Gartner for Supply Chain

Cultivate Next-Generation Sensing Capabilities

Deepening CSCO connectivity with Key Ecosystem Partners
The COVID-19 crisis has brought many organizations together, increasing collaboration between stakeholders that may have historically been adversarial. For the CSCO, this presents a key opportunity to strengthen and solidify ties across the C-suite, while deepening supply chain connectivity and relationships with key ecosystem partners, varying from commercial or finance departments to customers and suppliers.

Why? Just as the human body can sense a wide array of information through the connectedness of the nervous system, a connected organization can better sense, identify and serve the unmet, often unspoken, needs of customers across products, packaging and services. Consider the value for commercial partners if the supply chain can leverage sensing capabilities to:

- Identify key customers’ product substitution patterns determined through big data analysis of historical orders and real-time customer feedback;
- Detect product or service quality issues via aggregated production data combined with social media insights; or
- Uncover customer delivery delays through the analysis of unstructured transportation carrier data, prior to notifications being provided from the carriers themselves.

Cultivate Next-Generation Sensing Capabilities
Start With the Customer Experience and Journey Mapping

For many large supply chains, the starting point in internal efforts to drive collaboration is what often sounds like a relatively simple challenge, but in reality is far more complex — aligning multiple functions, each operating in an array of disconnected customer projects and initiatives, on a single definition of the customer experience (CX). Cross-functional alignment on what CX means can provide a platform for the insights that the supply chain is sensing to be leveraged into deeper collaboration efforts.

Gartner defines CX as “the customer’s perceptions and related feelings caused by the one-off and cumulative effect of interactions with a supplier’s employees, systems, channels or products.”

A growing area of emphasis for supply chains when it comes to CX is collaborating to improve customer satisfaction and experience through the development and analysis of customer journey maps. This tool is historically associated with the marketing function and captures the specific experiences, needs, perceptions and touchpoints of a typical customer, known as a persona, in a way that identifies CX challenges and opportunities (see Figure 3).

U.S. home improvement retail giant Lowe’s is one company where the supply chain is getting involved in the development and utilization of customer journey maps. Why? To better align supply chain processes and investments with what impacts the customer. As Don Frieson, executive vice president of supply chain at Lowe’s, expressed to me at a retail conference earlier this year, “It’s all about delivering what the customer wants.”

High-tech giant Lenovo has been investing in this area for a number of years, as it pushes to shift from a product-centric to a customer-centric organization under the leadership of Chairman and CEO Yang Yuanqing. For the supply chain, this means taking customer insight and using that to inspire innovations for its products, while enhancing the broader customer experience.

The key metric in Lenovo’s efforts is the Net Promoter Score (NPS), a measure of the willingness of a customer to recommend Lenovo’s product to others. To further understand the customer, Lenovo uses an extensive array of tools such as closed-loop customer surveys and big data analytics, as well as consumer and partner insight communities and customer advisory councils. Through this work, Lenovo has been able to determine the six key areas of the customer journey that truly influence customer perceptions — purchase experience, delivery lead time, product quality, technology support, brand perception and the account relationship.

Figure 3
The Typical Elements of a Customer Journey Map

Source: Gartner (June 2020)
Cross-functional collaboration can be critical in these efforts to drive the CX, enabling benefits to both customers and supply chain operations. Consider Australian grocery leader Woolworths Group, which has long been active in assessing and utilizing voice of the customer (VoC) for its more than 11 million loyalty members as an input for strategic decisions. One area it frequently assesses is the ease of movement for customers in its physical store locations. However, with store shelves needing to be replenished during operating hours, shoppers would often see “roll cages,” a wheeled unit load device (ULD) that store staff could use to replenish stock while shoppers moved down the aisle. The challenge with these ULDs? Goods didn’t arrive in store on the ULD but rather needed to be packed into it from the Australian standard pallet that the goods had arrived to the store on.

The supply chain team recognized both the inefficiency of this existing process for their operations and that a more shopper-friendly approach could be developed. Multiple new pallet designs were tested with the goal of being able to use a single ULD to go from the distribution center to the store aisle for replenishment. The solution? A ULD that was two-thirds the size of the traditional Australian pallet dubbed the “2/3 pallet.”

Historically, material handling equipment (MHE) in Woolworths Group’s facilities had moved Australian standard pallets in quantities of two. The existing MHE could be adjusted to handle three 2/3 pallets. This represents a near-equivalent footprint and cubic capacity. Further, the pallets fit more easily into Woolworths stores, allowing pallets to be packed in such a way that teams can use the same ULD for receiving into stores and replenishment of shelves.

The pallet is now being used for replenishment to more than 330 Woolworths grocery stores, with shoppers saying aisles and stores using the 2/3 pallet are less congested and easier to navigate. This can be seen via Woolworths’ VoC that shows an increase in shopper “ease of movement” scores by 3%, on average, where the 2/3 pallets have been deployed. Within smaller-format stores, these improvements in VoC scores have been even higher.

### Sense and Respond in Real Time: The Continued Growth and Investment in Control Towers

With broad increases in volatility, uncertainty, complexity and ambiguity, supply chain organizations are being forced to rethink the foundational principles that they operate on in areas such as network design, operational scale and supply chain efficiency.

A key focus is the ability to sense environmental changes through data-driven insights, thus enabling a more agile and swift response. To achieve this, many supply chains are turning to control tower capabilities that leverage structured and unstructured data from across the end-to-end supply chain, as well as data from the public domain and/or social media (for example, risk, weather, economic or syndicated data). However, while any company with a supply chain across virtually any industry can use supply chain control-tower-type capabilities, the term “control tower” still means many different things to many people. This creates a recipe for confusion within businesses and more broadly in the marketplace.

Gartner defines a “control tower” as a concept combining five elements — people, process, data, and organization, supported by a set of technology-enabled capabilities for transparency and coordination. The potential span of responsibility for a supply chain control tower is defined in Figure 4.

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Cultivate Next-Generation Sensing Capabilities
So what are some of the specific benefits that businesses are looking to get out of, or are already seeing, from their control tower investments?

- **Visibility improvements.** In a recent Gartner CSCO huddle, Eastman Chemical’s Vice President of Global Supply Chain R. Thomas Morton, described how the COVID-19 crisis had highlighted control towers as a key area for improvement and accelerated development. Specifically, control towers can provide opportunities in areas such as real-time sensing and visibility across the entire value chain, the prevention of duplicate efforts, optimized support of scenario planning, and more effective and timely business response.

- **Organizational alignment and enhanced decision making.** At consumer products giant Colgate-Palmolive, a key benefit when establishing its control tower capability was its ability to provide a single source of the truth for the supply chain organization, enabling a combination of increasingly automated decision making and more targeted action by the team. To support these actions, it leveraged a dashboard that presented cross-functional data for demand, supply and production planners, and inventory analysts.

- **Increased predictability and improved service levels.** Western Digital, the U.S. computer hard-disk drive manufacturer and data storage company, established a prediction model within its control tower that automatically adjusts transportation planning for external and internal factors to deliver the best customer experience. The model is more reliable than existing carrier commitments, enabling it to take control of dynamic modeling, setting transit times and optimizing shipping schedules, all down to the delivery address level. Automatic adjustments are also made to carrier allocation, based on performance.8

- Additional areas where control towers provide business value are detailed in Figure 5.
Business Value Generated or Anticipated From Digitalizing Control Tower Operations

Q. What business value have you generated (or do you expect to generate) by digitalizing your control tower?

<table>
<thead>
<tr>
<th>Business Value</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational efficiency increase</td>
<td>52</td>
</tr>
<tr>
<td>Increased agility and responsiveness</td>
<td>45</td>
</tr>
<tr>
<td>Cost reduction</td>
<td>33</td>
</tr>
<tr>
<td>Customer experience increase</td>
<td>33</td>
</tr>
<tr>
<td>Competitiveness and business growth</td>
<td>30</td>
</tr>
<tr>
<td>Unclear or no value</td>
<td>17</td>
</tr>
</tbody>
</table>

Source: 2020 Gartner’s Digital Supply Chain Decisions Survey

Multiple responses allowed; % of respondents | n = 243

Getting Started With a Control Tower

For supply chains looking to establish a control tower or rethink their existing model, approaches typically fall into one of three buckets. These are outsourcing to a provider as a service, building your own through a data lake and applying business intelligence, or the most common approach, subscribing to a supply chain management (SCM) platform and leveraging embedded control-tower-type capabilities. Whichever path you choose, remember these words of advice from Segaran Narayanan, vice president of the Pacific supply chain and customer experience at Schneider Electric, “Control tower success lies in how you bring the people together first.”

Businesses Are Investing to Advance Sense and Respond Beyond Traditional Control Tower Capabilities

To date, many control towers are focused on logistics and distribution operations. Where leaders often differentiate themselves is in the ability to connect their control tower across the end-to-end supply chain including planning and manufacturing operations, and couple it with advanced digital technologies such as machine learning (ML) or natural language processing (NLP). Efforts are also being made to develop digital twins — a virtual representation of things, people, places or processes — so that a change in one part of the supply chain can be sensed and assessed for its potential impact on other parts of the business. For example, Western Digital is working to develop and deploy a digital twin for forward-looking modeling that will enable it to compare different scenarios, understand potential outcomes and push the most effective alternative to production.
This research is drawn from the Supply Chain Executive Report “Supply Chain: The Nervous System of Business — Sense and Respond Is Just the Beginning” by Thomas O’Connor, Senior Director Research Analyst, Gartner Supply Chain

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