

CAWLEY, TERRY P., DigiTerra Inc., One Lincoln Centre, Suite 400, Oakbrook Terrace, IL 60181. **Tightening the links in your supply chain to improve profitability and enhance customer satisfaction.**

Last year was a year of change for the food industry. Major grocery chains put pressure on all suppliers to improve profitability. On-line grocers attempted to take advantage of B2C buying trends. Food quality and safety stayed in the forefront, even as consumers demanded more ready to eat and prepackaged foods. Major divestitures, mergers and acquisitions continued to be commonplace as local and global players stumbled somewhat as they strived for improved customer satisfaction without sacrificing profitability.

The Technology Effect on the Food Industry

In one short year the dot.com frenzy turned into dot.com carnage causing a wild ride in the market. This combined with soaring energy prices caused a booming economy to fall into a possible recession. Tightened corporate margins have driven companies to look at better and different ways to attract and retain customers, and to rethink corporate structure and strategy. Within the world of information technology, internet and wireless technologies created information channels unlike ever before, business to business and business to consumers e-Commerce arose as the possible answer to many of these concerns.

The supply chain within the food industry has not been immune to the business issues in today's economy. It also carries with it its own issues as public sensitivity heightens and tolerance is lowered regarding the inability of companies achieve perfection in these areas. Major grocery chains put pressure on all suppliers to improve profitability. On-line grocers attempted to take advantage of B2C buying trends. Food quality and safety stayed in the forefront, even as consumers demanded more ready to eat and prepackaged foods. Major divestitures, mergers and acquisitions continued to be commonplace as local and global players strived for improved customer satisfaction and greater.

The food industry struggled with manufacturing and business software throughout the '90s. The potential value of information systems was evident to most, and many companies made major software investments. But late in the decade, the lion's share of I/T investment had been going into Y2K remediation. Numerous back end enterprise solutions were introduced throughout the 90's to integrate in house operations like purchasing, accounts payable, order entry, accounts receivable, financial reporting and operations/production planning. These ERP systems, however, have proven weak in their ability to execute and have been underutilized by most companies.

The Weak Links – And How to Strengthen Them

Now, to supplement these earlier initiatives, programs for Supply Chain Optimization, “e-initiatives”, automated specifications management and Customer Relationship Management have emerged. The industry has advanced its usage of sophisticated information systems and is beginning to use I/T to advance fulfillment. Gradually, companies are beginning to integrate warehousing, distribution and shipping information from supplier to manufacturer to customer.

Supply Chain Optimization

Warehouse Management Systems have been introduced that optimize the flow of product through distribution facilities, minimize labor and storage costs and help plan orders in an optimized way. Traffic Management Systems have emerged that minimize transportation costs, optimize carrier selection and route planning, provide reporting for analysis of carrier and contract negotiation. Order/Inventory Management Systems can manage orders, provide Customer Verification assist in Order Planning, and Confirmation. They also can provide to tools to effectively administer a Vendor Managed Inventory program.

The Supply Chain Execution has grown from a need to integrate traditional stand-alone execution applications in the business, such as Warehouse and Transportation Management, into a single execution system. SCE has also emerged as companies require their execution systems to look outside the traditional “four walls” of the business and to be more customer focused. The need has arisen for a “birds-eye” view of the operation while squeezing the maximum efficiency out of it.

For example, they can integrate data and ordering systems, but cannot run the warehouse. Most SCE offerings today are just a re-marketing of traditional WMS/TMS functionality offering interfaced rather than a true SCE Suite. Newer options, however include hosted modules/suite and other integrated tools to streamline the processes and provide real time visibility and feedback. The ROI and improvements in customer retention can be enormous for any size organization.

Typical Quantified Benefits from Implementing an Integrated SCE Solution

Delivery Performance	16% – 28% Improvement
Inventory Reduction	25% – 60% Improvement
Fulfillment Cycle Time	30% – 50% Improvement
Forecast Accuracy	25% – 80% Improvement
Overall Productivity	10% – 16% Improvement
Lower Supply-Chain Costs	25% – 50% Improvement
Fill Rates	20% – 30% Improvement
Improved Capacity Realization	10% – 20% Improvement

Even with the amount of technology that has been available the last few years, only 5% of warehousing and distribution systems are integrated, much less automated. With acquisition bills to pay and shareholder expectations to meet, most companies are looking at every way they can to cut costs and become more efficient.

e-Procurement

The internet has provided a tremendous tool for companies to now reach out to customers and suppliers easier than ever before. e-Procurement both direct with supplier alliances and via

marketplaces allow companies to shop for and procure both direct materials as overhead items such as MRO cheaper, faster and easier than ever before. These systems, integrated with back end systems already in place in many companies allow for reduced inventory levels and higher turn of standard items.

Trading exchanges proliferated in the last year and everyone has begun to see potential advantage in purchasing over the Internet. Many in the purchasing, manufacturing and operations side see the benefits as the internet has become the perfect vehicle for inventory control, delivery and overall supply chain initiatives. Equipment auctions and ingredient exchanges blossomed. They offered quick and easy access to supply, immediate survey of price options, rapid delivery and freedom from paperwork. Companies like ecFoods.com, bMarco.com, and agribuys.com have become familiar to the industry overnight.

Rather than play in the equal opportunity world of the Independent Trading Exchanges (ITEs), major players joined forces to create proprietary trading exchanges. The biggest headlines among proprietary exchanges went to Transora.com. The Chicago-based alliance has linked 50 of the food industry's most prominent players, including Kraft Foods, General Mills and ConAgra, in a powerful buying block.

e-Commerce

Similar opportunities exist for companies to create a B2B Supply Side strategy for their own customers. Each company has the opportunity to create its own strategy for specialty and commodity items that may involve either direct links with customers or participation in marketplaces. As with the supply side, consideration should be given to customer alliances, value added services, and transmission of required information such as specifications and COA's.

No one strategy or architecture will work for everyone. The endless possibilities and combinations of tools enable each company to create the value chain unique to their organization. e-Commerce is not a strategy - the internet is not a substitute for a poor business model. It is a channel, a tool, an enabler to help each company execute a well thought out strategy.

Specifications Management

Companies all through the consumer packaged good and ingredient chain need to maintain the right products, competitively priced, of the highest quality, delivered on time, with documentation that the products meet specifications and import and export requirements. None of these issues are new within the food industry. Companies have taken steps over the years to take costs out of manufacturing. All companies have taken steps to negotiate lower prices from suppliers, store product strategically after production to be ready for customer orders. Batches are monitored to meet FDA and HACCP requirements and COA's are supplied to document quality and compliance.

Several Specifications Management, like internal ERP systems, have allowed for better laboratory management both between labs and production as well as between plants. QA results

are conveniently stored to be easily retrieved to meet the requests of customers. New technology exists now, where these systems can be taken to the next level to help deliver product verification to meet customer specifications along with supporting COA's, automatically Transmitted prior to the arrival of orders.

Customer Relationship Management

Extensive effort has gone into Marketing Surveys and increasing the amount of feedback from internal salespeople as well as distributors and brokers. Companies have tried to respond to customer demands in a variety of ways to stay competitive. After all the talk of the past two to three years, customer relations management systems have finally come into their own. Companies are now integrating customer feedback into their business and production planning. The trick is to strategically select initiatives and the right systems that will enhance them.

Finally, perhaps the most exciting development has arisen in the area of Customer Relationship Management. Internet and telephone technologies now allow for the collection and transmittal of information as well as for enhanced customer service. Customer Service Centers now have the capability to become 24/7 Customer Communication Centers. These centers can take information from salespeople, brokers agents and distributors as well as from customers. In addition, web sites can be enabled to take information from visitors to take feedback at any time as well as to help profile viewers interested in a company's offerings.

Integrated Solutions

The new twist on the ongoing improvement, however is the widespread availability of equipment and software to create Integrated Solutions that take all of these issues into consideration, enabling companies to operate leaner, smarter and faster than ever before. New technology is created every day to help companies re-engineer processes or redefine the flow of their operations, initiate new systems and processes, identify unnecessary expenses and identify customer trends and needs.

Integrated solutions encompass the entire organization and require a smooth flow of information within an organization. This goes from requisition to price discovery, to purchase order confirmation to shipping and receiving, invoice reconciliation and payment. On a deeper level, the details of what product was bought, from whom from where at what price, delivered to which location at which cost. Beyond the purchases themselves, integrated solutions allow companies to take information from and interact with their customers and employees processes at any time.

Technology in the Food Industry for 2001

Are these technology solutions a trend or are they going to change the way we do business in the food industry forever? A recent survey of five top food industry CIO's by Food Processing Magazine gives us some feedback on where the industry is at going into this year:

Leon Miller, Director of information services, WLR Foods Inc., Broadway, VA

“The IS function is an increasingly important part of our strategy as a service organization to bring value to the customer and improve customer service. Information technology is critical to making sure we get the right product to the right place at the right time. One of those areas is obviously the Internet. The Internet is allowing us to take information that used to be just internal and share it more readily on a protected basis with our partners.”

Jerry Hagedorn, Vice president, finance and information systems, Brach's Confections, Chattanooga, TN

“A lot of effort in the IS area continues to be focused on shortening the supply chain, reaching back to vendors for more efficiency. There must be a consistent flow of valuable information—both market-related and internal—to help you make better decisions and to help you foster better relations with your customers and suppliers.”

“A key thing driving our consideration is the realization that the Internet is not just an issue of technology, but one of logistics. The technology today is relatively easy, but fulfillment is a different and more complex issue. When you have to manufacture a product on top of shipping it, the use of the Internet becomes a logistics and supply chain issue. The question is how an organization manages what comes from a Web presence”.

Bill Friend, Vice president, information technology, J.R. Simplot Co., Boise, Idaho

“We're on a technological roll, and in five years we won't recognize the food industry. Issues revolving around better understanding demand and inventory management will be significantly improved by technology. The food business has lagged behind other industries, but it's ready to move ahead. Will it advantage or disadvantage the big players, or will it level the playing field? We're not sure what will happen, but the use of information in the supply chain will significantly impact the behavior of food companies.”

“For one thing, the IS world seems to be moving away from company-centric solutions, and e-commerce is the thing that seems to be telling us that. With the emergence of Internet-oriented industry consortiums, the focus of where you look for efficiencies in the manufacturing business is slowly shifting from inside the company to these industry-wide consortiums. Whether they're oriented to the supply side or the demand side, these things are all going to start picking up some of the pieces of what we've done in the ERP area. And that's going to involve some different thought processes when it comes to software systems. You may have bought an ERP system because you wanted to integrate everything internally, but now it's wait a minute, integration may be taking place more outside of the company.”

Steve Brazile, Vice president, business systems, Earthgrains Co., St. Louis

“One of the challenges today is looking for ways to invest in technology to help a company and its customers and how we link to our suppliers and customers and take costs out of the supply chain. A specific focus is on adapting to the consolidation mode under way in the bakery industry. We've made a number of acquisitions, and from a technology perspective we're going

to be working on getting those companies integrated into our business processes and our ERP system. We're also in the assessment phase of B2B. We're investors in Transora, the CPG company consortium of companies that have come together to try to pool their resources to figure out how to do this across the supply chain. That's how we're keeping our ear to the ground with respect to e-commerce. We see Transora initially helping us address procurement issues, but down the road we see other advantages in logistics, supply chain optimization and financial shared services.”

“We've also done some work in the area of scan-based trading—now about 3 percent of our transactions are based on that—and we're also working on integrating our commodity suppliers into our ERP system. Scan-based trading involves making deliveries to our retailers basically on a consignment basis, meaning they don't pay for the inventory sitting on the shelf, but rather, only when it goes across the scanner. This has the effect of freeing up working capital for our customers, and also allows us to come in and basically service the account whenever we want to, as opposed to having to hit a specific delivery window when they could do an inventory check-in process. With greater flexibility, the retailer can boost sales because there's less out-of-stocks, out-of-date product is removed more frequently, and they tie up less labor checking product in.”

Gary Rietz, Vice president and CIO, *Dean Foods Co.*, Franklin Park, Ill.

“E-commerce is obviously an important trend to watch, but it's important to recognize that the Web is really just another tool to be exploited. I think it's here to stay, but companies will have to decide what business problems they're trying to solve with it. Is it scan-based trading? Item and promotion synchronization? Those are real business problems, and the question has to be asked whether it provides us with a distinct advantage over, say, traditional EDI. When evaluating e-commerce vs. traditional IT, you'd better be aiming to use it to solve a business problem, either internally or that of your customer.”

What the Future Holds

By 2004 global e-Commerce is expected to be valued at nearly 7 trillion dollars and represent about 20% of the total global economy. By 2010, devices connected to the internet will reach 35 billion. By 2020, so many appliances, vehicles and buildings will be online that it is likely there will be more internet devices than people online at any given moment.

New breakthroughs on the horizon promise to offer even more capabilities. In the not too distant future, we may see integration of wireless internet and personal digital assistants for field representatives, satellite tracking of shipments, more timely analysis of scan data and global trading systems.

The possibilities for utilization of these capabilities in the business world are endless. Companies need only to envision the possibilities and cut their own entrepreneurial trail. Foresight, planning and collaboration will serve to eliminate boundaries and create new generations of process improvement.