

Below the IceBerg's Surface, The Case for Enhanced Visibility

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The night of April 14, 1912 had excellent visibility across the ocean. The ship's crew had been warned of nearby, ultra-cold waters and to be on the lookout for icebergs. But even with this warning and good visibility, the R.M.S. Titanic collided with an iceberg and sank, killing over 1,500 and destroying the largest and most luxurious vessel of its time. George Behe, in his "Titanic: Safety, Speed and Sacrifice" summarized his view of the tragedy's root cause: "The Titanic's officers were apparently so utterly confident of their ability to see icebergs at great distances [and of] the Titanic's high speed...that they would have plenty of time to alter course and avoid any berg that might appear directly in the path of the ship." A contributing root cause, he indicated, was also the over-confidence in the invincibility of the ship's design.

In late November 2007 Topps Meat Co. filed for Chapter 7 bankruptcy after a 21.7 million pound recall of frozen hamburger, the 2nd largest U.S. food recall in history, forced them to close their doors on October 7. Hundreds of employees lost their jobs. From our perspective, it was not the 40 people identified as being sickened by e. coli-tainted hamburger that caused this modern-day tragedy. It was the company's inability to pinpoint exactly which product needed to be recalled and which did not that created the problem. In the absence of rapidly available, detailed traceability information, the recall spiraled out of control and Topps was forced to recall everything they had shipped. The result was catastrophic for the company, its stakeholders and shareholders.

Behe's root cause summation for the Titanic could easily apply to the Topps tragedy. Clearly, food and beverage companies today face heightened risk. So, what can these companies do to better protect themselves?

Just as nine-tenths of an iceberg's mass is below the water's surface, most of what can kill or seriously damage shareholder value in a food and beverage company lies in the myriad of operational details that today are largely invisible to operating managers, much less C-level executives. Unlike the officers on the Titanic, the executives and middle-level managers running today's food and beverage companies do not have excellent visibility of their operations.

What type of visibility is required to mitigate the risk that has already killed or damaged many food and beverage companies? The required visibility is a continuous, detailed operational view of the shop floor at the lot, item and process level from the receiving dock for incoming material, to the shipping dock for finished goods, and across all intermediate product transformations in the plant. This continuous view needs to

- import attribute information on key product characteristics from upstream suppliers for each specific receipt of incoming materials so that company managers can make better material disposition decisions including the material's highest and best use (or non-use),
- preserve the identity of specific ingredient items across the various in-plant transformational steps of sorting, mixing, blending, grading and intermediate storage so that true traceability between specific incoming material receipts at the company's receiving dock can be accurately associated with specific out-bound finished goods shipments to customers at the box, carton or bag level, and
- compare what is actually happening on the floor with the business rules that the company has set, and report in real-time any non-conformance events so that managers can take corrective action while the product is still work-in-progress, and not finished goods.

We call the solution that both mitigates the risk of recall and also helps food and beverage companies continuously improve their operations and enhance their profits Positively Assured Traceability™. Few, if any, food and beverage companies have this granular or real-time a view of their operations. Many companies may think they have this issue covered, but one need only look at the result of the various FDA recall investigations to know that even when a substantial investigatory effort is deployed, most of the key questions could not be answered about the source of a specific product contained in a specific box, bag or carton, and the processes applied to that product.

If they don't have this level of operational visibility, upon what do most food and beverage companies rely? Almost all food and beverage companies have the beginning foundation upon which they can build but they still need a few more steps to achieve Positively Assured Traceability™.

The two foundation blocks most food and beverage companies have today are their quality management program and some type of periodic audit. Almost all food and beverage companies operate under some type of quality management program, whether HACCP, ISO 9002 or other program, and they contract with third-party companies to perform periodic audits. The quality program sets the business rules under which the company should be operating, and the periodic audits provide a report back to management that the rules are being followed. Unfortunately, the quality management program only describes how the company should operate, not the way it is actually operating. And the periodic audits only provide a conformance snapshot, not a continuous monitoring of the shop floor operations to make sure that the business rules from the quality program actually are being followed.

Many companies supplement these two steps with some type of home-grown traceability system. The ones we've seen are usually based upon subjective, paper-and-pencil data capture by staff members. Or they use paper and pencil reports that are re-keyed into Excel spreadsheets. In either instance, the intent of these home-grown systems is to provide the raw backup data needed to produce the trace-back and trace-forward reports the company needs to protect themselves in the event of a tainted goods episode. Unfortunately, not only are these data not usually digitized – they sit on pieces of unconnected pieces of paper in file cabinets or on unconnected Excel spreadsheets on individual staffer's PCs, but often there are gaps in the reporting or the wrong information has not been collected. So when the unfortunate event occurs that requires company officials to use this information to protect the company, they find that their systems fall short of the protection they had hoped they had. Further, these home-grown systems add only cost and don't provide the information necessary to improve operations and boost profits.

The quality program and periodic audits are necessary but insufficient steps to provide the type of enhanced visibility that food and beverage companies need today to protect themselves and enhance their operations. The home-grown traceability systems also do not provide a sufficient solution. What is needed are professionally-developed, economical, automated systems that build upon the foundation of the quality program and audit steps and possibly elements of the home-grown solution to add three additional views:

Connect the Dots View – Companies need to automatically collect across their factory floors the data associating which specific received materials are included in which specific, outgoing, finished goods shipments to customers. As previously discussed, these associations must be maintained across various material transformations. Food and beverage companies typically have a very large number of transformations even when a raw produce product is received and a raw product is shipped after numerous sorts, and processes. Understanding exactly which received materials are contained in which outgoing customer shipments is the single most important key to mitigating risk and keeping the corporate ship afloat.

Enhanced Upstream View – Companies need to automatically collect and provide a continuous view of the attributes for each in-bound shipment of raw material, ingredients or sub-assemblies. Most ERP systems record only the supplier's name, the type of product received (SKU), and the quantity received. They assume all received shipments of the same incoming SKU are homogeneous for all attributes. Usually, they are not homogenous. Understanding attribute differences for the same received material

SKU and continuously monitoring them is one of the keys for better material disposition, and for unlocking hidden profitability.

Continuous Audit View – Companies need to be able to provide dashboards for operating managers which summarize the data from the Enhanced Upstream View and the Connect the Dots View to understand, in real-time, when a non-conformance event occurs, how to make better material disposition decisions, what operating procedures need to change to enhance product quality and/or profitability, and how to better manage recalls.

Today's professionally developed traceability systems offer a fundamentally new way to provide enhanced visibility into the operation of any company producing consumer product goods in today's heightened risk environment. This enhanced visibility from Positively Assured Traceability™ is what food and beverage companies need to not only avoid the "icebergs" that can damage or sink or but also to achieve operational excellence and boost corporate profitability.

Further information can be found at www.aginfolink.com.