

IBM Institute for Business Value

Digital operations transform the physical

How real-time insights can revolutionize value chains



Overview

Digital operations requires real-time optimization across the end-to-end value chain so organizations can instantly respond to their “always on” customers and business partners. However, for the last few years, most supply chain executives have been “kicking the can down the road” and failing to achieve this vision. Turning supply chain data into information in real time is a critical component in making business decisions and managing core objectives. So, how are today’s leaders of the pack integrating end-to-end processes and creating fluid value chains?

In 2010, Chief Supply Chain Officers (CSCOs) predicted that their supply chain flows would be optimized within five years.¹ But as we approach that five-year mark, only a handful of CSCOs can claim success.

In fact, the CSCO role is increasingly changing in scope. Today, senior operations executives, no matter what their titles (CSCO, COO, Senior Vice President of Operations and the like) can be responsible for managing three major types of operations: manufacturing and overall supply chain; service delivery, including field service and customer service; and related functions that may include sales and information technology.

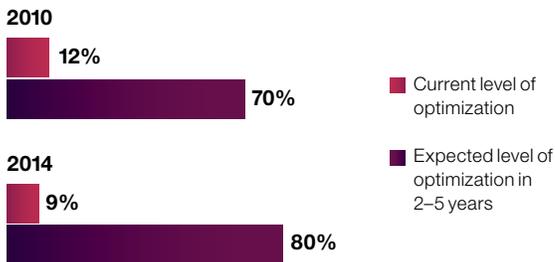
With today’s new technologies, the senior operations executive must also determine the digital operations strategy that encompasses instrumented value chains – integrated with the IoT, cloud applications, advanced analytics and real-time insights – all of which require a different set of skills than in the past.

Senior operations executives in some leading companies are implementing a digital operations strategy that includes real-time information and reaction. They are using perpetual planning, optimal orders and dynamic distribution. By applying analytics and real-time optimization to predict outcomes, these leaders are able to prescribe actions and propel operational performance as digital transforms the physical world.

Digitization is moving fast – really fast. In our 2014 Chief Supply Chain Officer executive report, we learned through direct interviews that operations executives are working hard to integrate their entire value chain ecosystems and sharpen visibility.² Only 22 percent stated that they have effective integration and visibility across the supply chain today, but 74 percent expect to have integrated the end-to-end process for real-time visibility in the next two to five years.



Figure 1
Most executives plan to optimize value chain flows, yet a mere 9 percent have done so



Source: 2010 and 2014 IBM Chief Supply Chain Officer Studies. Question: To what extent have you optimized all flows (product, information, work, financial) from a global value chain effectiveness perspective (already have" versus "next 2-5 years")?

A value chain is the connected set of activities in a specific industry that are performed to deliver a valuable product or service to market. As executives seek to improve data integration and visibility across their own value chain, they must synchronize product, information, financial, and work or process flows. Improving synchronization can optimize these flows. Typically, such optimization includes applying analytics, modeling and other advanced technologies to gain real-time insights and take real-time actions.

In our 2010 conversations, executives predicted that their value chain flows would be optimized within five years. So far, few report success – only 9 percent, a disappointing decrease from 12 percent in 2010 (see Figure 1). Yet today, operations executives' expectations are even higher than before: now, 80 percent plan to optimize in the next two to five years).

Senior operations executives are battling with the same challenges as the rest of the C-suite 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 synthesizing all of this information into insights that will let them both forecast what customers need and respond quickly to event alerts.

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

Our full report demonstrates how leading organizations are integrating and optimizing end-to-end processes and making their value chain flows fluid. Their examples show how to operate in the new digital era using:

- Perpetual planning
- Optimal orders, and
- Dynamic distribution.

What can those leading in digital operations teach us? No longer can critical operational information be provided to customers and business partners next week, tomorrow or even in an hour or two. Digital operations efforts are intense, but the rewards can be rich. They can include better customer service, fewer supply chain disruptions, greater operational efficiency, lower inventory levels, and improvements in working capital, cash flow and market share.

Authors

Julie Scanio
jmscanio@us.ibm.com

Karen Butner
kbutner@us.ibm.com

Dave Lubowe
dave.lubowe@us.ibm.com

To read the full version of this paper, visit ibm.com/services/us/gbs/thoughtleadership/digitaloperations

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Join the revolution: Transforming operations

The window for competitive differentiation in all industries continues to shrink. In the current marketplace, executive leaders must race to convert data-driven insights into meaningful results.

True real-time operations will provide information to make decisions about the most vital functions of the company, from manufacturing and logistics to customer service and product life cycle management. With real-time information, business leaders can better manage their core objectives – whether they are focused on the bottom line, business growth or both – and make better predictions.

Leaders will use real-time stimuli and insights to respond instantaneously to operational changes as they occur, but also to anticipate them. Examples include re-routing a shipment based upon new demand knowledge, re-directing a supply order based upon an anticipated weather event, or sensing a critical part failure and changing a bill of materials or assembly point.

Those leaders who invest in digital operations ahead of the pack will be positioned to help define the new era, in which real-time information enhances the ability to address even the smallest nuances, meet the most critical business challenges and increase the return on their investments. There is a lot to consider as you develop and implement your operational digital-physical strategy. But you’re not alone.

How can IBM help?

Digital operations goes beyond supply chain optimization. It unleashes entirely new Internet of Things (IoT)-enabled business models fueled by mobility, cloud and analytical insight through a global network of instrumented, interconnected and intelligent people and things. Connect with us to navigate the dynamic, rapidly changing IoT landscape.



Notes and sources

- 1 “New rules for a new decade.” IBM Institute for Business Value. October 2010. <http://www.ibm.com/services/us/gbs/thoughtleadership/ibv-new-rules-new-decade.html>
- 2 “Orchestrating a customer activated supply chain: CSCO insights from the Global C-Suite Study.” IBM Institute for Business Value. May 2014. <http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=PM&subtype=XB&htmlfid=GBE03602USEN#loaded>

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Route 100
Somers, NY 10589
U.S.A.

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