Driving Digital Business Transformation for Industry Leadership: A Supply Chain Perspective

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For some, digital business is a survival imperative now; for others, it is the era in which future business success will be realized or lost. Supply chain leaders must support their enterprise’s strategy by enabling it to build a business model that capitalizes on digital business opportunities.

Key Findings

- Enterprises overemphasize the digital element of digital business. Although driven by disruptive technologies such as machine learning (ML), robotics and the Internet of Things (IoT), digital business is a broader concept that encompasses people, processes, data and business models.

- Supply chain leaders historically viewed digital technology as an issue mainly for the IT organization. They now have responsibility for half or more of IT spend, but are unsure of how their function should support digital business strategies.

- Digital initiative pilots are proving difficult to scale. According to the 2018 Gartner CIO Survey, 55% of organizations are either designing or delivering on digital initiatives. However, only 17% have moved their digital business initiatives to scale or are harvesting results.

- Tensions between executives who advocate for business continuity and those who champion bolder business change prevent organizations from establishing cross-functional digital business plans.

Recommendations

To contribute to digital business transformation, supply chain leaders should:

- Situate the supply chain in the organization’s digital mission by ensuring its digital goals, urgency, mindset, and language are consistent with those of peers and with the organization’s strategy to deliver customer value.
Enable their company’s digital business ambitions by becoming a more informed consumer of digital technology and by adopting practices suited to the digital business environment.

Act as an advisor to the enterprise, leveraging the supply chain organization’s unique expertise to deliver customer value, develop the organization’s digital plans and prevent blind spots.

Support enterprise-level end-to-end digital business capabilities and rapid time to value by eliminating supply chain functional silos and supporting collaboration with enterprise partners.

Analysis

Review the Fundamentals of Digital Business

Gartner describes a digital business as an organization that uses digital technology, information and management practices adapted to the digital environment to create and deliver new value. The emergence of new capabilities, customer needs, behaviors and ways of operating generated by digital technology enable established enterprises and new market entrants to reimagine value propositions and industries. Figure 1 captures this business transformation and the five-stage process that organizations should follow as they undertake their journey. Although it is facilitated by new technologies such as machine learning, robotics and the IoT, it is not simply a technological revolution. Rather, it is about leveraging technology, talent and processes across all functions, leaders and roles to deliver new forms of value in a world that will comprise 100 billion connected “things,” along with 8 billion people, by 2030. (See “Building and Expanding a Digital Business Primer for 2019” and Figure 1.)
Because of the prominent role played by information technology in innovation and disruption, much has been written about the CIO’s role in digital business. Although the CIO and IT function are clearly pivotal actors, the leadership of digital business transformation extends well beyond the IT function. This research introduces a preliminary set of findings and recommendations that will be further developed in the coming months, detailing how supply chain leaders and their organizations are affected by, and can effectively contribute to, digital business.

Organizations originally built for digital business already understand its transformative power and capacity to disrupt markets. Some obvious examples stand out. Facebook, the world’s largest publishing company, owns no content, and Uber, the world’s largest transportation company, owns no vehicles. However, many of these examples also come with caveats. While certainly disruptive, Uber is reported to have lost $4.5 billion in 2017 and faces ongoing issues with recruiting drivers, addressing regulatory scrutiny and building stable management.\textsuperscript{1} Tesla, a pioneer in electric and autonomous vehicles, is wrestling with the challenge of producing the Model 3 profitability.\textsuperscript{2}
At the same time, some incumbent firms with well-established brands and business models are using digital technologies to create new business models and enter new markets. Many of these established brands recognize that, although the original disruptor may not continue to dominate (or even survive), the disruption it has caused is unlikely to be reversed. Faced with changing customer preferences and behaviors brought about by the presence of digital businesses in and outside their direct market, these organizations are leveraging new digital technologies and finding new ways to engage customers through digital means. Brands such as Burberry, Shell and Ford (among others) are on a multiyear journey of experimentation, learning and adjustment to discover the right blend of digital capabilities, physical locations, human interaction and product design to grow profitably (see Table 1). There are compelling reasons for this. Gartner expects that established organizations that do not effectively respond to the threats and opportunities of the digital business era will be surpassed by existing competitors. They will also be surpassed by new market entrants that have based their business on the value creation possibilities of digital technologies.

Table 1. Industry Examples of Digital Business Transformation Initiatives

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
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<tbody>
<tr>
<td>Burberry</td>
<td>Burberry has merged the physical and digital worlds to create a fully immersive customer store experience. For example, at its flagship London store, it has added several hundred video screens (including one measuring 22 feet), as well as computers, speakers and wireless-enabled tags for enhanced stock management, data gathering and consumer communications. With this investment, customers can say, “Burberry knows me.”</td>
</tr>
<tr>
<td>Ford Smart Mobility and City of Tomorrow</td>
<td>Ford’s mobility strategy is to deliver a broad suite of products and services that enhance all layers of the transportation system, including vehicles, infrastructure, connectivity and digital services. This will allow it to alleviate the transportation drag on cities and help people move more freely in the City of Tomorrow.</td>
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<tr>
<td>Shell Smart Fields</td>
<td>Producing more energy at greater depths, with lower risk and greater safety, is a cornerstone of Shell’s Smart Fields initiative. To achieve this, it builds thousands of sensors into its field equipment, including in valves and pumps. These send data about temperature, pressure and other field conditions to control centers on land. Additionally, algorithm-controlled drilling rigs perform faster, better and more safely.</td>
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Source: Gartner (February 2019)

In this context, supply chain leaders have a duty to their organization’s shareholders and stakeholders to educate themselves about, and effectively facilitate their organization’s response to, the challenges and opportunities created by digital business. This does not mean that every business or industry faces an immediate challenge. Nor does it mean that every company needs to become a digital business to succeed in a market populated by them. However, it is important for every organization to understand that the presence of digital businesses reshapes what customers value, as well as their expectations and behaviors. It also influences what competitors can offer, the direction from which competitive threats can come and the distribution of profits within the market. The consequence of inaction may not be immediately fatal. However, evidence is growing that the one or two organizations that transform a sector through digital business will capture a dominant share of revenue and profit, leaving laggards to fight over what is left.
Determine What Digital Business Means for Your Organization and Supply Chain

Although it was first asked by renowned management consultant and author Peter Drucker in 1973, the question “What is our business, and what should it be?” is arguably more pertinent than ever in a digital business era. Not every enterprise will have the same answer. But, in a digital business world, where assumptions and capabilities are constantly shifting, it is crucial to ask the question. For example, does a manufacturer need to become a technology company that makes a product or a product maker that leverages the most appropriate technologies to maximize its business potential?

What digital business transformation looks like in practice can differ by industry. Not every business needs to model itself after an Amazon, Uber or Airbnb to have a compelling digital business vision. For example, asset-intensive industries such as mining or manufacturing may find opportunities to augment their traditional products with new-to-world data and analytics services. Or they may find opportunities to make discontinuous leaps in productive efficiency as a result of robotics and connected devices.

The supply chain organization is impacted by digital in both of these scenarios. New digital customer connections will change demand signals, requiring an appropriate supply response. Applying advanced digital capabilities to the supply chain may go beyond efficiencies to disrupting operating models for competitive advantage.

At a strategic level, companies need to decide whether they should concentrate on optimizing existing processes and technologies to leverage existing competitive advantages, or whether they need to transform themselves to become digital businesses. (See “CSCOs Must Align Supply Chains to Digital Business Ambition: Transform or Optimize?”) In certain cases, there will be companies that have the skills, resources and management capacity to undertake both simultaneously. Although these decisions will be made at the board level, the issue for supply chain leaders becomes to what extent they can help the business as a whole navigate those choices. Further, supply chain leaders need to realize that, if they are not an active part of the digital conversation, they could actually be blocking progress by clinging to products, processes and people that are not prepared for digital business. Gartner’s research will provide guidance on how supply chain leaders can prepare themselves and their organizations for the digital business era. It will examine how they can use their supply chain expertise to inform the important choices being made at the enterprise level.

Supply Chain Plays a Role in Digital Business Transformation

Digital business transformation will not happen automatically. Most organizations will not move organically toward a new direction, even one as potentially beneficial as digital business. Supply chain leaders face many constraints and demands on their time and resources that have nothing directly to do with digital business. They have to comply with regulations, hire staff, sell existing products, manage budgets and so on.
It is equally critical that these leaders figure out the most effective way to insert the supply chain organization’s expertise into the digital business strategy process.

The supply chain organization can play a crucial role in identifying and addressing any blind spots, obstacles, or vulnerabilities in the organization’s response to the challenge of digital business and the delivery of customer value. This will allow the enterprise to lay the foundation upon which success in the digital business era can be built. It will also help supply chain leaders in the enterprise to understand, assess and contribute to a number of key elements, including:

- **Process**: New and enhanced ways of doing things as a result of digital technology
- **Business model**: New ways for the organization to create, deliver and capture value
- **People**: New roles, new skills and a new culture to drive organizational performance
- **Technology**: Disruptive new technologies to facilitate digital business

To support the organization’s strategy, supply chain leaders need to break down the silos between supply chain and other business functions. The leader’s goal is to form collaborative relationships and cross-functionally coordinated plans that enable value creation. Many aspects of digital business transformation cut across functions and can only be realized by working together. For example, imagine that the commercial team offers a new customer service to deliver product anytime and anywhere if a customer is digitally connected. The team is taking advantage of the digital world customers live in today with connected cars, smart homes and mobile devices connected to the cloud. The supply chain organization must be involved in the early stages of designing this business model. They must put the supply chain capabilities into place that provide visibility into product availability and use these digital customer connections to anticipate customer demand. If supply chain only works as a functional silo that’s independent from other business groups, then the enterprise will almost certainly fail to realize these opportunities.

Supply chain leaders also need to challenge the common mentality that they can simply delegate to the IT department the job of responding to the growing pervasiveness and capability of digital technology. The digital and supply chain transformations cannot succeed if treated as separate initiatives. Supply chain leaders need to take ownership of their part of the transformation process in partnership with IT. Succeeding in the digital business era is everybody’s issue. It is the responsibility of supply chain leaders to determine the role that digital technology plays in executing the everyday requirements of their function. It is also their responsibility to identify any operational changes the supply chain needs to make to enable the enterprise’s overall strategy. How will you orchestrate demand fulfillment across a digitally connected partner ecosystem? Fundamentally, in digital business transformation, it is incumbent on everyone to think like an officer of the company. Some functional leaders, such as the general counsel or CFO, may already be officers of the company and act accordingly. For others, it represents a new mindset, but one that is no less crucial to adopt. Gartner’s research in this area will focus on how leaders throughout the enterprise
can add more value to digital business transformation by providing functional expertise and advice that helps to inform sharper strategic decision making and execution.

Transformation Is an Ongoing Process That Has Already Begun

According to Gartner’s research, although digital business remains a top priority for business leaders, progress toward digital business might best be described as slow but steady. In the 2019 Gartner CIO Survey, globally, only 4% of CIOs indicated they have no digital initiative underway. Notably, the proportion of organizations at least delivering on an initiative grew from 43% in the 2018 survey to 57% in the 2019 survey. And organizations that responded they were either scaling or harvesting/refining their initiatives nearly doubled from 17% in the 2018 survey to 33% in the 2019 survey. (See “Driving Digital Business Transformation for Industry Leadership: An Executive Perspective.”)

Some organizations are significantly ahead of the pack when it comes to experimenting with, and learning how to deploy, digital technology to produce new value. In some cases, pioneers like Amazon are already disrupting traditional industries, forcing trailing organizations to either adapt or face loss of market share. In other cases, firms hit hard by digitally fueled disruption (such as newspapers) have, through much trial and error, begun to find avenues to renewed growth and profitability. However, these same imperatives are not present in every market or industry. There are places where organizations can leverage digital technology and digitally responsive practices to enhance existing competitive advantages, at least for now.

Our conversations with supply chain leaders indicate they are struggling to define and implement a digital roadmap. In many cases, this is due to a lack of understanding of the overall corporate digital strategy. It is important for supply chain leaders to understand that there is no single moment that defines the starting or ending point of digital transformation. It isn’t a project begun and completed; rather, it is a way of doing business. There are many stages along the path to success, and transformation will require a detailed and evolving business vision and roadmap with new key performance indicators (KPIs) to measure success. Eventually, all the major inputs to the business model will be in play, including:

- **Value Propositions**: Software embedded in connected products enables those products to become more individualized and responsive.
- **Customers**: Customizable value propositions, in turn, allow firms to serve individual customers (rather than segments) at scale.
- **Financial Models**: Accessible infrastructure (such as via the cloud) enables incumbents and competitors to scale quickly. At the same time, “always on” services and platforms impact revenue and cost models.
- **Capabilities**:Robotics and artificial intelligence (AI) augment and displace staff across value chains, and technology ecosystems and platforms blur boundaries between internal and external partners.
The crucial point is that all organizations should at least begin the process of digital business vision creation, experimentation and learning, if they haven’t done so already. To support this, the supply chain organization should begin the process of understanding how those outcomes might change the value they provide to the organization, how they deliver that value, their stakeholder relationships and the capabilities they need. Organizations will not always have the right strategic answers immediately (nor will individual functions). Early adopters may move too soon, before the market or organization is ready. Conversely, if the market moves too quickly, it may be impossible for enterprises to buy or develop their way into it.

The challenge for the supply chain leader is to deliver upon the company’s new digital business model by aligning the supply chain operating model (SCOM; see Note 1) and digital investments to that digital business model. For example, a digital business model goal may be to guarantee that a customer’s equipment never shuts down by digitally monitoring assets and delivering solutions. Examples are Rolls-Royce’s TotalCare program, which guarantees an aircraft engine's availability, and HP's Instant Ink program, which ensures printers stay online (see “High-Tech Manufacturing Supply Chain Innovators 2017: Demand-Driven Digitalization”). To guarantee asset availability in these cases and deliver a great digital customer experience, the SCOM must change. Instead of simply responding to spare parts orders, it must predict potential failure and orchestrate spare parts supply and service across a partner ecosystem to prevent downtime.

The best approach for companies is to be at least present in the market. They should have a clear strategy and a defined set of tasks for the supply chain and other functions that prepare the organization to move quickly when the need to change comes. This will provide organizations with the options required for them to react to future market changes (either decided by them or for them). It may not yet be time to transform into a digital business or to take existing digital business initiatives to scale. However, by at least starting the transformation process, supply chain and other functional leaders will learn how to operate in a digital business environment. They will also be able to respond quickly and help the business scale up when and where necessary.

Four Steps for Facilitating a Digital Business Response

Digital business transformation requires all functional leaders to ensure that their function is operating in unison with the rest of the organization. All functions must contribute their expertise to achieve a common goal, with outcomes greater than the sum of each function’s contribution. In this context, we have outlined a number of steps that supply chain and other functional leaders can undertake to facilitate their organization’s successful response to digital business.

**Situate the supply chain in the organization’s digital mission.** Ensure that the supply chain’s digital goals, mindset and language reflect the appropriate competitive urgency to deliver new customer value, align with peers and are consistent with the organization’s vision and strategy. To build and execute the organization’s strategy, supply chain leaders need to continuously collaborate, and identify and communicate the current operating environment within their areas of expertise. They must also present a clear picture of the future state that their function will help to achieve, as well as what that means for the value they create, how they deliver value and the capabilities they need. (See “Guide to Aligning Digital Business and the Digital Supply Chain.”)
In this context, supply chain leaders must develop a shared understanding of the environment they operate in, as well as a shared vision of how their digital transformation can either adapt to or shape the environment. This includes the use of consistent language to describe current and future conditions, and the use of shared frameworks and concepts to organize what is changing and what it means for the business. For example, a shift from selling stand-alone products to selling combined products and data services will require different supply chain capabilities to manage. Cisco has completed a multiyear transformation toward a supply-chain-as-a-service architecture (SCaaSA). It shifted from selling primarily physical products to delivering complete solutions that require more agility and speed (see “Case Study, Part 1: Cisco’s Supply-Chain-as-a-Service Architecture Enables Subscription Solutions in a Digital Business Transformation”). This shift not only impacts the supply chain function but will create different financial flows for the CFO, necessitate that the salesforce learn different sales scripts and strategies, require new talent for HR to find and engage, and create new risks that all functions need to manage.

**Become a more informed consumer of digital technology**, and adopt business practices suited to the digital business environment. According to Gartner’s research, business-led IT, which concerns IT decisions and spend originating from outside the IT department, composes about half of an organization’s entire IT budget. This means that an increasing number of supply chain and other non-IT senior leaders have to deal with decisions that are either heavily influenced by or directly about digital technology and its implications. Supply chain leaders need to leverage this responsibility by ensuring that the supply chain organization is primed for digital business. They can do this by becoming better “digital consumers.” This means becoming more informed about the application of digital technologies and the operating practices best-suited to leverage them, and better able to communicate this information throughout the enterprise.

For example, supply chain leaders, along with finance, legal and other functional executives, should know what level of robotics or AI can be embedded in their systems. They should also know how to align and deploy their expertise across workflows, rather than require business partners to come to them. All functional leaders should decide what information they need in their analyses and create governance structures that ensure clear ownership of data across internal silos. They should also build training capabilities to overcome any lack of capabilities in their teams.

Gartner’s research provides supply chain leaders with the insight, tools and practices they need to become more sophisticated digital consumers, and explores the ways in which these leaders can add value to their enterprise’s digital business transformation initiatives.

**Act as an advisor to the enterprise.** Leverage your unique supply chain expertise to develop and refine the organization’s digital plans, and address blind spots as competitive conditions evolve. Supply chain leaders will play a foundational role in designing and executing digital business transformation. The information and expertise contained in each function will help the organization avoid blind spots or obstacles. For example, the CEO may have a crisp vision of how the company should operate in a digital world, but supply chain leaders need to validate and manage partner relationships formed across digital ecosystems. HR leaders need to proactively assess the skills required for the transformation. They may also need to apprise the CEO of potential talent shortages. Marketing will need to bring customer insight to bear to validate or refute assumptions about market size and uptake. Finance leaders may need to identify forward-looking data that can
help forecast the profitability of a transformed business model, and the general counsel needs to lay out potential new risks.

In this context, supply chain leaders are in a unique position to advise the enterprise on both what is possible and what is not possible. To do this, they need to become fluent in the implications of digital business transformation for themselves and the business.

**Deliver more accessible, configurable and resilient supply chain support to business partners.** Many organizations tell us that their early efforts with digital products and services are not currently delivering value. This could be because they have not yet found the right product, market or economics. Digital business transformation takes time and involves experimenting, learning and refining continuously. To support this fast-cycle operating cadence and to enable more rapid time to value within the constraints of flat or shrinking budgets, the supply chain needs to leverage the latest technology and management practices that maximize performance in this competitive environment. For example, Gartner has seen various functions that have begun to provide direct stakeholder access to their data to facilitate more rapid and localized decision making. However, many of these tools do not leverage design thinking and, in practice, “lift and shift” work into other areas rather than improve decision productivity. Some functions have begun to experiment with new cross-functional collaboration models such as “fusion teams” and “open-source change.” However, many have yet to work through all the incentives, performance management processes and leadership competencies needed to take these management practices to scale.

We would rather not wait for definitive evidence that it’s time to change or assume perfect certainty about the type of change needed. Instead, we prefer to advise supply chain leaders and their leadership teams to act as if their assumptions are almost certainly wrong. They should be open to failure. Digital business transformation is an ongoing commitment that requires continuous attention, action and refinement (see “For Supply Chain Executives: The Bimodal Challenge”).

**Bottom Line**

The road to success in the digital business era will offer many hurdles and few signposts. The journey requires hard work, trade-offs and, for some, genuine questions concerning disruption to existing business and supply chain operating models. For others, the path to digital business will be more gradual — perhaps right up to the moment when competitive conditions change dramatically. Most enterprises undertaking digital business initiatives find themselves at the early stages of a genuinely transformative process. How leaders organize their enterprises and functions, make decisions, and create new structures and business models will be instrumental in the success of the overall transformation.

**Gartner Recommended Reading**

*Some documents may not be available as part of your current Gartner subscription.*

“Guide to Aligning Digital Business and the Digital Supply Chain”

“Move to Mastery: Innovate, Disrupt and Scale the Digital Supply Chain”
“What Digital Supply Chain Initiatives and Technologies Companies Are Pursuing”

“Find Inspiration in 10 Use Cases of Artificial Intelligence in the Supply Chain”

“Supply Chain Brief: How to Compete With Google and Apple for Supply Chain Talent”

Evidence

1 “Uber’s Loss Jumped 61 Percent to $4.5 Billion in 2017,” CNBC.

2 “Tesla to Cut Production Hours for Model S and X,” Reuters.


Note 1 Definition of Supply Chain Operating Model (SCOM)

The supply chain operating model defines how the supply chain accomplishes delivery of profitable perfect orders to customers. It covers capabilities, processes, resources, and governance required for acquiring and transforming raw materials into finished goods and delivering them to customers. For more on supply chain operating models, see “How to Architect a Demand-Driven Value Network Using a Supply Chain Operating Model” and “Predicts 2018: Chief Supply Chain Officers Will Reshape Operating Models in Response to Digital Drivers.”