

ERP SYSTEMS PROVIDE VISIBILITY INTO FOOD SAFETY

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Love & Quiches Desserts, based in Freeport, N.Y., had different priorities than the typical enterprise resource planning (ERP) customer.

ERP buyers often look at capabilities such as sales, procurement and financials. Love & Quiches focused on another attribute when it replaced its aging ERP system in 2012: The capability to track its treats in detail through the various stages of manufacturing.

“We never worried about the [general ledger] platform, but from the standpoint of being able to document full traceability,” Love & Quiches CFO Corey Aronin says.

The dessert and quiche maker went live in August 2012 with S2K Enterprise for Food, an ERP software product from Vormittag Associates Inc. (VAI).

The result, according to Aronin, is an end-to-end food safety capability that the older ERP

system never could have accomplished. “We can identify every single step of the process and every single item along the way, from raw material to work in progress, all the way to finished goods.”

As Recalls Rise, Food Producers Search for Solutions

Systems that help companies keep tabs on food safety and quality have become increasingly important in an industry beset with product recalls. The number of food and beverage recalls has nearly tripled since 1999, according to a Deloitte Consulting report.

The Food and Drug Administration (FDA) reported more than 30 recalls in just the past two months. Headline-grabbing examples including Chobani’s September voluntary recall of some yogurt products produced at an Idaho plant where mold was detected.

Food safety experts suggest the

increasingly globalized nature of food production has created a complex environment subject to safety and quality issues. Despite this complexity, many food manufacturers rely on paper records or a patchwork of standalone automated systems to monitor food production.

But the industry is beginning to adopt the quality approaches already prevalent in other process industries such as pharmaceuticals. “The food industry is just starting to understand and embrace those quality concepts now,” says Cathy Crawford, vice president with The HACCP Consulting Group, a food safety consulting firm based in Fairfax, Va.

Food and beverage companies lag somewhat in deploying automated systems for monitoring quality.

“They are behind some of the other FDA-regulated industries in terms of the maturity of the



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quality management systems and processes,” says Matthew Littlefield, president and principal analyst at LNS Research, a Cambridge, Mass. advisory and benchmarking services firm that focuses on enterprise quality management software (EQMS), among other fields.

Barbara Levin, senior vice president of market and customer community at SafetyChain Software, which specializes in software that enforces safety and quality requirements throughout the supply chain, says food safety has long been a “very manual” process.

Levin says food manufacturers large and small may lack automation in the food safety area. Part of the problem is the highly distributed nature of food production. The process a vast supply chain that encompasses harvesters in the field, manufacturing plants that take in the raw ingredients and distribution networks that ship products to warehouses, restaurants and grocery stores.

Deploying systems able to span such an environment is one issue. Another consideration: The food industry’s razor-thin margins. “Companies don’t want to add

additional expenses,” Levin says.

To Address Food Safety, ERP Remains Way to Go

Many manufacturers get by with paper and spreadsheets, according to industry executives. But for those companies pursuing automation, ERP is perhaps the most widely used system for addressing food safety and quality.

Love & Quiches took that route with VAI’s S2K, with the vendor providing customization to meet the company’s more specialized requirements. As a result, if a recall were to occur, the company would be able to nail down the source of the issue at the lowest common denominator - the individual raw material that goes into the product, according to Aronin.

ERP’s capability to contribute to safety and quality programs has become a selection criteria for food and beverage companies - and their suppliers. That was the case for Gelita, a global supplier of collagen proteins to the food, health, nutrition and pharmaceutical industries. The company in September went live with Epicor Software’s ERP software in its Australian operations.

“When Gelita looked into options

to replace its existing ERP and legacy systems, one of the key requirements was the ability to control product quality - including product release and traceability,” says Rubens Maia, business process manager for Gelita Australia.

Christine Hansen, product marketing manager at Epicor, says “the ability to deliver on quality across the enterprise” has been a key extension to ERP systems for some time. “This is even truer in industries as highly regulated as the food and beverage industry.”

“ERP is the core component that enables forward and backward traceability, says Tom Muth, senior manager of product marketing and process manufacturing for Epicor.

Traceability, a top objective in food quality circles, means that a manufacturer can track all the phases of a food product’s production and distribution. That traceability extends forward (from an ingredient to the initial stage of food production, for instance) and backward (from a distribution center to a manufacturing plant).

Enterprises relying strictly on ERP may bump into limitations, however. “The challenge comes when the data being collected isn’t



at the level of granularity that's needed when there's an adverse event," Littlefield says.

In some cases, the safety and quality data can't be readily consumed in a timely fashion. This affects a company's capability to respond quickly to issues. Even when a company can perform forward and backward traceability in a single ERP system, it may face difficulty accomplishing the same feat across multiple ERP systems.

Another challenge: Integrating manufacturing plant data into ERP. Data captured on the shop floor can provide greater visibility into raw materials - via the certificates of analysis that arrive with those materials - and the ability to track lots across multiple processing steps.

Littlefield says some companies use paper to collect quality and safety data from the shop floor and enter it manually into their ERP systems. Other companies use an EQMS system and/or a manufacturing operations management (MOM) system to capture this information and then integrate those systems with ERP.

Indeed, Littlefield says he is seeing standards-based interoperability emerge between ERP systems and

shop floor systems. He pointed to the ISA-95 model as the main standard for connecting shop floor systems such as MOM with ERP. Companies typically implement this integration using Business to Manufacturing Markup Language (B2MML) Web services and a service-oriented architecture, Littlefield notes.

Some large food and beverage enterprises, meanwhile, now seek to build upon those integration approaches, connecting data among multiple ERP instances and multiple shop floor systems for enhanced traceability. Littlefield says companies building this "traceability layer" also typically employ a business process management platform.

Crawford says traceability, while important, doesn't provide the entire safety picture; food makers also need to determine the root cause of a food safety problem. Traceability helps companies understand where problems may exist. For example, if a particular lot of finished goods is deemed unsafe, forward traceability would determine which stores received the merchandise. Root cause analysis, however, lets an organization discover how much of a product is implicated and size a recall accordingly. If the analysis

finds one particular machine to blame, then the recall action can be limited to the products processed by that machine.

To that end, some manufacturers use EQMS systems in addition to ERP. EQMS manages a company's quality processes in a central repository. EQMS products aim to assist manufacturers with root cause analysis, with the objective of keeping a particular quality or safety problem from resurfacing. Such activities fall under the scope of what the food industry terms corrective actions and preventive actions, or CAPAs.

EQMS's role as CAPA software represents a shift from reacting to problems to attempting to prevent them. "We want people to be more proactive about food safety," says Kelly Kuchinski, industry solutions director at EQMS vendor Sparta Systems.

Food Safety Standards Enable Growth

Food and beverage makers tap IT systems to tackle safety issues, speedily deal with problems and, potentially, head them off in the first place. Third-party audits and voluntary food safety certification programs such as the Safe Quality Food Institute (SQF) also drive adoption.



Crawford says SQF and the British Retail Consortium's Global Standard for Food Safety don't explicitly call for IT systems. But the standards do ask food manufacturers to be able to provide, produce and retrieve data in a timely and organized manner.

Such requirements have prompted

some food and beverage companies to ramp up their automation. At Love & Quiches, Aronin says the company's new ERP system enabled it to begin the process of becoming SQF certified. The company expects to be certified by December 2014. Certification, he adds, will let the company expand in domestic and international markets and sell

to big-box retailers and national supermarket chains.

The company's food safety-oriented ERP deployment has also helped the company comfortably pass third-party audits initiated by customers, Aronin notes. "It's enabling us to reach out to customers we wouldn't have been able to reach out to before."



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