Developing a clearer picture of supply chain transparency

As the foodservice industry meets growing demand for more product information, there are real opportunities for companies that take a leadership position.

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Improving supply chain transparency is a high priority for companies, especially in industries such as foodservice where consumers and regulators are pushing for more publicly available information on how products are made and delivered. Increasing product complexity—the growing demand for organic and gluten-free foods, for example—as well as food safety and security concerns, continues to drive the demand for more transparency.

Responding to these demands is not easy. The fragmented nature of the supply chain can make it difficult to achieve the kind of consensus that is needed to create efficient, end-to-end monitoring systems. However, as the industry responds to the need for more transparency, there is a huge opportunity to take a leadership position. Key to developing the level of transparency that is now expected is changing the behavior of stakeholders and harnessing the power of data visualization technology to present abundant data in easily understood and actionable formats. With these changes in place, the industry can open the way to innovations that could take supply chain performance to a new level. And, the journey provides some valuable lessons for other industries that are striving to meet market demand for increased supply chain transparency.

Data disjoints

The foodservice supply chain is extremely complicated. The companies in this industry sell food that is prepared and served in venues outside the home (the most familiar outlet is restaurants). A complex supply chain that stretches from agricultural growers across the globe to end consumers supports each restaurant. The supply chain also includes manufacturers, freight carriers, forward warehouses, distribution centers (DCs) and third-party logistics providers (3PLs). Many of these players tend to operate in silos that can impede the end-to-end flow of information.

Data latency is one of the most difficult hurdles. For example, some trading partners share daily inventory and sales information in single, large batches; by the time data is uploaded into supply chain visibility tools, it may be too old in "food time."

The veracity of data is another challenge. There are many reasons why inaccuracies creep into supply chain data streams. An overarching problem is a lack of widely adopted, consistent standards for exchanging data. There are also various operational issues to contend with. An example is the reuse of product numbers and warehouse identifiers without alerting trading partners to such changes. The inconsistent use of lot codes is another issue. Ideally, a lot code is generated by a supplier and follows the product to final delivery. Sometimes an entity generates its own lot code and discards the original one, making it difficult to track the chain of custody of a product. An even bigger hurdle is the inability of trading partners to systematically capture, track and report supplier-generated lot codes.

Untimely or inaccurate data is always an issue, but particularly in today's highly variable consumer environment. Demand for food products can be unusually volatile because shifting consumer preferences influences it. Some peaks in demand—for example, when a restaurant dish suddenly

becomes popular because a celebrity tweets about it—are almost impossible to anticipate.

The industry fragmentation described above compounds such problems. In a fragmented environment, trading partners tend to optimize locally. For example, a DC might build safety stock of a critical product for a favored restaurant chain that is not visible to other players. Unseen inventories scattered across a supply chain cause significant inefficiencies. Add the dramatic increase in the volume of data to the mix, and it becomes clear that operational models have opportunities to improve before the industry can deliver the levels of supply chain transparency that are expected in today's world. These changes are within reach—and many are being implemented.

Tying technology to behavior

One of the first steps to overcoming these problems is to change the behaviors that cause data errors and latency.

For example, Armada, a Pittsburgh-based fourth-party logistics provider (4PL) to the foodservice and retail industries, is working with DCs and other entities to make sure that the inventory and shipment data they provide is as near to real-time as possible. This does not require them to make big investments in technology; huge improvements are possible by simply rethinking the way data is managed and shared. It's also important to break down operational silos, and eliminate the practice of optimizing locally.

Changing stakeholder behavior lays the foundation for the new technology that drives greater supply chain transparency. At Armada, this emerging technological base has two key elements. First, an integrated platform allows the company to receive data in multiple formats such as EDI. This information backbone is available to every enterprise application—including warehouse management and transportation management systems—accessed by designated stakeholders.

Second, Armada is working to fundamentally change the way this data is stored and accessed for clients and their network stakeholders. For example, the practice of generating reports from data stored on applications is no longer sufficient. Data warehousing and extraction as well as business intelligence capabilities are being built to support the high-volume information management systems that are now needed.

This is not cutting edge—but harnessing these capabilities to develop tailored visual displays of complex data represents new territory for foodservice supply chain practitioners.

Traditional methods of displaying and analyzing operational data through columns and rows aren't enough if the goal is to redefine supply chain transparency. In addition, practitioners need faster, more effective ways to consume and use the large volumes of data now available. And it is likely that the flood of data will increase over the next few years. Importantly, much of this data needs to be configured for mobile technology platforms that are growing in importance.

An example of an innovative display format is an "items at risk" dashboard that shows when items in specific DCs are reaching stock-out levels based on lead times. Managers no longer must pore over rows of numbers to get this information; they can quickly review the screen and see the items that are at risk. Moreover, the information that managers need to take remedial action is displayed, such as contact details of DCs that can supply the flagged items. Another application, "loads at risk," uses truck GPS information cross referenced with supply chain inventory across the network to identify shortages and potential spoilage. The next generation of these capabilities will cross-pollinate the information from such applications.

Managing by exception

These are exciting innovations for the foodservice industry, but it's only the beginning. For instance, there is huge potential for developing more advanced analytics. At present, we can look at historical data and figure out what caused problems such as missed sales targets in the recent past. And we analyze trends and operational data such as weather patterns to anticipate what issues might lay ahead. The ultimate analytical goal: to develop systems that automatically identify potential problems and trigger remedial action.

Consider a case where the "items at risk" screen shows that an item nearing an out-of-stock situation. The system automatically initiates a transfer order from a DC that it identified as a source of additional stock. The DC is notified and the order approved without unwieldy manual procedures. And, the system issues alerts and updates via mobile devices.

More innovation

Delivering a higher level of supply chain transparency in response to consumer concerns and more stringent regulation is easier said than done. The good news is that once you start on this path, new opportunities for raising supply chain performance open up. Technology advances—notably the development of increasingly sophisticated analytics—will drive more innovation and provide further impetus for change.