conversations about your product/service portfolio. Ask them what new products and services they would like to see next, how they would like existing products and services modified and what pricing strategies they would prefer. Use social networks to start a dialog and get direct input.

Invest in customer understanding. Capitalize on the abundance of data that's now available to find out what customers expect. Look at the digital and physical paths they take, where they go – click by click or step by step, their behavioral patterns, transaction histories and the feedback they provide to predict new trends and manage your supply chain proactively.

Enhance the customer experience. Collaborate with customers both to improve and to personalize the customer experience and thus stimulate growth. Use real-time demand signals and dynamic resource allocation to serve individual customers accurately and effectively. And liaise with the marketing and sales functions to ensure your efforts are coordinated.

"The pace of technology adoption by the new banking generation is staggering. Most members of the new generation have probably never set foot in a branch office and only know about the world through their mobile phones or tablets."

CSCO, Banking, United Kingdom

"Our goal is to provide complete transparency, while individualizing the customer experience."

CSCO, Transportation, United States

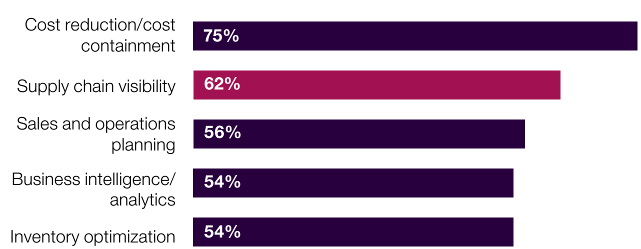
The customer-activated supply chain is coming

To sum up, CSCOs are working with their C-suite colleagues to improve the customer experience. They plan to invest in analytics, business intelligence and other tools to make their supply chains more visible (see Figure 19). They're also extending their sales and operations planning to include market insights and campaigns, and many are inviting the customer to participate in product/service portfolio discussions.

Last, but equally important, CSCOs are optimizing their global supply chains. They're using modeling, simulation, what-if analysis and scenario planning to simplify their supply chain processes and improve outcomes. And they're digesting massive amounts of data, in real-time, with advanced mathematics, to determine the best course of action as conditions change.

But there's a lot to do. Any enterprise that needs a push would do well to emulate the outperformers in our study. These enterprises are actively engaged in building customer-activated supply chains – and they're already reaping the reward for their efforts in the form of higher revenues and greater profitability.

Figure 19
Main thrust: *CSCOs plan to invest heavily in supply chain transformation in the next three-to-five years*



How we conducted our research

This report is the seventh installment in our ongoing Global C-suite Study, the seventeenth such IBM study to focus on the C-suite and the first to cover six major roles simultaneously. Our aim was to get a better understanding of the opportunities and challenges the members of the C-suite face, and how they are working together to support their organizations.

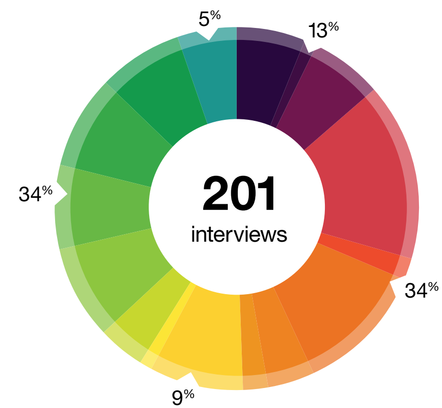
Between February and June 2013, we met with 4,183 top executives representing a wide range of public and private sector enterprises in more than 20 industries and 70 countries. They included 884 Chief Executive Officers (CEOs), 576 Chief Financial Officers (CFOs), 342 Chief Human Resources Officers (CHROs), 1,656 Chief Information Officers (CIOs), 524 Chief Marketing Officers (CMOs) and 201 Chief Supply Chain Officers (CSCOs). This installment covers the views of the CSCOs who participated in our study (see Figure 20).

We normalized the data to eliminate geographic distortions, using actual regional gross domestic product (GDP) for 2012. We also normalized for overrepresentation of individual roles, using a quota process to randomly select from oversampled CxOs.

Our research includes an analysis of the differences between the responses of CSCOs in financially outperforming enterprises and those in underperforming enterprises, based on how CSCOs assess their own organizations. We asked CSCOs to rate their organization's three-year revenue growth and profitability relative to that of their industry peers. Enterprises that excelled against both measures were classified as outperformers; those with low rankings were classified as underperformers; and the rest were classified as peer performers.

Figure 20

Sector spread: *We spoke with CSCOs from more than 16 industries*



Communications sector
- Energy and Utilities
- Media and Entertainment
- Telecommunications

Distribution sector
- Consumer Products
- Life Sciences
- Retail
- Transportation
- Travel

Financial Services sector
- Banking and Financial Markets
- Insurance

Industrial sector
- Aerospace and Defense
- Automotive
- Chemicals and Petroleum
- Electronics
- Industrial Products

Public sector
- NGOs and Government

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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 public and private sector issues.

Notes and sources

1 "The Customer-activated Enterprise: Insights from the Global C-suite Study." IBM Institute for Business Value. October 2013.

2 Outperforming enterprises surpass their industry peers in terms of revenue growth and profitability, while underperforming enterprises do worse on both counts, in the opinion of the CXO concerned. Some 44 percent of the organizations in our total sample are outperformers, and 33 percent are underperformers. For further details, see our research methodology.

3 Butner, Karen. "New rules for a new decade: A vision for smarter supply chain management." IBM Institute for Business Value. October 2010.

4 Ibid.

5 Ibid.

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