Path to the Lean Enterprise: The Continuous Improvement Office

10 Best Practices for Managing Continuous Improvement and Achieving Sustainable Results

By Mike Noonan, Senior Management Consultant and Trainer, TBM LeanSigma® Institute

Complacency. New management. A disastrous sales quarter. Such events can cause the steady gains and bottom-line benefits of a successful continuous improvement (CI) program to grind to a halt. Conversely, a new management team or a financial crisis can serve as the springboard for launching or re-energizing such a program. There's nothing like a crisis to make everyone both understand and feel in their gut that things have to change and want to try something different.

An effective Continuous Improvement Office or Kaizen Promotion Office (KPO)—kaizen is loosely translated from the Japanese as "continuous improvement"—consists of a team of employees dedicated 100% to operational improvement. Their work starts with a comprehensive action plan that aligns lean principles and process improvement events with the overall business objectives. Statistical analysis and lean tools have to be applied to the right opportunities and the performance and financial impact of the continuous improvement program has to be carefully tracked.

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As applicable to companies that are just starting out on their lean journey as it is to those that might be further along, this white paper reviews 10 best practices for establishing and growing a continuous improvement program. Based on the experiences of hundreds of companies in manufacturing and service sectors, this report offers a set of guidelines for delivering sustainable results that can survive management transitions and market downturns.

Executive Ownership and Business Alignment

From the late 1980s through the mid-1990s the lean approach to waste elimination and process improvement was almost entirely limited to manufacturing. Indeed, weeklong process-improvement events, also known as "kaizen" events, were something that operations folks did in the factory to improve productivity or quality.

The results, in retrospect, were predictable. In too many cases dramatic plant-floor improvements—double-digit reductions in inventory, floor space and order cycle times—didn't translate into comparable business performance improvements. The culprits: 1) the failure to address the whole value stream, and 2) the absence of a comprehensive plan for attacking those value streams in a way that linked back to business objectives.

Manufacturing companies and other organizations that have successfully made lean transformations and sustained those results year after year use some form of business policy-deployment process. Also known as Hoshin Kanri or Hoshin Planning, policy deployment aligns budgets, resources and performance incentives with the lean strategy and business goals. This helps ensure that the crisis of the day and quarterly financial pressures do not override or undermine long-term, strategic plans.

Continuous Improvement Leadership

To stay connected to these strategic plans, the CI program leader facilitates management committee meetings where they review current activities and progress, and discuss how future projects fit into the overall improvement plan. Other job expectations include employee orientation and training; development of company-specific process improvement methodologies; kaizen event planning and follow-up; program promotion and communication; and acting as the process improvement expert and internal consultant. In addition, the CI leader is responsible for hiring and developing CI staff members. (See sidebar, "Wanted: Continuous Improvement Manager.") Ideally, because the scope of activity spans multiple departments, he or she should report directly to the site leader, the division president or the CEO.

Beyond these core responsibilities, effective CI leaders possess some unique personality attributes. First, they are "go getters" who embrace change. It takes a lot of energy to pull teams together and keep them moving forward week after week and month after month. They are proficient at data collection and persistent almost to a fault, following up on events and action items to ensure completion.

The best continuous improvement leaders also share an ability to overcome cultural obstacles, and have the patience not to push beyond the organization's capacity for change. Whether they are promoted from within or hired from outside the organization, these leaders are able to talk to and work with everyone from hourly associates and supplier representatives to corporate executives and financial managers. Speaking the language of business, they can explain the differences between traditional accounting measures and lean financial indicators that better reflect the underlying reality of the business.

An Active Continuous Improvement Office

Studying companies that have embraced CI, we have found a correlation between the size of the Continuous Improvement Office and the total number of site employees. After the initial hire of the CI leader, successful lean enterprise transformations often start with somewhere around one dedicated CI person per 200 employees. After several years of steady progress this ratio tends to decrease. The exact number will vary depending upon how many external consultants a company brings in to help, which is mostly a function of how fast company executives want to move forward and how quickly they need such activities to have an impact on the business. The size of the CI team determines the intensity of process improvement activity. On average, in addition to their other duties, each staff member should be able to prepare for and lead one kaizen improvement team per month.

The continuous improvement staff works across all areas of the business, from manufacturing, purchasing and accounting to sales and order entry. They communicate results and lessons learned, identify and share best practices, talk with employees about future projects, promote new ways of thinking, and generally lay the groundwork for a cultural transformation.

In addition, the CI team is responsible for tracking the return on investment for their work, and reporting that number to senior management. Inputs of the ROI calculation include staff salaries, employee time, and any external consultant fees.

Beyond the immediate cost reductions, factoring in all of the financial benefits from cycle time and floor space reductions is more difficult, but not impossible, to calculate. Reduced inventory levels, for example, will contribute to reduced product obsolescence, as well as reduced storage needs, cycle counting requirements and other management costs, in addition to decreasing working capital requirements.

Continuous Improvement Office Size and Activity

Total on-site employees	CI staff size	Projects/month
180	3	2
500	8	10
2,600	17	16-22
6,000	**6**	**75**
12,000	30	21

As reported by actual manufacturing operations at various stages in their lean journey, this table shows the number of people dedicated to continuous improvement activities and how many kaizen events they target each month. Typically, as the cost savings and operational improvements add up over time, and managers better understand the return on investment, the size of the staff and the frequency of events tend to increase. **** Note****: In the shaded example above, the culture has shifted from a kaizen focus to a continuous improvement focus where daily improvement has become a way of life. This company has a well established lean program with 6+ years on its lean journey. Supervisors can lead kaizen events leaving CI managers free to work on other projects and extended value streams. The staff to project ratio in this example is 1:12.*

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One of the biggest challenges we face as continuous-improvement leaders is driving change/improvement. I constantly remind myself that I am a change agent responsible for challenging people to look at processes in a different way and to take action using lean tools.

A successful journey toward lean can only happen if we train and empower our people to become change agents. Our slogan at Link-Belt is "Kaizen Everyday." We are working to make sure every person feels empowered as change agents.

I often quote President John F. Kennedy, "It is much easier to fix the roof when the sun is shining."

Executive management has been instrumental in the success of our journey to date. There is a vision of improving safety, quality, cost and delivery throughout the entire organization—not just manufacturing—using the lean process. At every point or major kaizen event report out, the executive staff is there supporting the team members.

Communication has been an important tool to ensure that employees at all levels are in tune with the lean transformation throughout the organization. A web page on the intranet has all the information needed to bring employees up to date in the world of lean. A quarterly newspaper is published that focuses on lean activity throughout the organization with articles written from all areas. The newsletter is designed to involve all employees with trivia, terms, games and recognition of success stories and people.

The process of lean transformation is a great joy to see when done with enthusiasm and dedication.

I measure my impact by the success of the people around me: employees using lean tools to improve a process with little or no help from the lean office, and doing and thinking "Kaizen Everyday." I see examples of people getting together to improve their work areas using these tools almost every day. Of course I am talking about the culture shift; this is the ultimate measure of my success.

A Detailed Road Map

Value-stream mapping looks at a particular product or product family and tracks the material and information flow. Team members from the appropriate departments will document and calculate the overall time it takes from the moment a customer places an order until the product or service is delivered. Especially effective in administrative settings, where the material flow is not as visible as it is in a manufacturing plant, documenting all of these handoffs on the wall in a single flow chart makes it easy for everyone to see the waste in the process.

Using these value stream maps, a lean steering committee can set priorities for improvement. Process improvement projects that are not carried out in the appropriate order are less likely to have a significant impact on the business. Following such a road map avoids rework and allows some initiatives to take precedence, even if they don't provide a significant immediate return on investment. Such projects often lay the groundwork for future efforts that do deliver a substantial return.

For each kaizen event, the steering committee will help identify team leaders and team members, and will agree on the scope and objectives. Typically made up of department managers, the committee is also responsible for monitoring progress and removing any barriers to change. These barriers might include MRP software issues that aren't allowing managers to set up pull systems correctly, or a facility maintenance department that isn't responding quickly enough to work requests.

Dean Polsin, Kaizen Promotion Office Manager

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My biggest challenge as a continuous-improvement leader is getting everyone to understand that improvement doesn't happen in a vacuum or just within a five-day kaizen. Both at the management level and non-management level, people have the perception that a team of people who don't do the job are changing processes that don't affect them. This misperception can fuel resistance.

We involve employees in a number of ways. During a business-process kaizen, we spend a couple of hours conducting a fishbowl session where others come into the meeting room to review the future state process and provide their feedback. On a shop-floor kaizen, we solicit ideas for improvement by employees that are not able to be on the team. We do this by placing an easel and flipchart in the area being impacted two weeks prior to the kaizen. We also involve them in making changes to a work station or cell. Listening and incorporating their feedback has minimized the resistance toward improvement.

One of the first things we did was to demonstrate to our employees that their voice counts by acting upon their suggestions. We use a Kaizen newspaper to capture their improvement ideas that require help from others, add a target completion date, and then post it on the SQDC [Safety, Quality, Delivery and Cost] board for visibility.

To help supervisors own continuous improvement initiatives, we assigned a "quality buddy" to each supervisor. We recognized that we needed to spend time mentoring our supervisors on how to solve problems and make improvements and not leave them on their own to flounder. The quality buddy works "hands on" with the supervisor on continuous-improvement initiatives in order to transfer the skills set required.

What I like most about my job is that I not only help WMS become an even better company than it is today through continuous improvement, but I also help develop our people. There is nothing that satisfies me more than the look of accomplishment and satisfaction on a kaizen team member's face at the end of a kaizen week.

I measure my success in a number of ways. One way is by the amount of interest I receive from WMS employees in regard to participating on a kaizen team. When we first began our lean journey, very few people wanted to participate. Now, I have a waiting list of willing volunteers. Another measure of success is the number of small "just do its" that assembly operators tell me about as I walk the manufacturing floor. Although I'd like to see more, I'm encouraged that people are taking ownership in making small continuous improvements.

Patience, tenacity, trust, passion and sincerity are the core management skills that I think are required to be successful in my position. Change in behavior and culture doesn't happen overnight. An effective continuous improvement leader needs patience to not push beyond the company's capacity to manage change and the tenacity to not give up.

Trust is important from a few different perspectives. One, you need to trust yourself that you are doing the right thing to help your company and employees succeed. Second, you have to trust your employees. Lastly, you have to trust that the process will work.

Passion and sincerity go hand-in-hand for me. If you believe in what you do, others will see it through the passion you have when doing your job. They will also see your sincerity in wanting to help them make these improvements that benefit them and the company. This combination of passion and sincerity can become contagious and others will want get involved so they can feel the same way I do: proud and satisfied.

Modeling Success: Focusing on Product Families

Creating order fulfillment processes based on market demand where customer orders "pull" material through the value stream is one of lean's fundamental strategies for eliminating waste. This same emphasis on pull vs. push applies to the change process itself. Management initiatives and corporate mandates often run into resistance because they are pushed down from above with little apparent concern for the impact that they have on people and the work they do.

> *"It takes a lot of energy to pull teams together and keep them moving forward week after week and month after month."*

When it comes to getting people to embrace the possibility for change, nothing beats seeing it for themselves and hearing the testimony of colleagues. Successful implementations usually start in a focused area, a single department or production line, for example. For corporations with many facilities, a global rollout might begin with a single facility. As positive results accumulate over the first six months, these "model lines" and "pilot plants" build credibility for lean and the continuous-improvement program, gaining disciples along the way.

During the launch phase it is especially important to overcome the perception that lean is just another top-down, management flavor-of-the-month. Modeling change extends to the day-to-day activities of the leadership team. After all, how managers spend their time is a clear indicator of priorities in any organization. For kaizen events, this means that top management must attend all report outs, and give their full support for implementing the team's recommendations.

Thorough Preparation

As in most areas of management, good planning yields good results. For a kaizen event, this means that members of the Continuous Improvement Office must work closely with the steering committee and the sponsor, usually a member of the management team who provides direct support. They develop an event charter that contains a summary of the problem, the scope of the project, quantifiable goals and objectives, a list of team members, and any baseline performance data that is available. To balance process knowledge with the need for a fresh perspective, the improvement team should be made up of a roughly equal number of people from within the area being addressed, from support departments, and from outside the area or even outside the organization.

After identifying team members, the event leader will meet with employees who are not directly participating in the project to gather additional intelligence and listen to any concerns that they might have. This is the first step in building support for the improvement team's eventual recommendations. The event leader also will contact the facility department and brief them on the project objective and any anticipated changes, such as the movement of people and equipment.

Event preparation extends to the meeting room itself, which should be isolated from everyone's work areas. The CI Office makes arrangements for lunch, drinks and snacks; orders extra flip charts and other supplies; and does whatever else can be done to reduce distractions and keep everyone engaged and focused on the problem at hand.

Tools of the Trade

If a hammer is the only tool you have, everything looks like a nail. When it comes to process improvement, it takes many years to master the many tools for identifying waste, reducing variation, pinpointing root causes, and making material flow. Many organizations make the mistake of giving CI managers too much responsibility before they've been fully educated in all of the tools. Experienced lean experts have deep toolboxes for helping teams solve a wide variety of problems, and applying the right tools to the right problems. They know how to guide teams to uncover effective solutions, and implement the changes in ways that will deliver sustainable results.

A successful Continuous Improvement Office is constantly developing staff expertise, and brings in external assistance as needed to fill any gaps. Competence starts with an understanding of the basic concepts and tools. Proficient team leaders have overseen a variety of initiatives and mastered the relevant training materials, as indicated by participant feedback. These projects may focus on implementing 5S, reducing setup times, total productive maintenance, flow/productivity, 2P, 3P, LeanSigma, quality mapping and policy deployment.

It's All in the Follow Through

Those who have participated in a weeklong kaizen event know that it can be a grueling yet rewarding experience. It's intensely satisfying for the team members to solve problems

that may have been plaguing an organization for years, to increase productivity and improvement quality by double-digit percentages in just a few days, and to make everyone's job easier at the same time. It's a powerful process that has contributed to measurable improvements in employee satisfaction for many organizations. But it can all backfire if there's no follow through.

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Team members typically lose focus and a sense of urgency as soon as they go back to their everyday jobs. To maintain the performance gains from improvement events, the effective Continuous Improvement Office will conduct 30-, 60- and 90-day follow-up audits and meetings. They will check in with the team members and the sponsor to review the status of any homework items that could not be completed during the initial week. (If the steering committee has set an appropriate project scope, this list will be relatively short.) If anything is not on track for completion, the CI Office will identify the cause and launch corrective actions.

This follow through is especially important for initiatives that stretch out over a longer timeframe. For a LeanSigma event, for example, the team will devote the first week to measurement system analysis. The goal is to make sure problems are being measured correctly. They will then disband. The next four to five weeks are devoted to data collection. After that time the team meets again to analyze the data, figure out potential solutions and establish control processes.

Promotion and Communication

Successful safety managers have some of the best tactics for promoting awareness in ways that impact behavior. They may organize a bingo game and award prizes to encourage the use of personal protective equipment, or place a wrecked car on the company's front lawn to promote safe driving. In a similar fashion the best continuous improvement organizations are always finding creative ways to build awareness and understanding, and keep the CI program on senior management's radar screen. They also take every opportunity to celebrate success. As more than one manager has discovered, it's amazing what people will do for a little recognition and pizza.

Successful CI Offices leverage a variety of communication tools, including internal web pages, wikis, blogs and periodic newsletters. The goal is to help associates understand what's in it for them, why they should care about customer demand, eliminating waste, and maximizing value-added tasks. A central communication board will report key metrics, list past and upcoming events, and share success stories.

Although he or she is the lean champion, when it comes to communication the CI leader will sometimes have to step back from the limelight in order to foster a sense of ownership among team members and business managers. This is especially important in large, global organizations where it's impossible for the CI leadership team to be everywhere at once. In companywide meetings, for example, an experienced CI leader will defer to the business leader or site manager, allowing them to tell their story and take pride in their unit's progress.

Focus on Sustainability

If you throw something up against the wall, that doesn't mean that it's going to stick. All of the practices presented above will help an organization make and sustain process improvements that have a direct impact on the success of the business, and build on them over time. In addition, standardizing operating methods, processes and controls will establish a baseline for future improvements. The trick is not to let standard work become too standard by failing to identify new opportunities for improvement, which lead to new standards.

Abnormality management is another critical element of sustainment. In any repetitive process, if abnormalities aren't attacked and fixed, they will multiply. This means asking the "5 Whys," performing Pareto and fishbone analyses to identify root causes of defects, and error-proofing processes so problems don't come back again.

Getting into the habit of immediately fixing problems—and must become a habit—requires a mental and cultural shift. Supervisors have to learn to respond passionately to abnormalities, encouraging employees to "stop the line" and fix defects even though it might trigger a performance hit. Stopping the line can hurt delivery times, increase overtime and generate negative cost variations in accounting. But the

net result will be positive if such stoppages eliminate bigger, more costly problems down the road.

This change in mindset requires a leap of faith not unlike the one required by senior managers at the outset of a lean journey to convince themselves this is the right path to take. Networking with leaders from other companies that are further along is the fastest way for executives to see what's possible, and set high enough performance targets.

The stumbling blocks to hitting these targets are as much in the minds of employees and company culture as they are in the project management and physical process changes required to achieve them. After all, convincing your spouse to move a couch takes a lot longer than the few seconds it takes to actually move it. The most successful continuous improvement organizations spend at least half of their time on the cultural aspects of change, communicating and promoting results and pushing the members of the steering committee to visit other companies and see what they've done.

When it comes to instilling a culture of continuous improvement, it can take a monumental effort to get the wheels of an organization to stop and start rolling in the other direction. But once they start moving, watch out.

TBM Consulting Group, Inc. is the leading provider of LeanSigma® consulting and training services in North and South America, Europe and Asia. Headquartered in Durham, N.C., the company's mission is helping manufacturers and service industry businesses create a competitive advantage to generate significant growth in sales and earnings. TBM provides the strategic direction and hands-on implementation to guide cultural and organizational transformation. TBM LeanSigma® Institute offers a range of interactive workshops, online training, user conferences and customized training solutions to give organizations the necessary tools to launch their own lean initiative. TBM Consulting Group's LeanSigma® approach integrates Lean principles for responsiveness and Six Sigma's focus on quality. More information about TBM Consulting Group and the TBM LeanSigma Institute can be found at www.tbmcg.com.

Learn More

Networking, Benchmarking and Strategies for the Continuous Improvement Office

TBM will host the Lean Excellence Conference, September 23-25, 2008, in Des Moines, Iowa. The Lean Excellence Conference is an outstanding forum to benchmark and network with other continuous improvement managers in the lean community. It includes a plant tour of Vermeer Corporation, an accomplished lean company with more than 10 years of lean experience and a well-established lean culture. Attendees will participate in breakout sessions and panel discussions for lean managers in both continuous process and discrete manufacturing industries. Learn more at www.tbmcg.com/excellence.

Mike Noonan, Senior Management Consultant and Trainer for TBM is affectionately known by his friends as the "Buddha of Muda." He has been an agent of change for more than two decades, helping clients transform their organizations into effective lean enterprises. Mike worked in the automotive industry for 31 years prior to joining TBM in 1994. As operations manager at Nissan Motor Manufacturing in Smyrna, Tenn., Mike implemented design for manufacturing concepts to produce the Altima, ranked by Harbour & Associates as the most productive car manufacturing lines in North America. Mike studied lean principles extensively in Japan and was pivotal in developing TBM's popular Managing for Daily Improvement training course, a five-day workshop that teaches lean companies how to sustain improvements resulting from their lean operations. Most recently, Mike led the development of TBM Lean Certification, an intense curriculum designed to create in-house lean expertise.

WANTED: Continuous Improvement Manager

The real commitment to continuous improvement begins the moment company leaders decide to assign a full-time person to take responsibility for driving progress throughout the organization. The decision may be triggered by rapid growth or a crisis or the simple recognition that someone has to take ownership of the continuous improvement program for any gains to be sustained.

It's a pivotal hire. As such, it requires a unique type of leader, someone with passion who can straddle department boundaries and generate enthusiasm, who can communicate and build trust with people on the floor, in the Continuous Improvement Office and at corporate, and who can juggle a wide variety of projects. Here's an overview of the responsibilities and skill requirements for this unique job:

Skills and Personality Attributes

- An energized, optimistic 'can do' attitude.
- Comfortable operating and communicating in various environments, from manufacturing plants to retail stores, distribution centers and offices.
- Ability to engender trust and respect from all levels of the organization.
- Ability to organize and prioritize effectively.
- Excellent oral and written communications skills, especially persuasion and facilitation skills
- Excellent analytical skills and computer proficiency
- Excellent research and data gathering skills.
- Ability to define problems and implement appropriate resolution processes.

Responsibilities

1. Overall Coordination
    - Facilitate management steering committee meetings
    - Provide a strategic review of the operation's strengths and opportunities
    - Lead value-chain mapping activities
    - Help organizations match lean journey events and business objectives
    - Create and monitor performance objectives
2. Plan Kaizen Events
    - Be a kaizen team leader
    - Choose kaizen team leaders
    - Develop lists of attendees
    - Coordinate support resources (maintenance, tool room, contractors, technical support)
3. Kaizen Event Follow-up and Sustainment
    - Mentor the leader or supervisor of the relevant departments making sure everything is implemented as designed.
    - Look for ways to build on the progress made during the event
4. Training and Employee Development
    - Develop and mentor the CI staff
    - Conduct first-day lean training for events
    - Promote lean awareness training
5. Promotion and Communication
    - Plan celebrations of success
    - Maintain communications board
    - Update websites and circulate newsletters

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