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A Special Report from Vital Analysis

Food For Thought: *Food Sector Overview and SYSPRO Case Study*

Overview

The food industry is undergoing structural changes and, in the United States, food manufacturers and processors are experiencing additional challenges. Specifically, the plummeting value of the U.S. dollar in world trade markets is making the cost of imported goods more expensive and is triggering foreign demand (and raising prices) for U.S. grown agricultural products. Since these are the primary raw materials for consumer foodstuffs, price increases are occurring in virtually every food cost category.

Global concern regarding terrorism has fueled additional regulatory requirements for this industry. Even with this additional scrutiny, large numbers of contamination cases and product recalls are occurring on an almost daily basis. The costs, time and systems required to support these regulatory requirements may be significant but in an industry where safety and quality are of paramount concern, shortcuts cannot be taken.

Manufacturers and producers should consider ERP solutions that have broad and deep ERP functionality in the basic core modules as well as in the distribution and manufacturing areas. Software buyers should also look for extensive functionality to support integration with food retailers. Specific functionality (e.g., trade discounts) and flexible, newer technical architectures (.Net and SOA) are also strongly recommended.

SYSPRO's food sector solution has received solid market uptake. It is a broad, deep ERP solution that is targeted for small to medium size businesses. SYSPRO is committed to the food sector and it is a key vertical solution for them. We were also pleased to see the flexible .Net architecture stack that the entire product line utilizes. When this architecture stack is coupled with their broad functionality, users gain business model flexibility unavailable in other solutions.

Food manufacturers and processors are facing very challenging times. In discussions with industry executives and other subject matter experts, two broad areas seem to be impacting the industry most significantly now:

- rising costs that are difficult to pass on to consumers
- food safety and the attendant regulation and tracking that goes with it

The impact of both of these industry phenomena is being felt in the financial statements of food manufacturers and processors. For those companies who do not weather both of these challenges well, the longevity of that particular industry player could be in jeopardy.

Rising product costs are difficult for food processors to manage as many aspects of their cost structure are well beyond the control of any one person or firm. Speculators trading on commodities exchanges exacerbate the problem by contributing to the pricing swings of the fundamental items so many food processors require. In 2006, approximately 21% of the U.S. corn harvest was used for ethanol production. This is up from 1% in 1980. This is producing dislocations throughout the food economy. Fiscal, monetary and trade policies of individual governments are also having an impact on North American food processors as the collective impact of these policies is causing a significant drop in the value of the US dollar among global currencies. As Figure 1 shows, as the US dollar declines, food manufacturers and processors in the United States are paying significantly more for their raw materials. Spices cost more because many of these are imported and the dollar just doesn't buy what it used to. But, the falling dollar is now making US agricultural products more affordable to foreign buyers and bidding up the cost of same to US food processors.

These economic dislocations will require food industry players to be exceptionally focused on operational excellence. Today, these firms can ill afford any production errors, waste, spoilage, recalls, safety issues or other events that will produce an adverse impact on the company and its financial results. This means that food industry players must be as efficient as possible, wasting nothing, and becoming an expert in forecasting/exploiting future economic opportunities.

To put some numbers behind this, the inflation rate in the United States has been averaging 3-5% for the last decade or so. However, in just the last year, some of our respondents indicated double-digit increases in fuel, milk, plastics and other commodities. Wheat was identified as now costing 100% more than it was at a similar time last year. Nonfat milk powder it is up 100%. Cheese is up significantly as are packaging, plastics, beef and other commodities.

Bottom line: Cost pressures are not going away. Worse, food producers are finding it difficult to pass all of these increases to consumers. This is putting pressure on bottom lines and making operational excellence a major strategic priority.

What's Driving Soaring Food Prices



Figure 1

Safety and Regulatory Requirements

Ensuring the safety of the nation's food supply has become the focus of many regulatory bodies throughout the Western world. Since 9/11, monitoring of the U.S. food supply has been supplemented with additional legislation to prevent tampering and other malfeasance.

Protecting the quality of the food supply is a difficult task given the global nature of the food industry today. Grocers now provide fresh fruits and vegetables year-round and can do so by supplementing domestically grown crops with imported crops. Effective management of these vital components of the food chain require extensive IT and supplier certification programs.

Even with new regulations and oversight, there have been a number of well publicized failures where food quality or safety has been compromised. An imported protein supplement led to the deaths of numerous pets. This incident triggered the recall of numerous brands of dog and cat food. A potentially toxic additive was found in imported toothpaste. In recent months leading up to the publication of this report, a rash of E. coli contamination scares triggered the recall of extremely large quantities of beef.

Adverse publicity is financially detrimental to food processors and manufacturers; however, deaths and/or lawsuits resulting from unsafe food have and will continue to cause business failures for those manufacturers. In our discussions with food company executives, every food executive is not only aware of this market reality but, to the one, was intensely focused on maintaining the strictest quality and safety standards.

To provide high quality, safe food products, food producers and manufacturers must have systems capable of:

- tracking the full lifecycle of a food product from planting to consumption by end consumer
- serial/lot and other tracking capabilities

60 Days of U.S. Government Food Recalls/Alerts

- **Undeclared ingredients:** pine nuts, peanuts, tree nuts, casein in rice and burritos, milk in potato chips
- **Undeclared sulfites in:** apricots, kudzu, soup mix, cookie mix, dried potato, dried lily bulb, dried herbs, unspecified
- **Recalled:** bean salad, green beans, garbanzo beans, Mexican beans, blue lake beans, roach fish, basil, bouillabaisse sauce, crackers, kuchen, pinjur, Mexican candy, flavored water
- **Contaminated cheese, cheese dip, milk**
- **Possible health risk:** unhulled sesame seeds, frozen croaker
- **Possible botulism risk:** beans
- **High levels of lead:** two recalls
- **Not to eat raw oyster warning**
- **Allergy alert:** chocolate bars
- **Listeria:** cheese
- **Not to drink:** flavored water

Source: U.S. Food & Drug Administration, U.S. Department of Health and Human Services, 12/3/2007 – 2/1/2008, <http://www.fda.gov/opa/ocm/7alerts.html>

7 Months of USDA Food Safety & Inspection Service Recalls

- **eColi – 5 recalls**
- **Undeclared Allergens – 4 recalls**
- **Listeria – 2 recalls**
- **Salmonella – 1 recall**
- **Botulism – 1 recall**
- **Possible Adulteration – 1 recall**

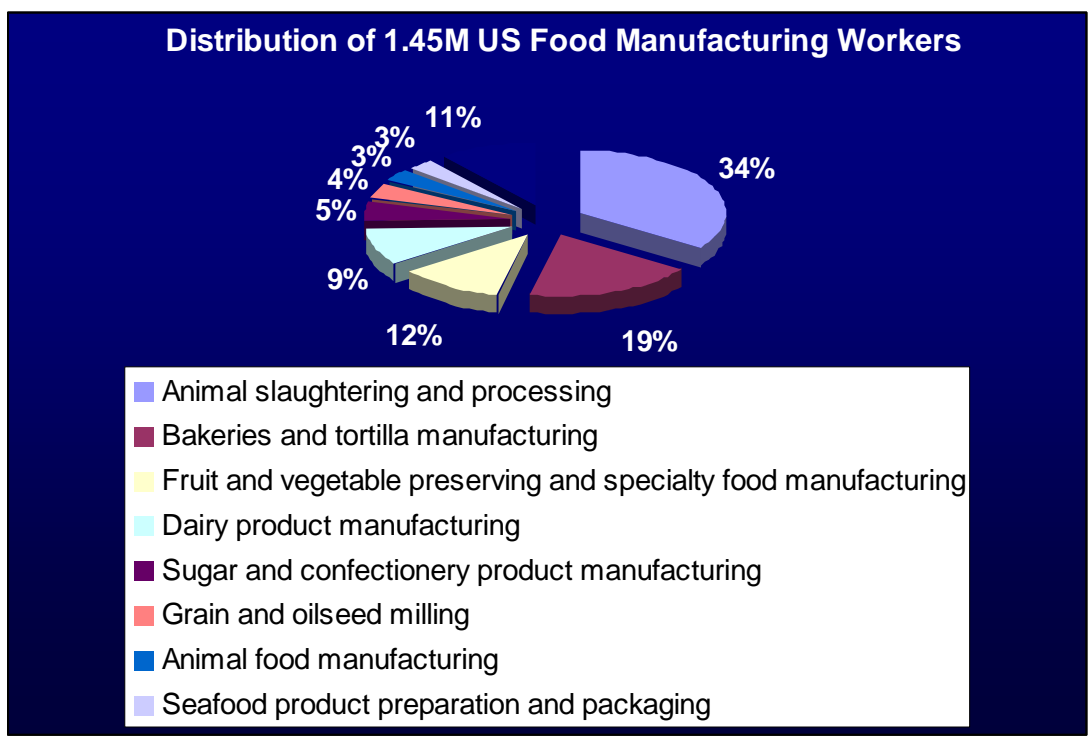
Source: USDA, 7/19/2007 - 2/1/2008 http://www.fsis.usda.gov/Fsis_Recalls/Open_Federal_Cases/

- testing and quality assurance
- supplier management and compliance systems
- returns or reverse logistics processing
- support for federal, state and local regulators and inspectors

Operational excellence takes on a new light within food manufacturers and processors when safety and quality concerns are considered. Food handling must be accomplished in a precise, prescribed fashion if quality and safety are to be at desired outcome levels. For example, the routine cleaning of plant equipment is a very precise task that must be accomplished in a specific sequence, with specific cleaning materials and by individuals well trained to perform this task. Food manufacturers must have repeatable, documented processes and workflows (with appropriate approvals & signoffs) to ensure that the food they make and sell is free from contaminants and disease.

Tech Requirements for the Food Industry

The food industry encompasses a very broad range of businesses and business types. Some firms are predominantly growers and require technology systems that are useful in the field and help with concerns such as crop rotation, irrigation, soil erosion and planting. They also utilize a number of common back-office applications to assist with accounting, finance and HR.



Source: US Department of Labor – Bureau of Labor Statistics – 2006

Figure 2

Beyond this point in the value chain, food processors and distributors dominate the landscape. Figure 2 shows the distribution of these firms. These companies use a number of standard and industry specific solutions. As expected, these firms utilize traditional

back-office and mainstream ERP solutions for basic accounting and HR processes. Beyond these back-office modules, other module needs in the logistics, distribution, manufacturing disciplines may vary on a company by company basis. Additionally, the type of food processing involved may dictate the use of either discrete, batch or process manufacturing functionality.

For those food industry players with significant retailer interaction, a number of additional industry-specific capabilities may be required. These firms may need solutions to support direct store delivery (DSD), vendor managed inventory, trade promotions, cooperative advertising, rebates, coupon processing, returns processing and more.

But, no matter where a company exists on the food value chain, all firms must comply with local and national regulations and safety requirements. Figure 3 lists just some of the regulatory bodies and legislation that oversee U.S. food producers and distributors.



Figure 3

Changing market and competitive conditions may dictate additional technology requirements. Large food retailers appear to want greater degrees of product identification beyond uniform product code (UPC) and serial/lot tracking capabilities. Food producers are being challenged to support various RFID (radio frequency identification) initiatives. Food manufacturers and retailers are very concerned about the introduction of counterfeit, off-channel products entering the food chain. Likewise, diversions of products to different markets or retailers adversely impact a vendor's ability to recall product, if needed. Food manufacturers should prepare for the possibility of additional systems requirements in these and other areas.

Buyers of technology for the food industry should seek solutions that meet three sets of requirements: basic ERP capabilities, food industry specific functionality and regulatory/safety requirements (see Figure 4).

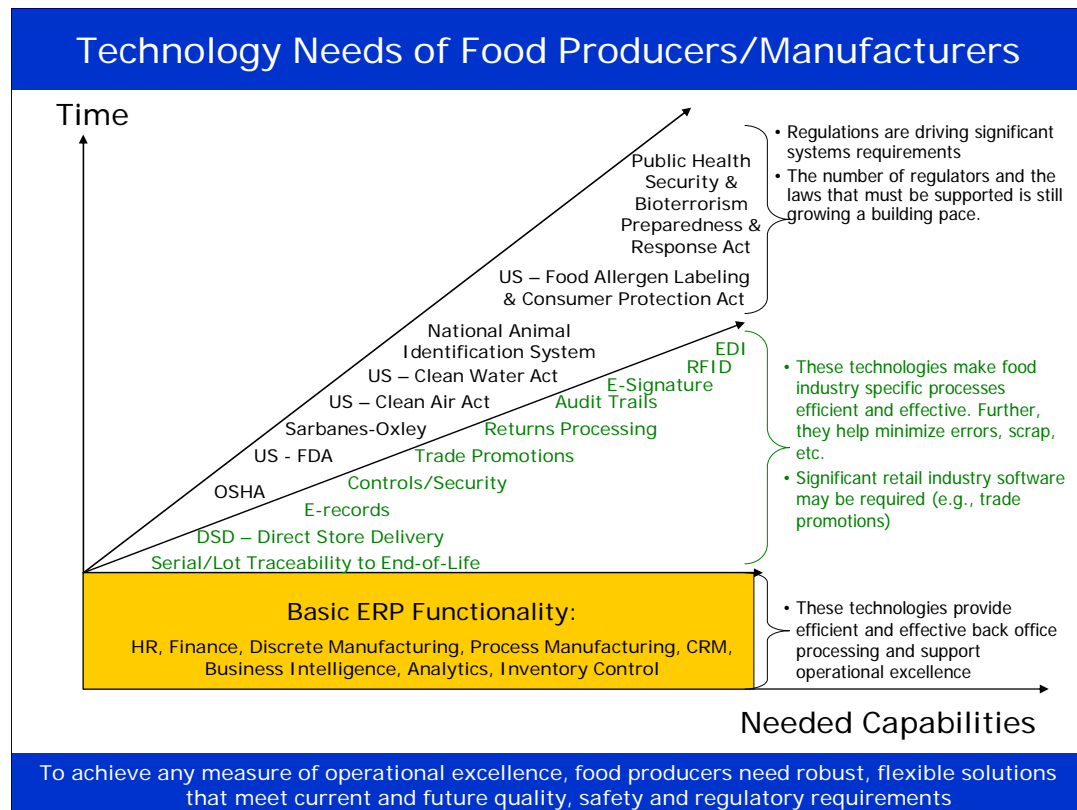


Figure 4

Basic ERP products will not meet many needs of food sector businesses beyond basic back-office and manufacturing functionality. ERP products do a solid job of tracking accounting events but do not necessarily support the intense product movement data of food stuffs or the elaborate documentation required to maintain quality and safety information. Documenting every step of the food supply chain, from grower to final consumer, is a data intensive and difficult task. Some food processors and manufacturers are attempting to simplify their businesses by limiting the numbers of growers and suppliers they buy products from. This process may reduce their risk exposure somewhat; however, these producers and manufacturers must still maintain copious and detailed records that track the movements of these products.

ERP solutions that are not designed for the food industry may be significantly deficient in their ability to support users in that vertical. The amount of functionality required to support integration with retailers, shippers and suppliers is not insignificant. Prospective software buyers should avoid ERP solutions that lack specific, dedicated functionality to support this vertical. Additionally, software buyers should examine the manufacturing functionality they require very closely. If a food manufacturer requires specific process manufacturing capabilities, formula management, etc. then they should expend appropriate time verifying functionality and applicability of potential solutions.

We also believe that the underlying technical infrastructure of a food industry ERP solution must be modern, integrated and designed around newer standards such as SOA (service oriented architecture) and .NET. Why? We believe that the regulatory quality and safety issues in this industry will place additional IT requirements on food processors and manufacturers. Additionally, we believe that changes will be demanded by other firms in the food chain (e.g., Wal-Mart's RFID initiative) and these will impact the IT environment and systems needs of food manufacturers. Finally, we believe food manufacturers must establish tighter technology relationships with critical suppliers and retailers. Some of this additional connectivity will support improved logistics and replenishment activities while other integration aspects will facilitate product tracking and potential recall activities. To support these business requirements, food manufacturers will find older architecture based products to be more difficult and costly to modify and less supportive of these ever shifting and growing demands. *The business environment of food companies is highly volatile and the technology supporting it must be malleable.*

The best food companies choose their technology solutions very wisely. Specifically, these smart technology buyers look for solutions that:

- meet all current regulatory requirements for all countries in which the buyer operates.
- have a deep, rich history of meeting new global regulations on time.
- contain a full-suite of ERP capabilities from back-office, front-office, shop floor and distribution.
- have rich food industry functionality built into the suite
- are built with highly adaptable technology infrastructures like .Net and SOA (Service Oriented Architecture).

SYSPRO Alignment in the Food Sector

We were recently briefed on SYSPRO's vertical solution for food manufacturers and distributors. SYSPRO possesses a complete ERP product line that is suitable for most discrete manufacturers. Moreover, it appears to be quite relevant for food manufacturers (see sidebar).

Key Modules	
Food	<ul style="list-style-type: none"> • Trade Promotions • Return Authorization
Manufacturing	<ul style="list-style-type: none"> • Lot Traceability • Bill of Materials • Requirements Planning
Financials	<ul style="list-style-type: none"> • General Ledger • Accounts Payable • Fixed Assets • Accounts Receivable • Cash Book • Activity-Based Costing • Electronic Funds Transfer
Distribution	<ul style="list-style-type: none"> • Inventory Control • Sales Orders/Invoicing • Purchase Orders • Sales Analysis • Landed Cost Tracking • Forecasting & Inventory Optimization
CRM	
Analytics	
Document Flow Manager	
e.net solutions	
Business Alerts	
Reporting	
Electronic Data Interchange	

In 2007, SYSPRO added new functionality for e-signatures, returned merchandise authorization processing and return-to-vendor applications.

Based on criteria previously covered in this paper, we believe SYSPRO's solutions represent viable, logical, long-term solutions for food industry firms. Specifically, we believe their solutions offer users peace of mind as they comply with most regulatory requirements. Given the size of the company, the successes it has secured already in the space and its commitment to staying ahead of the curve with compliance matters, we believe SYSPRO should be on the short list of many food industry technology selections.

Product functionality is only one part of the story though. The technology architecture that SYSPRO utilizes is a multilayered, Microsoft .Net stack that provides significant connectivity and product flexibility. This is critical for food processors and distributors that need to interact with third parties and their systems. This is also significant in that it permits the integration of non-SYSPRO technologies should those be required.

Who is SYSPRO?

SYSPRO (www.syspro.com) was launched approximately 30 years ago. Their software products are in use in over 60 countries today. Total customer count for SYSPRO exceeds 12,000.



SYSPRO offers cross industry solutions (e.g., financial applications) as well as distinct solutions for several vertical sectors. Some of the verticals that SYSPRO supports include: aerospace, automotive, chemicals, medical devices, machinery and equipment manufacturing, electronics, food and beverage and services.

SYSPRO products are targeted for the small to midsize business market. These applications are sold directly by SYSPRO or through authorized resellers.

Summary

SYSPRO believes that its users are "pragmatic visionaries". These are users who shop carefully for their technology solutions (i.e., pragmatic) and buy from vendors with an established track record for delivering complete vertical solutions that flex and grow at the point of need and when business strategy or regulations change (i.e., visionary). Using that definition, we believe a significant number of food industry executives would fall in this category.

In the food sector, businesses need functionally robust systems that are complete and integrate well with each other and with partner systems. Pragmatic executives will likely pass on more basic ERP solutions and migrate towards vendors with significant food functionality and support for an ever growing regulatory burden. Visionary food

executives will seek solutions that utilize a flexible technical architecture (e.g., SOA or .Net), are functionally broad and deep and come from vendors with a deep commitment to the food industry. Visionary buyers already see the need for long-term product flexibility given the volatile economic and regulatory changes that are buffeting the food industry today and for the foreseeable future.

About Vital Analysis



Vital Analysis is a very different kind of technology research organization. We are the intersection set where exceptional technology market knowledge meets the executive suite. Where other 'analysts' replay vendor press releases, we give you the:

- impact new technologies will or won't have on your business
- reasons why you should or shouldn't care about specific emerging solutions
- business justifications why you may or may not want specific solutions

Vital Analysis was carved out of TechVentive, Inc. in 2007 as a new, but complementary business. As designed, Vital Analysis is the publishing, research and analytical arm of that company.

Our reach, like our blog readership, is truly global. We've consulted with top technology executives in Australia, Brazil, Canada, United Kingdom and the United States. We've been briefed by technology providers from virtually every corner of the planet.

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