



Superior Supply Chains in the Food and Beverage Industry

Benchmark best practices and performances for next-generation success



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Executive Summary

At the root of successful food and beverage manufacturing is effective supply-chain management, enabling companies to react to changing demand (new food trends, shifting consumer preferences, etc.) by swiftly communicating those needs to their suppliers. Food and beverage manufacturers also rely on their supply chains to help manage both food-safety risks and regulatory compliance. And while this industry is relatively recession-resistant, the severity of the recent downturn forced all companies to scrutinize margins more closely, squeezing suppliers as they manage month-to-month and quarter-to-quarter profits, rather than long-term growth.

Yet leading food and beverage organizations look further down the road *even* as they aggressively deal with today's challenges, obstacles, and opportunities—and they share that vision with suppliers and customers. They seek to create world-class supply chains and establish the best practices, technology systems and solutions, and workforce cultures that will sustain and grow their business—and their suppliers and customers—into the next generation.

In early 2009, the Manufacturing Performance Institute (MPI) surveyed more than 2,500 manufacturers to determine their success in pursuing six key strategies that will sustain growth into the next generation, allowing these firms to outperform their competitors. The six strategies explored by the Next Generation Manufacturing (NGM) Study (and the world-class definitions for those strategies) were:

- **Customer-focused innovation:** Develop, make, and market new products and services that meet customers' needs at a pace faster than the competition.
- **Engaged people/human capital acquisition, development, and retention:** Secure a competitive performance advantage by having superior systems in place to recruit, hire, develop, and retain talent.
- **Superior processes/improvement focus:** Record annual productivity and quality gains that exceed the competition through a company-wide commitment to continuous improvement.
- **Supply-chain management and collaboration:** Develop and manage supply chains and partnerships that provide flexibility, response time, and delivery performance that exceed the competition.
- **Green/sustainability:** Design and implement waste and energy-use reductions at a level that provides superior cost performance and recognizable customer value.
- **Global engagement:** Secure business advantages by having people, partnerships, and systems in place capable of engaging global markets and talents better than the competition.

From this NGM Study research, MPI has extracted and analyzed data for food and beverage manufacturers, focusing specifically on their pursuit of supply-chain management and collaboration and the degree to which they have achieved world-class performances within that particular strategy.¹

Introduction

Few industries are as dependent upon their supply chains as food and beverage manufacturers. These organizations face constant change spurred by:

- **New trends**, such as the continued growth of “good-for-you” products and the rise of private-label brands; quickly emerging food trends often cause manufacturers and their supply chains to turn on a dime. Trends such as healthy or organic foods may require reconfiguring supplier sourcing, ingredients, and final products, while trends such as private-label or serving-size packaging force branding, logistics, and messaging revisions.
- **Regulatory structures**, imposing compliance on food and beverage manufacturers for the sake of food safety and product-marketing integrity (e.g., organic or natural): It’s no longer enough for a food and beverage manufacturer to prove its products are safe, they must be able to ensure that their supplier’s products and their supplier’s suppliers’ goods are safe as well.
- **Stratified channels**, through which consumers migrate depending on their economic status and tastes: food and beverage manufacturers must clearly understand where consumers will be heading for *their* products—big box stores, specialty stores, convenience outlets, etc.—and fight for shelf space in front of those consumers. (For example, Wal-Mart is cutting the number of product lines it carries by as much as 15 percent, devoting more shelf space to best-selling products.¹¹) Each channel has different delivery and value-add requirements, and these customer signals must be quickly communicated back to food and beverage manufacturers and their supply chains.

Even highly productive food and beverage manufacturers will be at a significant disadvantage if they cannot adapt to markets and, just as importantly, get their supply chains to swiftly adapt as well. To achieve world-class supplier management and collaboration, food and beverage manufacturers must do three things exceptionally well, especially if they want to leverage the capabilities of their supply base, create closer and more strategic relationships with immediate customers (retailers and restaurants), satisfy end customers, and retain profitability. They must:

- Recognize that supply-chain management and collaboration is a core strategy, and that achieving world-class performance in this strategy—developing and managing supply chains and partnerships that provide flexibility, response time, and delivery performance that exceed the competition—is a key to survival in the food and beverage industry.
- Support supplier management and collaboration with dedicated employees, resources, investments, and best practices to ensure that organizational and end-to-end supply chain efforts satisfy customers in the most productive, cost-effective manner possible.
- Monitor performance, striving to more effectively manage relationships with customers and suppliers and more productively and profitably get goods to market.

World-Class Supply-Chain Management and Collaboration

Few food and beverage manufacturers have achieved world-class supply-chain management and collaboration: According to the NGM Study, only 6 percent of food and beverage manufacturers report themselves as having achieved world-class supply-chain management and collaboration (ranked 5 on a 1–5 scale). Just another 27 percent believe themselves to be near world-class status (ranked 4 on a 1–5 scale; see *Table 1*).

Table 1

Rate your organization's progress toward world-class supply-chain management and collaboration	F&B manufacturers
1=No progress	6.7%
2	19.1%
3	41.9%
4	26.7%
5=World-class	5.7%

Source: Next Generation Manufacturing Study

Attaining supply-chain excellence is challenging even for those firms that focus on the strategy—yet surprisingly few food and beverage manufacturers are giving supply-chain management and collaboration their full attention: only 39 percent of food and beverage manufacturers rate supply-chain management and collaboration as “highly important” to their organization’s success over the next five years (see *Table 2*). A full 11 percent of firms believe that this strategy is relatively unimportant (rated 1 or 2).

Table 2

Rate the importance of supply-chain management and collaboration to your organization's success over the next five years:	F&B manufacturers
1=Not important	2.9%
2	7.6%
3	14.3%
4	36.2%
5=Highly important	39.1%

Source: Next Generation Manufacturing Study

Even among firms rating supply-chain management and collaboration as highly important, there’s still a sizable gap between recognition of the strategy and the ability to achieve world-class status. This means that many food and beverage manufacturers may be striving to improve but are either unaware of best practices or unable to execute them. With supply chains that span countries and time zones, management and collaboration are often constrained by the lack of adequate systems, such as enterprise resource planning (ERP), customer relationship management (CRM), and business intelligence (BI), to swiftly communicate forecast and demand signals.

Recognizing the importance of a strategy, such as supply-chain management and collaboration, is the initial step in achieving success. Not surprisingly, among food and beverage manufacturers *at or near* world-class supply-chain management and collaboration, 68 percent rate the strategy as highly important, compared to only 26 percent of food and beverage manufacturers furthest from world-class status.

Resources, Best Practices, and Investments

In order to compete in the next generation with supply-chain management and collaboration, food and beverage manufacturers must follow up recognition with execution: investing in people, equipment, and product and process technologies (i.e., applications and systems) to bring visibility and coordination to supply-chain events and requirements. Only by doing this can food and beverage manufacturers optimize their facilities and those of their supply bases, swiftly delivering quality products, finding and reducing wastes and costs throughout their supply chains, and innovating new products to capture emerging opportunities. Yet many food and beverage manufacturers fail to invest in supply-chain execution: 21 percent of food and beverage manufacturers report that less than 1 percent of their workforces are dedicated to supply-chain and partner development, management, and collaboration (see Table 3).

Table 3

What percentage of your workforce is dedicated to supply-chain and partner development, management and collaboration?	F&B manufacturers
<1%	21.4%
1–5%	48.5%
6–10%	21.4%
>10%	8.7%

Source: Next Generation Manufacturing Study

Among food and beverage manufacturers at or near world-class supply-chain management and collaboration, 49 percent have more than 5 percent of their workforces dedicated to supply chain, compared to only 22 percent of food and beverage manufacturers furthest from world-class status. Which organizations are more likely to see and react to new customer requirements (perhaps even before customers know their requirements) and leverage the talents of their supply bases?

Why do so many food and beverage manufacturers, especially those furthest from world-class, fail to get their workforces directly involved with suppliers and customers? Some firms in this industry seem reluctant to give employees the autonomy to interact with their supply chains, working to identify and solve problems (e.g., a supplier delivery issue, an urgent customer request, an internal quality problem that could impact the safety of final products). Others still rely on command-and-control supervisors, “firefighting” through isolated issues rather than relying on the broader-based skills and expertise of their workforces. Too many employees *aren’t* involved in improving processes, internal or external.

Approximately 41 percent of food and beverage manufacturers report that less than one-quarter of their workforces are fully engaged in their organization’s improvement efforts; 38 percent have a majority of their workforces involved in improvement efforts (see Table 4). Then, too, many food and beverage employees aren’t getting the training necessary to be more than just workers attending to equipment: only 29 percent of food and beverage manufacturers train each employee more than 20 hours annually; 24 percent train each employee less than 8 hours annually (see Table 5).

Table 4

What percentage of your workforce has been fully engaged in your organization’s specific improvement method/approach?	F&B manufacturers
<26%	41.4%
26–50%	21.2%
51–75%	18.3%
76–99%	13.5%
100%	5.8%

Source: Next Generation Manufacturing Study

Table 5

How many formal training hours are devoted annually to each employee?	F&B manufacturers
8 or fewer	24.0%
9–20	47.1%
21–40	16.4%
>40	12.5%

Source: Next Generation Manufacturing Study

Not surprisingly, 51 percent of those food and beverage manufacturers at or near world-class supply-chain management and collaboration have a *majority* of their workforces fully engaged in their organization’s improvement approaches. This is compared to 30 percent of food and beverage manufacturers furthest from world-class status, and 41 percent train each employee more than 20 hours (compared to 21 percent of food and beverage manufacturers furthest from world-class supply-chain management and collaboration).

In working with suppliers and customers, it’s critical that employees—from senior executives down to line workers—have information to make informed decisions, which requires information solutions that enable employees to see into (and interact with) their supply chains. Some food and beverage manufacturers are investing heavily in their organization’s IT infrastructures, as 27 percent spend more than 5 percent of sales (three-year average) on information technologies (*see Tables 6*)—a percentage higher than that found in many other industries. And 34 percent of food and beverage manufacturers are investing more than 5 percent in capital equipment, recognizing the need for automation within this process-centric industry (*see Table 7*).

Table 6

What is your organization’s investment in information technologies (hardware and software) as a percentage of sales (three-year average)?	F&B manufacturers
<1%	29.3%
1–5%	43.4%
6–10%	19.8%
>10%	7.6%

Source: Next Generation Manufacturing Study

Table 7

What is your organization’s investment in capital equipment as a percentage of sales (three-year average)?	F&B manufacturers
<1%	3.9%
1–5%	51.9%
6–10%	27.9%
>10%	16.4%

Source: Next Generation Manufacturing Study

Among food and beverage manufacturers at or near world-class supply-chain management and collaboration, 35 percent spend more than 5 percent of sales on IT, compared to 24 percent of food and beverage manufacturers furthest from world-class. But it's important to note that 34 percent of both groups spend more than 5 percent of sales on capital equipment, suggesting that while up-to-date equipment is merely the ante for the food and beverage industry, IT investments can be a competitive advantage.

Food and beverage manufacturers must diligently measure their internal processes and those of their supply-chain partners if they want to identify problems and issues, leverage market opportunities, and uncover new ways to enhance quality, safety, and customer value. NGM Study food and beverage participants cited the following best practices related to measurements and reviews: "quarterly review of critical suppliers, biannual review of other suppliers"; "continuous review process with annual bidding process"; "meetings and reviews with key suppliers"; and "partnership meetings throughout the year with three to four suppliers."

Yet even in this highly regulated industry, many food and beverage manufacturers fail to review supply-chain management and collaboration: 27 percent of food and beverage manufacturers have no measurement systems or reviews in place to track return on their supply-chain management and collaboration efforts, and another 29 percent have only ad hoc monitoring and reviews. At the other end of the spectrum, only 9 percent report "regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization" (see Table 8).

Table 8

What best describes your measurement system for reviewing return from supply-chain management and collaboration?	F&B manufacturers
No measurement system per se or reviews	27.4%
Ad hoc monitoring of basic measures and ad hoc reviews	29.3%
Company-specific metrics monitored regularly by operations staff	15.1%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.9%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	9.4%

Source: Next Generation Manufacturing Study

Among those food and beverage manufacturers at or near world-class supply-chain management and collaboration, 65 percent have better than ad hoc monitoring or reviews, and 21 percent have "regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization," compared to 34 percent and 4 percent, respectively, of food and beverage manufacturers furthest from world-class status.

World-class food and beverage manufacturers understand that without supply-chain performance data that's accessible to all levels of an organization and its supply-chain partners, it's difficult to identify areas for improvement; make informed decisions about product-development or channel changes; and effectively address end-customer needs. Employees also need immediate access to this centralized information through a variety of methods that match their working environments—desktop, browser, or mobile devices. Indeed, if systems like these were more widely implemented, would food-borne illnesses be in the headlines so often? (The Centers for Disease Control and Prevention estimates that 76 million Americans get sick, more than 300,000 are hospitalized, and 5,000 people die from food-borne illnesses each year.ⁱⁱⁱ)

Strategic Attention Drives Process Improvement

Recognizing and executing against next-generation manufacturing strategy, such as supply-chain management and collaboration, is meaningless unless it actually improves the organization and its supply chain. What the NGM Study finds is that food and beverage manufacturers at or near world-class supply-chain management and collaboration are more likely to develop supply chains that satisfy customers, and more likely to operate effectively.

Approximately 61 percent of food and beverage manufacturers report that their customers have “strong loyalty to our products due to ongoing trust in our organization’s people and capabilities”; only 2 percent report that their customers are at best “indifferent” to their products (see *Table 9*). Customers are inclined to be loyal when a well-connected supply chain can react quickly to their unexpected demands. Approximately 13 percent of food and beverage manufacturers indicate “real-time communication of demand signal and entire supply chain flexible to demand spikes—standard delivery times consistently met and just-in-time inventories.” Approximately 37 percent, though, report delays (major or minor) in communicating unexpected demand throughout the chain (see *Table 10*).

Table 9

Describe your customers’ satisfaction with your overall performance?	F&B manufacturers
Threatens to pull business because we don’t match the competition	1.0%
Indifferent to buying our product or competitors	1.0%
Preference for our product by virtue of price, quality, and delivery performance	37.5%
Strong loyalty to our products due to ongoing trust in our organization’s people and capabilities	60.6%

Source: Next Generation Manufacturing Study

Table 10

What best describes your end-to-end supply chain’s ability to respond to unexpected customer demand for existing products?	F&B manufacturers
Major delays communicating demand signal throughout chain and most suppliers struggle to efficiently meet demand—standard delivery times dramatically exceeded and/or excessive inventory	4.4%
Minor delays in communicating demand signal throughout chain and some suppliers struggle to efficiently meet demand—standard delivery time exceeded and/or too much inventory	33.0%
Efficient communication of demand signal throughout chain with most suppliers efficiently satisfying demand—standard delivery times nearly met and right-sized inventories	50.1%
Real-time communication of demand signal and entire supply chain flexible to demand spikes—standard delivery times consistently met and just-in-time inventories	12.6%

Source: Next Generation Manufacturing Study

Approximately 31 percent of food and beverage manufacturers indicate that suppliers and customers have taken on a “strategic” relationship with their firms, which provides them a competitive advantage in terms of flexibility and speed to market (see *Table 11*). But, despite the perception in the food industry and other businesses that inventories have been reduced, it appears that inventories are merely being pushed back onto suppliers: 61 percent of food and beverage manufacturers report that the total value of inventory, throughout their supply chains for their primary products, was reduced by less than 10 percent over the past three years (see *Table 12*).

Table 11

How is your supply chain a competitive advantage in terms of flexibility and speed to the marketplace?	F&B manufacturers
Suppliers regularly measured on cost, quality, and delivery performance	22.6%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost	10.4%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost and “soft” qualities (e.g., trust, flexibility)	35.9%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts	21.7%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts and participate fully in strategic planning and identifying and responding to new markets	9.4%

Source: Next Generation Manufacturing Study

Table 12

By approximately what percentage has total value of inventory throughout the supply chain for your primary product (furthest supplier to end customer) been reduced over the last three years?	F&B manufacturers
<10%	60.8%
10–25%	27.5%
26–50%	4.9%
>50%	6.9%

Source: Next Generation Manufacturing Study

The performances of food and beverage manufacturers at or near world-class supply-chain management and collaboration, compared to those firms furthest from world-class, offer evidence of their returns from supply-chain activities:

- **“Strong loyalty” among customers:** 70 percent of food and beverage manufacturers at or near world-class supply-chain management and collaboration, compared to 56 percent of those furthest from world-class.
- **“Real time communication of demand signal”:** 38 percent of food and beverage manufacturers at or near world-class supply-chain management and collaboration, compared to 26 percent of those furthest from world-class.
- **“Strategic” suppliers and customers:** 47 percent of food and beverage manufacturers at or near world-class supply-chain management and collaboration, compared to 23 percent of those furthest from world-class.
- **Supply-chain inventory reduced by 25 percent or more:** 15 percent of food and beverage manufacturers at or near world-class supply-chain management and collaboration, compared to 10 percent of those furthest from world-class. This small difference indicates how difficult it is to remove excess inventory (and the problems it often hides) from the end-to-end supply chain.

Conclusion

In a challenging environment full of new opportunities, food and beverage manufacturers must advance their supply chains beyond traditional buy-and-sell relationships to retain existing business and capture emerging markets. Without a strategic focus on supply-chain management and collaboration and the resources, best practices, and systems to support that focus—such as ERP, CRM, and BI solutions—operations throughout the supply chain can rapidly deteriorate, putting quality, profitability, and lives in jeopardy. In contrast, strategic supply-chain performance ensures that the *right* products hit the *right* markets at the *right* time, reducing waste, lowering inventories and costs, and improving customer satisfaction.

World-class food and beverage firms attain a supply-chain management and collaboration focus by:

1. Elevating supply-chain activities to a strategic (corporate) level.
2. Adopting best practices and investing in equipment and systems to execute toward a supply-chain strategy.
3. Monitoring progress toward world-class supply-chain management and collaboration, problem-solving with customers and suppliers, and recalibrating their supply chains to operate more effectively.

Is your food and beverage company ready to achieve world-class supply-chain management and collaboration?

ⁱAll research in this report is based on data from The Next Generation Manufacturing (NGM) Study, which was conducted by the Manufacturing Performance Institute (MPI) in early 2009 to better define the strategies and business activities necessary for world-class performance and success into the next generation. The NGM Study was coordinated by the American Small Manufacturers Coalition; conducted by the Manufacturing Performance Institute (MPI); and supported by Manufacturing Extension Partnership centers and partnering organizations. A total of 2,529 manufacturers participated; for this report 106 manufacturers were identified as “food and beverage manufacturers” using four-digit NAICS codes. For more information, go to www.mpi-group.net.

ⁱⁱZoe Wood, “Brands fighting for shelf space now that Wal-Mart believes less is more,” *The Observer*, Aug. 16, 2009.

ⁱⁱⁱCenters for Disease Control and Prevention

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