Bimodal capabilities, customer intimacy and advanced analytics can all be enabled by digital technologies, allowing supply chains to be both cost-effective and innovation-driven. This research explores the implications of these leading trends for chief supply chain officers.

Key Findings

- Operating a bimodal supply chain is critical to succeeding in a digital business environment. In Gartner’s 2015 Supply Chain Top 25 analysis, bimodal practices were among the top three emerging trends listed by supply chain leaders. Yet, the biggest challenge is broad implementation of Mode 2 innovations.

- Many chief supply chain officers and supply chain transformation leaders require a deeper understanding of end customers in order to evolve into a partner for growth within a digital business.

- Data analytics are a key capability for supply chains to leverage digital technologies, such as the Internet of Things and advanced automation.

Recommendations

- Align supply chain capabilities and resources to support both traditional cost-efficiency (Mode 1) and innovative growth opportunities (Mode 2) where they are needed most by the business.

- Include measurements of customer experience and sentiment as first-tier and program-level metrics in your supply chain.

- Establish an executive-sponsored think tank focused on preparing the supply chain organization for major new operational and technology trends, and foster a culture of innovation that allows for successful adoption of Mode 2 innovations across the supply chain organization.
Analysis

Despite the massive global economic downturn and uneven recovery of the past decade, the long-term view reveals that we are on the cusp of two macro trends representing the greatest economic opportunity since the Industrial Revolution. One is the move toward digital business, coupled with the exposure it brings to new markets and services. The other relates to population growth and associated urbanization that will lead to accelerated business opportunities over the next 30 or so years. At many companies, however, CEOs are challenged to profitably capitalize on trends like population growth.

The global population is expected to climb from 7 billion to more than 9 billion by 2050, \(^1\) with most of that increase coming from China, India, Africa and South America. The expected explosion in population represents more than six times the population of the United States. And while an additional 2 billion people represent growth of 30%, the consuming middle class will grow from 1.9 billion to 4.9 billion, creating a new consuming class 10 times the size of the U.S.

Supply chains will need to lead the way with sustainable, market-enabling strategies to capitalize on these new opportunities. Population growth isn’t the only factor driving supply chain transformation. At the same time, companies must deal with a new breed of consumer that demands to know how its food was grown and where the material for its jeans was sourced. Moreover, capacity constraints and increased product complexity are stretching supply chains, and the resulting resources shortages are pushing organizations to look for more creative ways of delivering products to customers.

Leading supply chains recognize the need to partner with the business for growth, while also driving efficiencies through continuous process improvement, supplier negotiations and smarter designs. One way these leaders act as growth partners is through a deeper understanding of end customers, enabled by digital connections and the analysis of customer sentiment and product usage data. An example in the consumer world is an athletic clothing company building sensors into workout gear to better understand customer usage patterns, gleaning product requirement insights, all while providing valuable health monitoring services for customers.
A Bimodal Approach Is Key to Deploying an Innovative Supply Chain

Every year, Gartner polls CEOs and executive committee members across industries to understand priorities and expectations for their organizations. The results of the 2015 survey clearly indicate the bimodal outcomes that senior leadership expects from supply chains. Last year, half of CEOs indicated that supporting growth was a top three supply chain priority. At the same time, operations improvements, cost management and profit improvement ranked in the top three at 18%, 13% and 9%, respectively.

**Figure 1. CEOs Want Both Growth and Efficiency**

For the supply chain organization, this means simultaneously operating in two modes. In mature businesses and markets, there needs to be predictability, accuracy and reliability in how operations run, with continuous improvements, attention to customer service and a reduction in overall cost structure. Innovation should be introduced in a controlled fashion. Meanwhile, breakthrough innovations are also required to enter new markets and launch cutting-edge solutions. The focus in this mode is experimentation and agility to drive revolutionary changes in how supply chain runs and adapts to new risks and opportunities.
In most enterprises, scattered Mode 2 capabilities already exist. To become bimodal, most CSCOs and other innovation leader roles need not start from scratch. Often, they can harness significant pockets of capability already in the enterprise. Indeed, many CSCOs have coalesced isolated Mode 2 capabilities, such as agile development approaches and innovation management teams. Most CSCOs can point to a time when they "went fast" to deliver a particularly time-sensitive project. And many already have teams assembled to research and pilot emerging technologies.

Mode 2, however, is not only about going faster or experimenting. Simply creating isolated capabilities or decreasing project cycle times are not enough to deliver on the potential of bimodal operations. When approached comprehensively, Mode 2 should deliver sustained value through a substantive and integrated capability, not merely through one-offs. Building a sustaining Mode 2 capability is about fostering a culture and governance that encourages open thinking and leverages creative talent in a way that balances innovation with the needs of the business.

Supply Chain Supports Growth Through Customer Intimacy

A focus on bimodal provides a natural transition to the improved customer service and customer intimacy that many CEOs are demanding. In fact, of all CEOs investing in performance analytics, more than a quarter indicate a desire for better customer service as the primary driver for their investment. This is not at all surprising, given the CEO’s high priority on growth.

Many of the more mature consumer product companies have moved from local to regionalized customer service organizations to standardize and raise the overall quality of their interactions with customers. They have also built multilocal supply networks that enable agile responses to demand...
by staging capacity local to each region, which is key in a digital environment to sense and shape demand.

More companies are extending visibility and insight beyond first-line customers and moving on to the end users of their products. Their supply chains are collecting data concerning not just the details of the sale, but also the patterns of usage and resulting sentiment of the end user. Consider that several leading PC and mobile device manufacturers are starting to think about product quality from both the perspective of performance-to-specification and performance-to-expectations. For instance, if a consumer is used to looking at high resolution screens on their smartphone and media tablet, they might think that the screen on their computer at home is functioning poorly if the clarity and brightness of the images are lower by comparison, despite performing to specifications. Mining of online sentiment data allows for these types of connections to be drawn and fed back to design teams for future product releases.

Remote equipment monitoring is another popular mechanism for gathering end-user insights and for assisting with preventative maintenance. We see applications of this capability increasing at leading industrial machinery companies and high-tech manufacturers, as well as in the consumer world of health monitoring products, home office equipment and others. Most automated teller machine (ATM) networks today have remote hardware and software monitoring across tens of thousands of customer locations. When the performance of any particular machine or site trends toward failure, the solution OEMs can alert the customer and proactively schedule down-the-wire software patches and/or on-site hardware maintenance during less impactful times for end consumers.

Ultimately, pleasing customers with strong operational supply chain performance, when combined with improved solution performance, will lead to measurable improvements in customer satisfaction and contributions to the top line. This is yet another way that leading supply chain organizations are becoming partners in growth with the business.

It's in the Data: Advanced Supply Chain Analytics Increases ROI

By 2020, Gartner expects an installed base of 25 billion endpoints to be connected through the Internet of Things (IoT), driving powerful business opportunities behind the reams of data shared by these devices. The looming ubiquity of the IoT provides a strong impetus for companies to adopt advanced supply chain analytics solutions that support business growth. We are becoming an algorithm economy, and this will enable the next wave of innovation. Every company must define their path to becoming an algorithmic business, starting with a foundation of the right analytics and skills.

Recent Gartner research revealed that 29% of companies have achieved a high ROI from putting data analytics programs in place, while only 4% said they have not achieved an ROI from their analytics investment. The data also shows that the ROI from data analytics investments consistently increases in correlation with maturity level. For example, of the high-maturity companies that deployed data analytics, 50% noted improved product quality as a benefit, as compared to only 24% of low-maturity organizations. The maturity of interviewed organizations was based on various dimensions, including breadth of data and talent leveraged, the extent to which analysis was
forward- versus backward-looking and the degree of real-time integration of analytics insights into business decision making.

**Figure 3. Because More Mature Analytics Deliver Higher ROI**

Many companies recognize data analytics as a key enabler of enhanced customer service practices. For example, 26% indicated that the desire for better customer service was the top driver for investments in analytics. Improving supply chain efficiency and ensuring supply reliability were weighted nearly evenly at 17% and 16%, respectively.

Clearly, the push for more advanced data analytics is not going away. Gartner anticipates that the drive to automate decision making in supply chain functions will accelerate, which will make deploying analytics and deciphering data even more important. Eventually, industries will adopt "smart automation," reducing the level of human intervention required, while making better
decisions. This can only be done by deploying advanced analytics that can predict future scenarios, or analyze data flows and make complex, profitable decisions, often in real time.

The potential is not just seen in the commercial sector, but also as a national differentiator. For example, in early 2016, the White House announced its intent to work with automakers on a policy that will accelerate the arrival of autonomous vehicles (AVs) on U.S. highways. The U.S. government intends to pledge $4 billion over 10 years to help make autonomous vehicles a reality. Although AVs are likely a decade away, they already exist in some industries, such as agriculture and mining, where they do not operate on public roads. Extending the use of autonomous vehicles to the public motorways would not only alleviate the driver shortage in some markets like the U.S., but likely lead to greater efficiencies and safety. To enable AVs, advanced analytics are a must to collect data about the environment, analyze the data to understand objectives and constraints, and determine and execute the best course of action.

Every company should have a long-term vision for how they transform to a digital business. CSCOs should explore leveraging future-state logistics, decision-making automation and connectivity capabilities within supply chain networks to prepare for deliveries that can be made via drones or AVs, rather than human drivers.

Every company is a technology company — technology is the fuel of the future. The following questions should be top of mind for the CSCO:

- How do we transform to become an algorithmic business?
- How do we develop Mode 2 capabilities and disrupt before I am disrupted?
- How do we have a workforce that is digitally literate?

**Gartner Recommended Reading**

*SOME DOCUMENTS MAY NOT BE AVAILABLE AS PART OF YOUR CURRENT GARTNER SUBSCRIPTION.*

"2015 CEO Survey: Bimodal Balance Is Required for the Future of Supply Chain"

"Disrupt or Be Disrupted — Defining the Bimodal Supply Chain"

"Digital Business Trends Drive New Realities in Consumer Products Manufacturing"

"How to Make Customer Service a Priority in Consumer Products Companies"

"Drivers for and Challenges in the Adoption of Supply Chain Analytics"

"The Gartner Supply Chain Top 25 for 2015"
Evidence

1 "World Population Projected to Reach 9.6 Billion by 2050." United Nations Department of Economic and Social Affairs. 13 June 2013.

2 "Forecast: Internet of Things — Endpoints and Associated Services, Worldwide, 2015"

More on This Topic
This is part of an in-depth collection of research. See the collection:

- The Supply Chain Path to Becoming a Digital Disrupter