



Six Sigma and Lean: Complementary Approaches to Operational Improvement

Whittling waste and sustaining efficient, cost effective production flow are the primary disciplines of Lean Operations Management.

Reducing product defects by establishing critical process measurements is Six Sigma's goal.

Each approach can result in substantial savings by itself, but, when combined, the two approaches offer far greater rewards.

"Both Lean and Six Sigma are about the relentless pursuit of waste elimination," explains Jim Ostrosky, USC senior vice president and director of operations. "When applied properly, both methodologies overlap with tools and techniques. Lean focuses on creating value by eliminating non-value-added activity, while Six Sigma goes deeper, focusing on minimizing variation in each critical process step."

In both approaches there is a system for assessment, for determining where a company or a system or a process stands

today that helps define where the problems and issues are. Once those are identified, different improvement methodologies, which include Lean, can be employed to overcome them.

Dr. Edward Popovich, a Six Sigma Master Black Belt, looks at it this way:

"Each business process must be evaluated in order to select the approach that will yield the most value with the least investment of time and money."

"If you use Six Sigma and Lean in tandem, Lean will allow you to harvest the process improvement opportunities Six Sigma has identified, and drive to even higher levels of excellence."

USC Consulting Group recognizes that a marriage of these two techniques can produce tremendous tangible and intangible benefits. And USC is one of the very few consulting firms to offer both approaches to operational improvement. In an earlier issue of *Metrics*, the Six Sigma approach was featured. In this issue, we'll examine Lean.

The Lean Approach

"Lean operations techniques focus on improving business processes by eliminating waste to provide maximum value to the customer," says Edward Enquist of USC's product development team. "These techniques have long been reputed for making a big impact in a relatively short period of time."

The benefits of implementing Lean techniques are well documented:

- lower per-unit production cost,
- higher quality products,
- better use of assets,
- reduced cycle time,

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- increased throughput, and
- improved customer service and satisfaction.

Any one or a combination of these benefits can have a significant impact on a company's competitive standing and its bottom line.

Enquist sees Lean as a catalyst for achieving sustained profits and solid market share. He explains the philosophy this way. "I believe there are two basic approaches. Some companies focus on the tactical, which means that they do what they need to do to reach their objective, which generally is short-term financial performance.

"Others have a longer time horizon, which makes the underlying values of the company and of the people paramount; where the stakeholders' satisfaction is most important. And the stakeholders include not only the company's shareholders, but its employees, suppliers and customers, as well.

"The very best companies balance both short- and long-term needs. They meet their quarterly objectives while satisfying the needs of all four groups, and keeping them satisfied."

To Ostrosky, Lean is an attitude, a philosophy and a methodology all rolled into one. "First you have to be passionate about achieving operational excellence across your organization," he says. "Then you have to embrace and accept the concepts necessary to bring it about. And finally, you have to be relentless in your pursuit of waste. If you are, you'll find the end almost always justifies the effort

because you will have taken your company to the next level."

Major components of Lean Operations Management strategy include:

Customer Value

"If you truly understand the needs and requirements and likes of the customer, and build a process around them, you are on the right road to becoming a

"We believe that for many clients a Lean approach alone is sufficient to provide them with significant improvement and set them on course for continuous improvement. In some cases, however, where significant first stage improvements have been made, it makes sense to use the power of Six Sigma to drive the improvement even farther – often up to ten-fold – in processes that are critical to customer quality and satisfaction."

values-based company with a Lean-based environment," says Enquist.

Pull System

This means acquiring material for and producing one product at a time. If a customer buys a toaster, then one more toaster is ordered at the factory. The product is pulled through the process. "That's entirely different from the way the

U.S. has been working for nearly seventy-five years," according to Enquist. "We've been running on the 'push' concept, where products are pushed into the pipeline, demand or no demand."

Sustaining Performance

Once a company reaches a high level of performance, it must be sustained over time to achieve real success. Attaining a high level of performance, then dropping off, then re-attaining it is not a long-term solution.

One-piece Flow

The flexibility to produce any product quantity in any mix on any day, one piece at a time, helps to maintain a quality process. It keeps costs to a minimum, quality at its highest and ensures that customer demands are met.

Kaizen Process

The Kaizen process identifies problems, determines the series of activities required to solve them, assigns roles and resources, and gets down to the business of improvement within a matter of days. These short-term, high energy improvement sessions are known as Kaizen events and function similarly to USC's own Employee Involvement Prototyping process.

Elimination of Waste

In the Lean approach there are seven primary wastes in a process and every process is carefully examined to eliminate these wastes. Lean is about getting rid of waste to maximize customer value and reduce cycle time, and keeping the customer happy.



Lean continued

The USC Philosophy

“We believe that for many clients a Lean approach alone is sufficient to provide them with significant improvement and set them on course for continuous improvement,” says Jim Ostrosky. “In some cases, however, where significant first stage improvements have been made, it makes sense to use the power of Six Sigma to drive the improvement even farther – often up to ten-fold – in processes that are critical to customer quality and satisfaction.

“By using value stream mapping, a Lean approach,” he adds, “we quickly understand the areas of opportunity, the critical paths to quality processes and we can determine the correct approach to improving them. We then draw from any and all of our methodologies to find the best solution for our client and their particular situation.”

USC management believes, according to Ostrosky, that any great technique universally applied can become a poor technique. Each client, and sometimes each business process, must be evaluated in order to select the approach that will yield the most value with the least investment of time and money. Lean and Six Sigma are just two of the many tried and proven methodologies USC draws on to best serve its clients.

For more information, call 800-621-6943 or visit the USC web site at www.usccg.com.

USC Healthcare Efforts Get Booster Shot

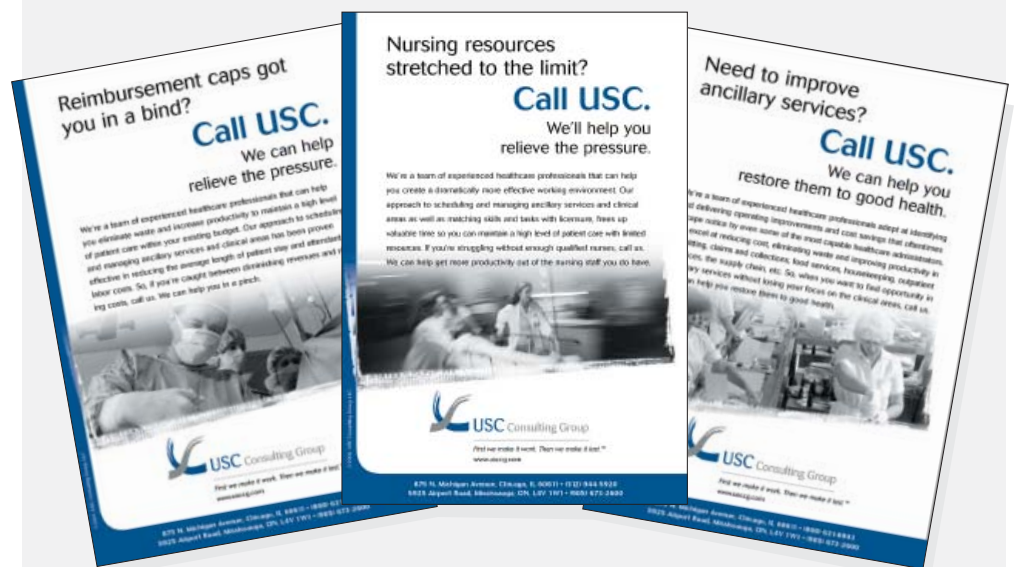
A combination direct mail campaign and healthcare trade advertising push has been launched to generate initial meetings with senior healthcare executives in the southeastern U.S. Two direct mail pieces, one addressing a critical shortage of qualified nurses and one taking a more general approach, have been sent to CEOs, COOs, CNOs (chief nursing officers), directors and board members.

The letters were accompanied by a CD-ROM that included an introduction to USC; an overview of the firm's healthcare practice provided by VP/Senior Operations Manager Terry Maher; a Southwest Texas Methodist Hospital case history narrated by Senior Project Manager Pat Jaeger; and a testimonial

from Cole Eslyn, CEO of St. David's Medical Center, Austin, Texas.

The campaign coincides with an advertising schedule in *Modern Healthcare* magazine, where USC is running a series of seven full-page two-color ads that began with the September 3rd issue. Six of the ads will run regionally; the October 1st ad was national and offered the CD free to prospective clients. The ads target such topical issues as the nursing shortage, capped reimbursements and the need to improve ancillary services.

Modern Healthcare was selected for the advertising push because of its broad readership among senior healthcare administrators, its publishing frequency (weekly) and its solid editorial.



USC Exhibits at World's Biggest Food Show



USC Food Expo Exhibit

USC's growing commitment to the food processing industry was clearly demonstrated when its new exhibit booth sprouted up on the main aisle of the 2001 Worldwide Food Expo in October at Chicago's McCormick Place. USC was

sandwiched between the meat, poultry and seafood exhibits and the food and dairy exhibits. Thousands of food industry professionals attended the three-day event, billed as the biggest food show in the world. Exhibitors alone were reported to number over 1,200.

The USC booth sported all new graphics in its presentation of the firm's food industry experience. Specifically, the exhibit illustrated the processes USC works, the benefits it delivers to its clients and the proprietary tools it uses. The event also marked the debut of USC's new food video, featuring David Gustovich, executive vice president and head of USC's food practice; and testimonials from clients Dave MacDonald, senior vice president and general manager/Americas Zone, OSI Industries; and Aurora Foods President Jim Smith. A cross-functional team of sales, operations and marketing staff manned the exhibit.

The food conference was the third in a series of industry trade shows where USC has exhibited in the past year. Previously, the firm showcased its wares at the MINExpo International 2000 in Las Vegas last October and at the EXFOR 2001 (pulp and paper show) in Montreal in January.

Progress Report



Moses DeLeon has joined USC Consulting Group as director of information technology. In this newly created position, Mr. DeLeon will be responsible for enhancing and leveraging USC's current IT infrastructure to optimize the firms' day-to-day operations and serve its client base even better. He will bridge

new development software applications and delivery options to improve both internal and external communications. When asked his initial thoughts on his new position, Mr. DeLeon said he "couldn't wait to complete his analysis of the business' functional requirements to begin addressing USC's new IT architecture".

Most recently, Mr. DeLeon was at PriceWaterhouseCoopers, where

he was principal consultant, project manager and technical architect for a number of clients. Earlier, he was a senior project architect with Coca-Cola Enterprises and network project analyst with GE Capital. He began his career in 1988 as a network service specialist after earning a Bachelor of Science degree in telecommunications management from DeVry Institute of Technology.



The Real Story Behind Mandatory Nursing Levels

Performance Means More Than Numbers Every Time



By **Terry Maher**

California's decision to regulate nursing-hours-per-patient-day will, in theory, provide improved patient care.

However, from an operational efficiency point of view, more nurses may not necessarily mean better care. In fact, fewer nurses may be better in some circumstances.

The point is, regardless of whether hospitals will be increasing or decreasing nursing staff levels to comply with the new law, their focus should be on how to get the most out of whatever staffing level they eventually put into place. Optimal performance – not staff size – should be the goal. But what does optimal performance look like? Is it achievable? And at what cost?

Optimal performance is the product of operating efficiency. Stated another way, it's getting the most of what needs to be done out of the least amount of resources qualified to do it. Improving operating efficiency can save time and money while improving productivity, morale, patient services and, ultimately, customer satisfaction.

In a hospital, operating efficiency can take many forms. For example, availability of equipment can be increased from PCAs to IVACs by eliminating Bio-Med repair backlogs. Or, emergency case durations can be improved through better protocols and support area coordination. In the admitting process, it might mean reducing

registration errors in order to reduce accounts receivable or late/no pays.

There are potential operating efficiency gains in nearly every department of every hospital in the nation. But, if operating efficiencies are so easy to come by, why is it that more institutions aren't performing better?

“Optimal performance is the product of operating efficiency. Stated another way, it's getting the most of what needs to be done out of the least amount of resources qualified to do it.”

The answer is that people (and care givers are a prime example) are so often caught up in the doing of an important task that they do not have the time to take stock and consider how to improve it. This is simply human nature. Optimal performance is achievable, but there are times when it's appropriate – even imperative – to turn to outside resources for assistance. I believe the current health-care situation – no, crisis – is one of them.

Some hospitals will ask, “If I'm struggling to make ends meet today, how can I possibly afford to hire a consultant?”

My answer is that they can't afford not to. Our experience is that efficiency gains are usually accompanied by cost savings equal to or greater than the associated fees. In other words, over time, they pay for themselves.

What's more, the savings tend to be institutionalized and continue to pay dividends long after most consulting engagements have run their course, which adds to return on investment. And some assignments actually become “cash positive” before completion, producing more savings than cost.

There's another aspect of operating efficiency worth mentioning. When operating efficiency becomes operating excellence, when service delivery becomes so good and customer satisfaction levels so high that the institution earns the title of market leader, labor costs actually become assets and begin to drive top line revenues.

Achievable? Absolutely! But only by those institutions with visionary leadership and a commitment to be the best. The payback is worth the investment in time required. With mandated nursing levels taking effect as early as 2002, it's essential to start now, while there's still time to prepare.

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