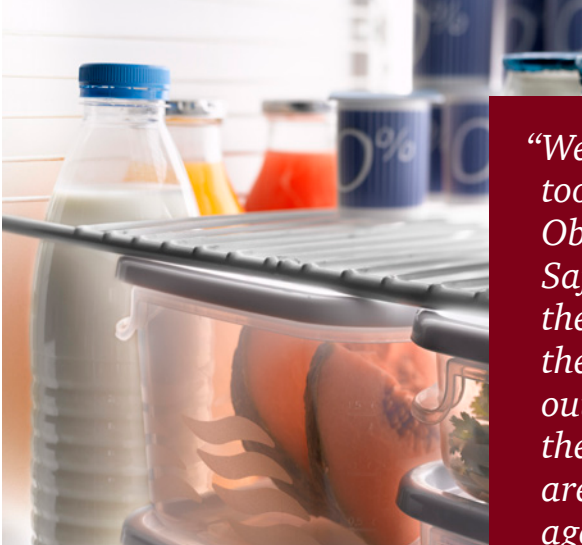


Brand enhancement

The 'hidden' benefit of implementing food chain visibility





“We are one step closer to having critically important new tools to protect our nation’s food supply,” was President Obama’s enthusiastic response when he signed the Food Safety Modernization Act (FSMA) in 2011. Praised as the most sweeping reform in more than half a century, the bill expands the FDA’s focus from responding to outbreaks after-the-fact to preventing them before they happen. It allows the FDA oversight on how foods are grown, harvested, and processed and grants the agency new authority to issue mandatory recalls when outbreaks of food-borne illness are suspected.

The sweep of FSMA is broad. Upon full implementation, it will effectively require food companies to possess the capability to track ingredients and to verify production processes as items pass through the value chain from field and farm to final consumer.

Although the FDA has still not released the first generation of rules and regulations implementing the FSMA, it is well supported by both industry and consumer groups. The Grocery Manufacturers Association calls the legislation “landmark.” The Food Marketing Institute supports it.¹ “I can’t remember an issue where my members

were so insistent that government issue regulations,” says the CEO of the Produce Marketing Association, which includes the country’s largest food retailers and distributors.²

Food supply chain visibility is an idea whose time is fast arriving

While being immediately driven by the impending FSMA regulations, the need for platforms that address visibility and traceability extends beyond FDA requirements. At a deeper level, as companies begin to re-evaluate their processes, they are recognizing that the ability to implement quick, selective crisis response is increasingly critical to protecting brand value. As production networks become more complex, with ingredients coming from multiple countries and multiple suppliers, exposure to risk grows correspondingly.

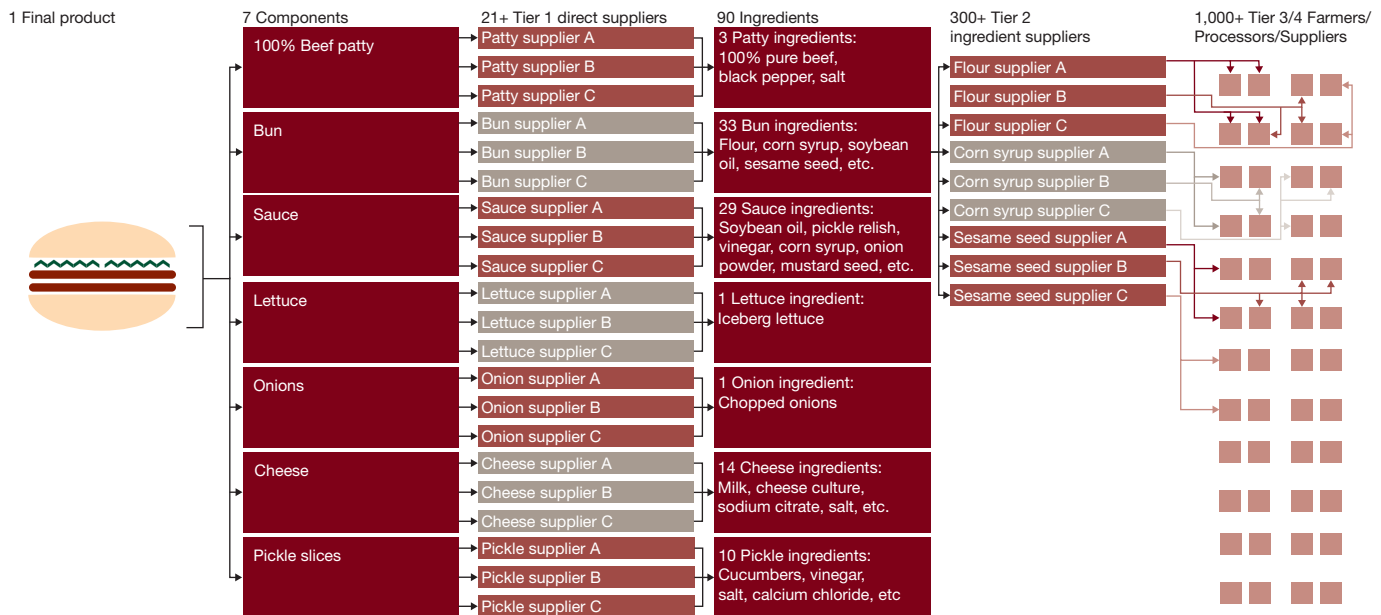
“A tremendous amount of the foods we eat are like sub-prime mortgages. They’ve been sliced, diced, mixed, processed and re-portioned with ingredients that come from multiple suppliers and countries of origin, each with varying levels of quality assurance and local regulations.”³

1 “Food Safety—The U.S. Food Safety Modernization Act.” Ben Cooper. 10/31/2011, *Just-Food*, http://www.just-food.com/management-briefing/food-safety-the-us-food-safety-modernization-act_id117192.aspx

2 Businessweek.com, 2012-05-18.

3 *Is Your Traceability Solution Sophisticated Enough for Today’s Complex Food Chain?*, Tom Kozenski, Logistics Viewpoints, <http://logisticsviewpoints.com/2012/05/22/guest-commentary-is-your-traceability-solution-sophisticated-enough-for-todays-complex-food-supply-chains/>

Figure 1: Supplier Representation. One final product is assembled with seven components composed of 90 individual ingredients supplied by hundreds and hundreds of suppliers throughout the extended supply chain.



Note: Assumed ~3 suppliers per component and ingredient for representative purposes only.

The typical restaurant hamburger illustrates this, with seven components (beef patty, bun, sauce, lettuce, onions, cheese, pickle slices) provided by several dozen Tier 1 Direct Suppliers which themselves consist of some 90 ingredients (e.g. beef, flour, oil, milk) supplied by hundreds of Tier 2 Suppliers which themselves are supplied by thousands of farmers and suppliers.⁴

For a company to achieve visibility within its food chain is understandably complicated. Building on a foundation of supply chain risk management, it entails such additional components as inventory management, transportation management and compliance.

The devastating consequences of an uncontrollable contamination event on a brand's reputation and revenue, however, constitutes a compelling rationale for investment.⁵

Damage to brand reputation becomes all the more probable when it is recognized that, according to the FDA, an estimated 15 percent of the U.S. domestic food supply is imported (60 percent of fresh fruits and vegetables, 80 percent of seafood) and currently only 5 percent of the world's food product is traceable.

Food scares in recent years—mad cow disease, E.coli in spinach, salmonella in eggs—have demonstrated the dire potential of contamination. 48 million

Americans suffer from a food-borne illness every year, more than 100,000 are hospitalized. Thousands die.

In terms of business, the average recall costs to a company are \$30 million, which drops directly to the bottom line (according to companies in Europe and the United States that faced a recall in the past five years). Over 80% of companies surveyed by the Grocery Manufacturers Association (GMA) described the financial consequences of recall as either “significant” or “catastrophic.”⁶

A most sobering example of dire consequences is what happened to the Peanut Corporation of America (PCA). In late 2008 and early 2009, nine people died and nearly 700 people fell ill from products containing peanuts (real numbers were likely much higher, the ratio of unreported to reported cases of salmonella being 38 to 1). The source of the outbreak was apparently

4 *Visibility in the Food Chain: Tracking and Monitoring Food Movement for Greater Insight*, PricewaterhouseCoopers (Food Visibility Position Paper Update, 02_28_12)

5 *Food Safety Modernization Act: Putting the Focus on Prevention*, Margaret A. Hamburg, Commissioner of Food and Drugs, <http://www.foodsafety.gov/news/fsma.html>

6 *Visibility in the Food Chain: Tracking and Monitoring Food Movement for Greater Insight*, PricewaterhouseCoopers (Food Visibility Position Paper Update, 02_28_12)



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the Blakely, Georgia processing plant of PCA, triggering the most extensive food recall ever in U.S. history (3,913 different products involving 361 companies). PCA, which the previous year had earned \$25 million and was responsible for more than 2% of the nation’s processed peanuts, filed for bankruptcy within several months and permanently halted operations. Long after the damage had been done; it was found that the tainted peanut paste came not from the Georgia plant but rather another PCA site in Texas.

A contrasting incident, however, illustrates how damage can be controlled when visibility capability is in place. When mad cow disease appeared in Alberta, Canada in 2005, the initial reaction there was to follow Scotland’s example of a few years earlier, where thousands of cattle in the general vicinity of a hoof-and-mouth incident had been

indiscriminately slaughtered. In Canada, however, a traceability system was available and used to determine which farms the sick cattle were coming from and which members of the herd had come into contact with infected animals. The outbreak was soon contained, saving thousands of cattle.⁷

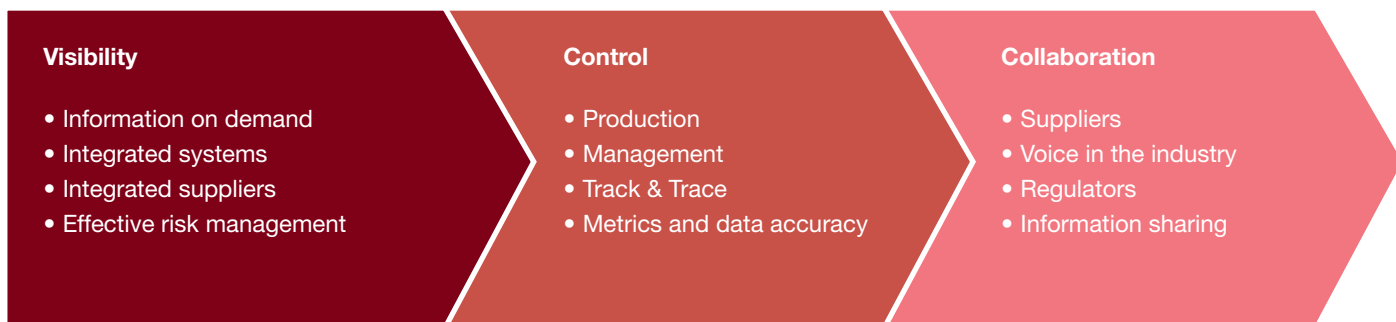
Conspicuous visibility gaps are more the norm than the exception in food chains. The more agents that food passes through on its way to the consumer, the more information is lost. In terms of general public perception, the different individual links in the chain are unknown and of little recognition while the real ‘culprit’ is identified as the final brand. Vertical integration may narrow the number of entities involved in the process, but at the same time it exposes the nucleus brand to incalculable risk for the actions of its up-stream partners.

Take orange juices as a hypothetical. Belize produces tens of thousands of tons of frozen orange juice concentrate. Most of this is sold in the U.S. where it is mixed with Mexican and Arizona concentrate to improve the flavor of cheap Belizean concentrate. Should a contamination incident arise with the purity of Belizean concentrate and proceed through the chain unresolved, the greatest ultimate damage would accrue to the brands on the shelf in the supermarket.⁸

The strawberry food chain is another example. They are picked off a vine (most likely in Mexico), cased, containerized, collected at a co-op, sold to a manufacturer, ground up to make juice, bottled and then moved from distributor to retailer to consumer. A problem with a batch of the original berries wouldn’t show up to the consumer until they bought a bottle of their favorite drink.

⁷ *Connecting Discipline: Supply Chain Visibility Increases Food Safety*, Duke, The Fuqua School of Business, http://www.fuqua.duke.edu/news_events/feature_stories/foodsafety/

⁸ *Is Your Traceability Solution Sophisticated Enough for Today’s Complex Food Chain*, op.cit.



Many food chains can be characterized by the frequency with which components seemingly ‘disappear’ from view. An example taken from our PwC practice is illustrative. A giant grocer imports fruit from Chile. A week later, an additional order is placed and shipped to the same distribution center. Visibility is lost on the water and no visibility within the system of the second shipment was seen until it came to the food distribution center. As a result, half of fruit ended up going rotting before sale.

If protecting brands against damage is the primary rationale for implementing visibility processes, a second good reason is the potential for marketing programs that enhance brands with competitive value. One company, for example, provides a traceability platform for fruit, vegetable and poultry brands that enables customers at the retail level to instantly receive specific origin information about their individual purchase.

In the near future, marketing initiatives will be possible which allow consumers to use smartphones, in concert with 2-D barcodes and Quick Response (QR) codes, to access in the grocery store such product information as where items were grown and processed.

Visibility adds value to the corporation by allowing companies to identify where product resides in the food supply chain. The enhanced agility that comes with this increased visibility can be considerable.

An Effective Framework

- **Visibility**—The ability to obtain relevant information in a timely manner to enable decisions with a high degree of confidence based on the analysis of current data
- **Control**—The ability to manage and make decisions over the global supply chain to mitigate risk, improve operations, and reduce cost in the supply chain
- **Collaboration**—Sharing information with supply chain partners (suppliers and other third parties) not only to provide a more responsive value chain but to proactively work together to reduce risk in the food supply chain

Among the added benefits that come with this visibility is increased efficiency in processing and operations, flexible inventory management that facilitates production decisions to increase revenue opportunities, and increased capacity to align product with market fluctuations by redirecting product to the largest demand areas. The multiple benefits supply chain visibility afford a food company can include the free flow of information from growers and manufacturers to retailers and consumers and root cause discovery in a dramatically shortened time frame (hours vs. days and weeks).

There are three general areas in chain of custody traceability, which are likely to figure in new FDA visibility rules. Addressing these gaps sooner rather than later will not only facilitate

compliance but also improve corporate brand performance and resilience.

- Although processors, packers and manufacturers are required to maintain lot-specific information, food facilities (distributors, wholesalers, storage facilities) are not so required and typically do not do so.
- Food products not required to be labeled with lot-specific information (e.g., unpackaged and packaged tomatoes, loose and bagged lettuce) are often unlabeled, making it impossible for facilities that handle these products to link them to lot-specific information in their records.
- Current commingling practices at facilities typically mix together raw food products from multiple farms or days with virtually no individual source traceability (e.g., a production batch of flour milled from wheat from dozens of farms).

Implementing an effective visibility builds on supply chain optimization and supply chain risk frameworks, with particular emphasis on inventory and transportation management.

Inventory management provides increased visibility through such activities as on-hand inventory analysis, current order analysis, categorization of inventory, review of receipt and put-away processes, detailed inventory data and ordering process analyses, and SKU rationalization.

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Transportation management affords increased control through access to metrics and data that creates visibility into transit times, modes, and locations of origin and destination.

Evaluating a supplier base in the sourcing process, both qualitatively and quantitatively is valuable. A collaborative relationship should be developed over time.

After a supplier is selected, a company should actively monitor its suppliers by conducting audits, or requiring third-party certification, to ensure that suppliers are in compliance with existing contracts and food safety requirements.

Multiple types of Supply Chain Risk may occur:

- **Reputational risk:** regardless of the originating source, the company whose name is on the label is at greatest risk of loss in this area
- **Consumer confidence and loyalty risk:** Consumers are increasingly concerned with product traceability and can sign up to receive alerts with several agencies and watchdog groups

In summary, pending governmental regulations coupled with the complications of managing ever more complex sourcing and production makes it imperative that food companies significantly elevate their ability to monitor traceability within food chains. A major ancillary benefit accompanying visibility will be enhanced brand risk protection from recall events. Additionally, reducing gaps in the food value chain will allow more agile production and distribution decisions to seize fast-changing market opportunities.

***To have a deeper conversation
about these issues contact:***

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