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An Industry Trend for the Birds

After enjoying some 25 years of strong growth, the poultry industry is facing the kind of slowdown that requires a new approach that will allow processors to maintain a competitive stance and financial stability.

According to the USDA, per capita poultry consumption in this country increased 30% from 1976 to 1985 and 50% from 1986 to 1995. This trend has been attributed to several factors, including the introduction of McDonald's Chicken McNuggets®, the advent of fewer stay-at-home moms who rely on ready-to-eat meals to feed their families, and an increased interest in healthier diets. During this growth phase, the industry became highly concentrated, with more than 90% of the market controlled by the top fifty companies.

But from 1996 to 2005, per capita consumption increased only 20%, holding steady at 62 to 65 pounds per person per year, a sure sign that the category, without benefit of any new stimulus, is approaching maturation. With strong growth a thing of the past, a spate of mergers and acquisitions has helped some of the largest processors plump up their bottom lines.

"At some point, every company will have to rationalize their unproductive assets or dispose of them in order to find the footing that will keep them most competitive."

According to Jim Sorbello, USC Consulting Group (USCCG) poultry practice leader, "The acquisition and merger trend was fueled by two factors: the need to add capacity and the desire to grow market share. During the halcyon days of the '80s and '90s, it was far easier for Tyson Foods, for example, to acquire Holly Farms and its tray pack production to increase capacity. On the other hand, when Pilgrims Pride acquired ConAgra's poultry division in the early 2000s, that acquisition gave Pilgrims an entree into a market – the south-eastern United States – in which it had very little presence up to that point."

That consolidation trend ultimately gave larger companies the upper hand, which made it more difficult for smaller companies to match them in product development, packaging, distribution, and marketing. Even though larger companies were able to leverage economies of scale to maintain their hold on the market, they quickly realized that neither they nor their smaller competitors could continue to operate as they'd done in the past.

"One of the hurdles faced by the larger companies was integrating their

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operations with those of their acquired companies," explains Jeffrey Copple, USCCG operations manager. "At some point, every company will have to rationalize their unproductive assets or dispose of them in order to find the footing that will keep them most competitive. In today's environment, no processor can avoid improving operations or reducing costs, in addition to driving revenues by optimizing their meat blocks."

"An additional integration hurdle," Mr. Sorbello continues, "one that is not completely understood or addressed, but which is a considerable drain on profitability, is the redundancies in systems, administrative functions, and the like.

"The entire business intelligence aspect of these newly created companies – from demand and order management to accounts receivable, from human resources to payroll, and from purchasing to accounts payable – all require the kinds of systems and information we can provide through our technology offerings."

With the steady rise in commodity prices, driven by higher energy costs and a growing demand for feed grain as an alternative source of fuel, pressure on margins has never been more intense. But even as processors struggle to hold the line on costs to remain competitive, price takes a back seat to value.

"Competing on price alone will not gain the market share that delivering superior quality products and services can create," Mr. Copple says.

Net-net, every poultry processor must operate as efficiently as possible within its business strategy and plan to survive. This will require ever more emphasis on:

. strategic vision,
. operational excellence,
. business intelligence and technology, and
. supply chain optimization.

Even in a stagnant market, several processors have been able to capitalize on a strong strategic vision, Mr. Sorbello points out. "There are at least three companies that have clearly defined their niches in the marketplace. One is strictly focused on value-added products. Two others are sticking to the most basic processes, which they have refined so well that their positions are very, very solid."

All of this underscores the critical role of operational excellence, in which information and technology are two key elements. With improved operational excellence, poultry processors have a greater ability to shave hundreds of thousands of dollars annually from their operating expenses and, at the same time, drive substantial revenues. But without the information and technology that can streamline operations, improvement efforts will be less than successful.

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"We are just beginning to see the impact that technology can have on the industry," reports Mr. Copple. "We are finally seeing some automated real-time production measurement, some MES technologies, some visual imaging, and other systems appearing in poultry plants. The real opportunity for improvement is significantly enhanced when in-house capabilities are established so that these systems can be fully utilized, instead of simply generating lots of data that no one knows how to use. We see that far too often, so it's clear to us that internal education is essential."

Better Information and Analysis Lead to Cost Avoidance

"USCCG has been extraordinarily successful in improving the core practices of poultry processing companies to deliver solid results across the supply chain – from hatch to pack," says Mr. Sorbello.

"We frequently walk into operating environments where people think they need capital, or more capacity, or some new piece of equipment because they believe that what they have is not going to get them where they want to be. We can cite numerous instances in which we've helped with decision support frameworks, supply chain optimization, management operating systems, business intelligence, automation, and world class maintenance management and reliability services to lower costs and improve revenues."

For example, USCCG helped management at one processing plant avoid a bad purchase decision. The consulting firm employed its enhanced management operating system to clearly demonstrate that the plant was not getting the optimum performance from its existing de-boning equipment. It defined the problems that were negatively impacting yield and their effect on costs and revenues. Once the

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Birds continued

problems were addressed, it was obvious that new equipment was no longer needed, allowing the company to avoid an estimated $4.5 million in unnecessary capital expenditures.

In another situation, USCCG conducted an analysis across a company's seventeen facilities, where some 150 to 160 different corrugated box types were purchased from five different suppliers. By revising the way boxes were used, USCCG was able to reduce the number of box designs to less than thirty and the suppliers to only two, for a savings of some $4 million annually.

The consultants also can demonstrate their ability to successfully implement management operating systems that provide the kind of business intelligence that produces millions in savings.

"We were called in to look at a very high performing plant that had consistently shown improvements in throughput. However, the improvements they were realizing over a five-year period had begun to plateau. Through the use of our Lean Information Control System (LINCS™), we were able to help them bump back up from an improvement projection of 4% to 6% to about 12%. And, using these same solutions, we were able to reduce their giveaway by nearly one-third.* The benefit to that operation was some $3 million a year," says Mr. Sorbello.

He describes another plant in which the same solution helped management get a handle on where they were losing yield on a further processing line. USCCG was able to increase the yield by 10%, which was worth $6 million annually.

"These benefits are all a function of a combination of the core competencies we bring to every engagement. Those include everything from better line utilization, reducing downtime, and balancing the work content to the volume produced, to reducing material and package waste and giveaway."

And that, as they say, ain't chicken feed!

** See related article on page 4.*

Representative improvements at various stages in the poultry production process.

Area	Process	Value Driver	Process Impacts	Range of Improvements
1st Processing	Receiving through Rehang	Process Control, Yield, Efficiency, Productivity	Cadavers, Wing Breakage, Killing, Picking, Scalding, Maintenance	**10% - 25% Productivity Improvement 5% - 15% Efficiency Improvement 0.5% - 2.0% WOG Yield Improvement**
1st Processing	Rehang through Chiller	Process Control, Yield, Efficiency, Productivity	Machine Efficacy, Processing Defects / Failures, SPC, Methods Consistency, Harvest, Condemn, Maintenance	
2nd Processing	Cutup / Whole Bird through Packing	Process Control, Yield, Efficiency, Productivity	Machine Efficacy, Processing Defects / Failures, SPC, Methods Consistency, Marination, Portion Control, Giveaway, Maintenance	**10% - 20% Productivity Improvement 10% - 20% Efficiency Improvement 20% - 33% Downgrade Improvement 33% - 50% Giveaway Improvement**
2nd Processing	Debone through Packing	Process Control, Yield, Efficiency, Productivity	Machine Efficacy, White Meat / Prime Yield, Grade Optimization, Methods Consistency, Bone Reduction, Marination, Portion Control, Giveaway,Maintenance	**10% - 20% Productivity Improvement 10% - 20% Efficiency Improvement 1% to 4% Yield Improvement 33% - 50% Giveaway Improvement**
2nd Processing	DSI	Process Control, Yield, Grade / Prime, Efficiency, Productivity	Machine Efficacy, White Meat / Prime Yield, Grade Optimization, Methods Consistency, Maintenance	**10% - 20% Productivity Improvement 10% - 20% Efficiency Improvement 15% - 33% Grade / Prime Improvement**
Further Processing	IQF, Par Fry, Fully Cooked through Packing	Process Control, Yield, Efficiency, Productivity, Material Cost,Throughput	Machine Efficacy, Processing Defects / Failures, SPC, Methods Consistency, Marination, Portion Control, Giveaway, Ingredient Usage, Maintenance	**10% - 20% Productivity Improvement 10% - 20% Efficiency Improvement 2% to 6% Yield Improvement 10% - 25% Giveaway Improvement**
Operational Support	Maintenance, Sanitation	Cost, Quality, Service	Planning & Scheduling, Uptime, Point-of-Process Monitoring and Management, Preventive / Predictive / Reliabilty Based Maintenance, On Time Start Ups	**10% - 20% Productivity Improvement**
Material Usage	Processing, Maintenance, Sanitation	Cost, Quality, Service	Inventory Management, Material Variance, Waste Reduction	**8% - 12% Material Cost Improvement**

Overfill Leads Packagers to Underperform

Frank Esposto, Ph.D., M. Sc., Six Sigma Master Black Belt

If you are in the business of filling packages, you know the importance of controlling fill processes.

Overfill has the same net effect as giving away money to your customers. In high volume operations, this can quickly add up to tens or hundreds of thousands of dollars on an annual basis. On the other hand, if you under-fill, the fines and the damage to your reputation can be even more costly.

When filling packages, the first requirement is to meet governmental regulations for compliance with net content declarations on packaged goods. However, these standards do not specify limits for overfilling. That's your problem!

Simply put, your unit fill weights must be above a specified minimum and your average fill has to be at or above - never below - the label declaration. Minimizing and controlling fill weight variation and performing statistical modeling can redirect a considerable amount of money to your bottom line. USC Consulting Group (USCCG) has helped clients in a variety of industries reduce millions of dollars of overfill using both Lean and Six Sigma tools, methods, and techniques.

Let's take the pharmaceutical industry as an example. The federal government expects this industry to adhere to all specifications for fill weight variation for capsules, tablets, and sterile solids. Not adhering to these requirements may lead to a recall of the entire lot.

Figure 1 shows process capabilities performed on capsule-for-capsule weights, assay, and uniformity taken from a study performed for one of our clients.

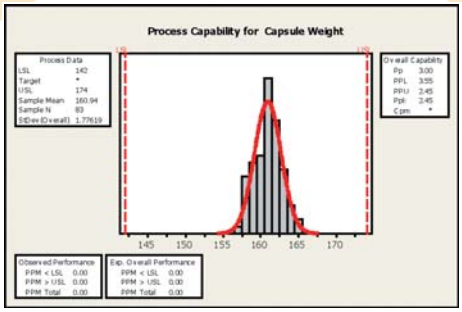

Fig 1 a. Process capability of capsule

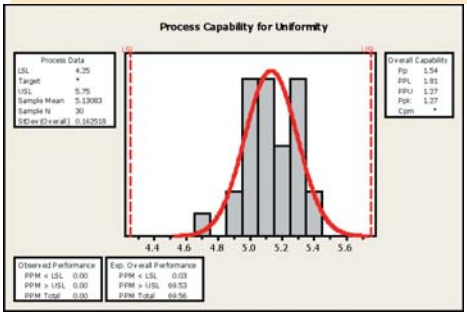

Fig 1 b. Process capability of assay and weights uniformity

The reactive materials in these capsules are very costly, so the financial impact of reducing overfill is significant. The challenge, however, is in finding a way to lower material amounts (shift the curves to the left) while still meeting all specifications, and avoiding the risk of producing a lot outside specification.

First, the maximum amount of shift will depend on the amount of variation in the process. USCCG has used such tools as statistical process control (SPC), process capability, standard work, and continuous workflow to help reduce variation and create stable and predictable processes to enhance the ability to reduce overfill.

Second, any one specification may act as a constraint on the ability to reduce overfill. For example, Figure 1a suggests the curve can be easily shifted to the left (lower weights) in reference to the lower specification limit (LSL). However, this is not entirely true, since the assay and uniformity requirements limit the ability to shift the curve in Figure 1b to the left. This limits the amount of weight you can reduce in the capsule (Figure 1a), as it is directly dependent on the maximum shift allowed in Figure 1b.

In other words, the two curves are directly linked, and the curve with the smallest allowed percent shift will be the maximum allowed for both curves. Thus, careful analysis and interpretation of results is critical to ensure that process changes are implemented correctly.

Many organizations continue to give away money to customers or have not yet taken out the "guess work" when making decisions to reduce overfill. As a result, organizations do not capitalize on the total benefit or, even worse, increase the risk of lot recalls.

USC Consulting Group's proven success in using Lean and statistical methods can help reduce variation, reduce overfill, and improve productivity.

Gerald Seidell Named Director, Supply Chain Strategy

Gerald Seidell, USCCG Director, Supply Chain Strategy

Gerald A. Seidell has been named USC Consulting Group's director of supply chain strategy, responsible for developing and delivering a variety of supply chain solutions to the firm's clients.

Mr. Seidell, 51, was most recently president of APCX Solutions, a supply chain and logistics consulting firm for the consumer products industry.

Earlier he was vice president for production planning, inventory control, and distribution at Del Monte Foods in Pittsburgh, where he also served as director of operations planning for the company's pet products. For 23 years he was with H.J. Heinz Company, also in Pittsburgh, where he held general managerial posts in Heinz Frozen and Weight Watchers brands materials management, as well as in inventory control and logistics for Heinz North America.

According to USCCG President George Coffey, Mr. Seidell's "extraordinary depth of experience in supply chain management and logistics, along with his solid grounding in consumer products industries, extends our already proven expertise in these areas and will benefit our clients greatly."

Mr. Seidell holds Executive Supply Chain Leadership certification from the Massachusetts Institute of Technology (MIT). He earned a Bachelor of Science degree in business administration from Ferris State University in Big Rapids, MI, and his Masters degree in public administration from Carnegie Mellon University in Pittsburgh.

Reliability Leadership Summit

Companies lose hundreds of thousands of dollars every day from equipment failures. These failures can result in excessive downtime, lost capacity, increased maintenance costs, secondary damage, and attendant safety and environmental issues.

To help companies avoid these problems, USCCG and its alliance partner Ivara, the industry leader and innovator in asset performance management software solutions, hosted a Reliability Leadership Summit for top industry executives in capital intensive industries in Las Vegas, in September.

According to Ivara CEO Gerry Bleau, "Maintenance and reliability of capital assets is the last untapped frontier in most industries for improving the bottom line."

Instead of investing in new assets, he says, organizations can optimize the reliability of existing capital assets to:

- increase capacity, throughput, asset utilization, and OEE;
- reduce variance in capacity;
- ensure maximum return on asset investment; and
- improve quality, safety, and customer satisfaction.

Summit attendees learned more about reliability centered maintenance in simulated plant tours of Quebec Cartier Mining and Dofasco Tubular Products; workshops on improving asset reliability; and from ten industry case studies that demonstrate its positive impact on profits and revenues.

Ken Staresinic, USCCG senior operations manager, spoke on the topic of *Bridging the Gap Between Lean Manufacturing and Lean Maintenance*.

USC Consulting Group

First we make it work. Then we make it last.®

For more information contact us at 800-888-8872 or www.usccg.com

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Metrics is a quarterly publication of USC Consulting Group, LLC, specialists in operating effectiveness. In coming months you'll read more about how USCCG works and how we help executives go about the process of significantly improving their organizations. Metrics is published in both electronic and printed formats.
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