Any organization that manufactures a product or offers a resource-intensive service can find itself getting into a financial slump in a highly competitive market. Management typically addresses the problem by seeking to lower the cost of producing the product or offering the service.

Some organizations try to decrease costs by laying off employees and squeezing suppliers for immediate price concessions. More proactive companies seek ways to improve processes so they can “do more with less.”

Many companies that opt for process improvement try to find quick fixes, especially ones that come in the form of initiative-driven “best practice” programs. Others seek to institute more wide-ranging improvement by learning how to conserve resources and eliminate waste in their processes.

This column considers the two proactive alternatives—initiative-driven best practices improvement and process-driven improvement. Rather than “pitching” either alternative, I try to view the issues from the perspective of an organization that is experiencing financial problems.

After outlining the two alternatives, I conclude with some ideas on how best to utilize aspects of both approaches. I emphasize ideas that offer beneficial short-term effects, while also creating an imperative for continuous improvement. The goal is to ensure that process-improvement efforts help keep the organization ahead of the market, instead of lagging behind.

In a previous column, I compared initiative-driven programs (there called the “traditional approach”) to a type of process-driven program known as the Systems Approach. In that column, the topic was presented in analytical fashion. This column presents the information with a different perspective and from the point of view of a typical organizational program.

By the way, in focusing on companies with financial problems, I do not mean to suggest that financially healthy companies cannot benefit from process improvement. Quite the contrary! In fact, I always wonder why more companies don’t start process-improvement projects when the financial conditions are more conducive to such efforts. But the fact is that many do not.

Fortunately, process improvement can be effective regardless of the financial pressures the company is experiencing. Once the process-improvement lesson is learned, it becomes much easier for the organization to incorporate continuous improvement into its overall management system.

### Initiative-Driven Improvement: Overview

Organizations often turn to outside service providers for initiative-driven or program-specific improvement projects, which some providers call “cluster” projects. With this approach, companies that operate in the same (or similar) industries seek to implement what the service providers deem to be “best practices” for their sector.
The initiative-driven approach is a very popular means of addressing process improvement. It seems so simple! You just have an outside expert come in and tell you how to implement the best practices that they have identified in your industrial sector.

These programs generally have predetermined, published goals. To many managers, the goals sound great. They often think, “If we could only do this at our facility, we could get out from under the financial problems that we have been experiencing.”

Initiative-Driven Improvement: Service Providers

The service providers who offer initiative-driven improvement programs often are employees of public agencies or consulting firms. Service providers generally have access to numerous databases containing benchmark data and best practices information. Some of the databases are public, while others are confidential (with the latter often representing the intellectual property of the service provider).

Many service providers focus particularly on improving the environmental, health, and safety performance of organizations. This is not surprising, given the fact that process inefficiency typically results in production of waste, which in turn translates into pollution and occupational exposure.

NIST MEP

The U.S. Department of Commerce’s National Institute of Standards and Technology (NIST) operates Manufacturing Extension Partnership (MEP) programs in all regions of the United States. MEP providers offer a number of services that are standardized throughout their many offices:

- Lean Enterprise using the Time Wise™ suite of tools
- Lean and agile supply-chain management
- Product development, technology transfer, and commercialization
- Quality management through implementation of ISO 9000
- Environmental management through implementation of ISO 14001
- Information technology management
- Assistance with international business activities
- Assistance with plant layout and equipment specifications
- Assistance with front-office efficiency and lean accounting

NIST MEP providers also have a large library of organizational “success stories.”

P2 Technical Services

Pollution prevention (P2) technical assistance services are available in most states. Technical assistance providers generally offer a suite of services, including help with:

- environmentally preferable purchasing,
- Design for the Environment,
- pollution prevention opportunity assessments,
- environmental accounting,
- environmental compliance, and
- environmental management through implementation of ISO 14001.

DOE Energy-Efficiency Partnerships

The U.S. Department of Energy (DOE) sponsors energy-efficiency partnerships at the state
level, usually offering assistance with many of the following:

- Finding renewable energy resources
- Green building and energy efficiency
- Energy conservation in processes and building operation
- Environmental technology development and use

**Private-Sector Providers**

A large number of private-sector engineering firms also offer initiative-driven services that are essentially the same as, or very similar to, those offered by government programs.

**Initiative-Driven Improvement: How It Works**

When an organization contracts for a specific initiative-driven improvement service from a provider, the service often is delivered without regard to the root cause of the problem that is leading to the organization’s financial difficulties. Typically, it is management that contracts for the service, which is then provided by an outside expert.

In many cases, employees are not directly involved in the initial stages of the improvement effort. Once they do become involved, the process they work with must be viewed through the “lens” of the particular service being offered.

**Five S as an Example**

Let’s look at an example: A lean production expert visits an organization and recommends implementation of lean, beginning with a “Five S” program. This is a very popular improvement program that seeks to make the workspace clean, orderly, and well organized. The idea is that when employees operate in a tidy workspace, and know where tools and other items are at all times, they are better able to concentrate on value-added activities.

The approach is called Five S because it concentrates on five activities, all of which begin with the letter “S.” Five S first became widely used in Japan. The English terms listed below are loose translations of the Japanese words shown in parentheses:

- Sort (Seiri)
- Set (Seiton)
- Shine (Seiso)
- Standardize (Seiketsu)
- Sustain (Shitsuke)

**Getting Management Buy-In and Employee Cooperation**

The first step for any initiative-driven program is always obtaining management buy-in. After all, getting managers to buy into the program means that they will be more likely to contribute time, money, energy, verbal support, and personal commitment.

Providers of initiative-driven improvement services always warn managers that employees may resist the program they are offering.
• whine and complain,
• don’t hold up their end,
• watch the clock,
• are unwilling to learn something new,
• say one thing, do another,
• place personal ambitions above other goals,
• don’t care,
• aren’t happy to be employed by the company,
• don’t work at a decent pace,
• watch other people instead of concentrating on their work, and
• have a “me first” attitude.

**Working Through the Process**

The first step in the Five S process is “sort.” It refers to removing from the workplace all items that are not needed for current production. The aim is to promote tidiness and organization.

During this step, red tags are placed on items to be removed, and they are then taken out of the workspace. Many Five S implementation programs have outside teams of people come in to do the red-tagging in work areas. They typically interview employees about the last time they used particular items or ask them to give reasons why items should not be removed.

Once this Five S step is accomplished, the next stage is taken up. Because of space considerations, this column will not discuss each step in the Five S process. More detailed discussion can be found in an earlier column.²

**Initiative-Driven Improvement: Benefits**

The example discussed above illustrates many characteristics that are typical of the initiative-driven approach. Some benefits that such an approach can offer organizations include the following:

• A strong top-down message
• Implementation with predetermined goals
• An emphasis on best practices
• Outside expert assistance to do the “heavy lifting”
• Behavior-change methods for getting employee buy-in
• Elimination of undesirable practices

**Process-Driven Improvement: Overview**

Now let’s look at another approach to process improvement—one that focuses on the process itself rather than on a particular “program” (or initiative). Process-driven improvement also is common in many organizations, often operating under labels such as “Six Sigma,” “lean production,” or “operational excellence.”

In recent years, more companies have become familiar with the process-based approach because of widely used management systems such as ISO 9001, which requires a process focus. These management systems have helped introduce many companies to the concept of process mapping, which I discussed in my two previous columns.³

Some initiative-driven service providers also offer process-based improvement as an alternative to “best practice” programs. However, organizations often are reluctant to take the process-driven approach, fearing that it will require too much time and money. This is especially a concern when their company financial staff are pressuring them to simply make the red ink “go away.”

**Process-Driven Improvement: How It Works**

In the following sections, I briefly outline some key steps involved in a typical process-driven improvement program. As the discussion makes clear, this approach relies much more on
employee involvement and less on “top-down” management. The various steps described here rely on quality management tools used in the Systems Approach, which has been described in more detail in a number of my previous columns.

**Process Mapping**

All programs with a process focus incorporate use of a process-mapping tool. Process mapping helps ensure that everyone understands the process they are seeking to improve. Typically, the process under consideration contributes to creating the product or service that is offered by the organization.

Process mapping may be facilitated by outside contractors. However, the work is always verified by employees who actually work on the process. This means that employees play a direct role in making sure that the process maps accurately and adequately portray the process as it currently operates in their facility.

During the verification activity, each employee is asked what he or she would suggest to management as a way to improve the process. In many cases, the employees will never have been asked this question before.

**Process-Improvement Ideas**

Once this stage is complete, a list of potential process-improvement ideas is prepared and presented to management, along with the verified process maps.

It is much easier for managers to understand the opportunities that are available for improving a process when those opportunities are depicted visually and accompanied by specific recommendations from employees. When ideas are presented this way, a very common exclamation heard from managers is, “Wow! These are great ideas! I wonder why I haven’t thought of them.”

**Root-Cause Analysis**

The next step involves appointing employee teams to work on each of the specific problems identified in the process. The teams generally begin by analyzing root causes in order to better understand these problems—instead of simply jumping right into the process of implementing solutions that others may have applied previously.

**Employee Involvement**

All process-driven approaches note the importance of involving employees in both the planning and the implementation of the process-improvement program. Combining a strong bottom-up component (employee involvement) with a traditional top-down management strategy always works better than a one-sided program.

The employee involvement feature of the process-driven approach helps ensure that employees will genuinely want to improve their processes. There is an old adage that says, “Employees never resist their own ideas.” Because ideas come from the bottom up in a process-driven approach, organizations do not need to inculcate the kind of behavior modification that is required in initiative-driven programs.

In my experience, employee teams derive more (and better) potential solutions to problems than do outside experts. Some of this results from the “provocation” built into the process-driven approach, which prods participants to generate alternative solutions.

Discussing a wide range of alternatives and encouraging employees to come up with “outrageous” ideas helps get team members thinking.
When provoked, they often discover something that might just work. They learn first hand the truth of the old adage, “If you don’t expect the unexpected, you won’t find it. For it is not to be reached by search or trial.”

Outside experts often restrict their efforts to tried-and-true ideas, knowing that the state of the practice changes slowly. Experts typically hope to accomplish little more than encouraging workers to push the envelope a bit and try something that may fit their particular situation.

By contrast, the process-driven approach recognizes that the only way to have a good solution to a problem is to generate a wide range of different alternative solutions. An employee team is better than a single expert when it comes to generating multiple ideas for improvement. Often, many of the alternative solutions that employees identify can be implemented without large capital expenditures or other expensive fixes.

Experts always seem to gravitate to their favorite “right” answer. But employee teams rarely search for a single right answer. Instead, the process-driven approach brings out their creativity and builds on their desire to make their processes work better.

**Draft Action Plans**

Once a team has decided on a particular solution to its process problem, the team members draft an action plan for implementing the solution. At this stage, employees must define the performance standard for each step of implementation: In other words, what has to happen before they know that they have in fact completed the step?

The combined performance standards for all the steps involved become the overall goal of the project. Management can also set a “stretch” goal by negotiating with the team on ways to enhance or accelerate the project.

In the process-driven approach, there often is a great deal of astonishment when employees present their draft action plans to management. Yet there shouldn’t be! The quality management tools used in the Systems Approach are designed to yield comprehensive and far-reaching solutions. They help employees address the underlying causes of process problems, rather than merely fixing the symptoms.

**Goal Setting**

Process-driven methods offer a superior approach to setting goals. Many companies still set goals at the start of their improvement programs, before they have even developed much information. They then expect employees to write action plans for delivering on the goals. This is called “management by objectives.”

While I am sure this approach works in some instances, in most cases employees are much more comfortable setting goals after the work has been properly studied and defined.

**Resource Requirements**

With the Systems Approach tools, employees discuss all the alternative solutions that are generated and debate how best to approach the chosen solution. Each team thus becomes aware of the resources they must ask for in order to complete the needed work.

By contrast, the outside expert typically has a particular monetary figure in mind when providing a service and will try to negotiate the fee in their own favor. This means that the dynamics of the improvement process and the resource equation are very different.

When managers approve the resources asked for in an employee-drafted team action plan, the employees will be held accountable for delivering
the solutions promised. This generally should not be a problem since the employees have written the action plan themselves, instead of having a solution imposed on them from the outside.

**Five S: An Alternate Example**

Programs such as Five S can be implemented with an employee-driven, process-based approach, as well as with an expert-driven, initiative-based approach.

I have worked with companies to implement Five S programs through employee teams. In one instance, instead of having an outside expert facilitate implementation of the program, the employees on a package-filling line were able to implement the Five S program on their own. Their draft action plan is shown in Exhibit 1.

This team managed to step up the pace of the project, and even worked with other employees to extend the effort to four other package-filling lines in the facility. The experts were left wondering how the employees were able to do it so expediently, and with less time spent in training.

As the employees worked on their own implementation program, they interviewed maintenance personnel and workers on other lines to make sure there would be no adverse systems effects. In doing so, they proved more insightful than most experts, because they realized that solving one problem can often lead to others.

Such “collateral” problems in fact arise almost every time there is an externally imposed solution! It is important to remember that everything is connected to everything else.

**Process-Driven Improvement: Benefits**

We can now summarize some key benefits of a process-focused improvement program. This approach:

- incorporates strong employee involvement, with management oversight;
- uses employee-generated ideas as “best practices”;
- sets goals based on employee action plans; and
- utilizes systems thinking.

**Bringing Out the Best in Each Approach**

Both the initiative-driven and the process-driven approaches to process improvement have strengths, as noted throughout this column. Companies often can benefit from combining features of both. In that spirit, I offer a few pointers on how to get the most out of any process-improvement approach you choose:

- I have found that, although it is possible to learn from others’ success stories, real process improvement comes from the persistent application of a systematic approach that is focused clearly on the individual process. The improvement effort must operate within the vision, mission, and core values of the organization’s specific environment and culture.

**The improvement effort must operate within the vision, mission, and core values of the organization’s specific environment and culture.**
Exhibit 1. Employee-Driven Improvement

**Draft Action Plan**

**(Five S Project)**

**Purpose:** Bring packaging line into Five S compliance.

**Project:** Implement Five S using employee-involvement approach.

**Benefits:** Will provide an improved working environment on the packing line, resulting in increased productivity and improved safety.

<table>
<thead>
<tr>
<th>Work Tasks</th>
<th>Person/Team Responsible</th>
<th>Completion Date</th>
<th>Performance Goal</th>
<th>Resources Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prepare a baseline survey for the amount of production time that is utilized in the pilot project area and the safety performance of the packaging line. Determine the costs associated with production downtime and safety losses in the pilot project area.</td>
<td></td>
<td>02/23/2005</td>
<td>Determine costs associated with production downtime and safety losses in the pilot project area</td>
<td>Time and activity data, Safety data, Process mapping, Resource accounting sheets, Enterprise resources planning system</td>
</tr>
<tr>
<td>2. Coordinate with all the process improvement teams that have links to the Five S program</td>
<td>Ongoing</td>
<td>Ongoing communication with all teams</td>
<td>Dialogue with other teams, Action plans for all teams</td>
<td></td>
</tr>
<tr>
<td>3. Review packaging line for availability of safety equipment and personal protective equipment (PPE)</td>
<td>03/30/2005</td>
<td>Safety equipment in good working order and PPE readily available</td>
<td>Job hazard analysis performed, Local PPE storage, Equipment purchased if necessary</td>
<td></td>
</tr>
<tr>
<td>4. Provide workers with Five S training</td>
<td>03/30/2005</td>
<td>Adequate understanding of Five S methodology by trainees</td>
<td>Training outline</td>
<td></td>
</tr>
<tr>
<td>5. Establish a program for recognition of Five S achievement, and implement it with management approval</td>
<td>04/27/2005</td>
<td>Obtain management approval at second oversight committee meeting in April</td>
<td>Prizes, certificates, Management-approved red-tag storage area</td>
<td></td>
</tr>
<tr>
<td>6. Have the workers involved with the packaging line conduct their own SORT program using preprinted red tags. Remove items to a designated red-tag storage area.</td>
<td>04/27/2005</td>
<td>Items not needed have been removed</td>
<td>Process mapping, Resource accounting sheets, Enterprise resources planning system, Tools</td>
<td></td>
</tr>
<tr>
<td>7. Prepare Five S budget</td>
<td>All team members</td>
<td>04/27/2005</td>
<td>Present budget to management oversight committee</td>
<td>Information gathered thus far, and associated costs, Budget, Oracle security</td>
</tr>
<tr>
<td>9. Work with mechanics and maintenance to be sure that tools are available on the packaging line and that their availability is consistent with Five S principles</td>
<td>05/25/05</td>
<td>Line Tool Set Five S Shadow Box Tool Placement</td>
<td>Indirect labor hours; possible overtime for hourly team members, Process mapping, Resource accounting sheets, Enterprise resources planning system</td>
<td></td>
</tr>
<tr>
<td>10. Have workers develop procedures for implementing SET step of Five S.</td>
<td>05/25/05</td>
<td>Procedures developed</td>
<td>(continued)</td>
<td></td>
</tr>
</tbody>
</table>
### Exhibit 1. Employee-Driven Improvement (continued)

<table>
<thead>
<tr>
<th>Work Tasks</th>
<th>Person/Team Responsible</th>
<th>Completion Date</th>
<th>Performance Goal</th>
<th>Resources Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Approve the procedures and have the workers begin SET step of Five S</td>
<td></td>
<td>06/27/2005</td>
<td>Procedures issued Area improved and measured by weekly Five S Workplace Checklist</td>
<td>Five S Workplace Checklist</td>
</tr>
<tr>
<td>12. Have workers develop procedures for implementing SHINE step of Five S</td>
<td></td>
<td>07/27/2005</td>
<td>Procedures developed</td>
<td></td>
</tr>
<tr>
<td>13. Approve the procedures and have the workers begin SHINE step of Five S</td>
<td></td>
<td>08/24/2005</td>
<td>Procedures issued Area improved and measured by weekly Five S Workplace Checklist</td>
<td>Five S Workplace Checklist</td>
</tr>
<tr>
<td>14. Have workers develop procedures for implementing STANDARDIZE step of Five S</td>
<td></td>
<td>09/28/2005</td>
<td>Procedures developed</td>
<td></td>
</tr>
<tr>
<td>15. Approve the procedures and have the workers begin STANDARDIZE step of Five S</td>
<td></td>
<td>10/26/2005</td>
<td>Procedures issued Consistent ratings during weekly monitoring will indicate standardization</td>
<td>Five S Workplace Checklist</td>
</tr>
<tr>
<td>16. Have workers develop procedures for implementing SUSTAIN step of Five S</td>
<td></td>
<td>01/25/2006</td>
<td>Procedures developed</td>
<td></td>
</tr>
<tr>
<td>17. Approve the procedures and have the workers begin SUSTAIN step of Five S</td>
<td></td>
<td>02/22/2006</td>
<td>Procedures issued Consistent ratings during weekly monitoring will indicate sustain</td>
<td>Five S Workplace Checklist</td>
</tr>
<tr>
<td>18. Dedicate a person to maintain the Five S program for this area—like a “black belt” (CROWN JEWEL) Feasibility Study</td>
<td>All</td>
<td>04/26/2006</td>
<td>Completed feasibility study that will justify headcount to continue to implement and maintain Five S and other process-improvement programs</td>
<td>Feasibility study completed</td>
</tr>
<tr>
<td>19. Repeat Item 1 to determine the results of the Five S program implementation</td>
<td>All</td>
<td>04/26/2006</td>
<td>Determine costs associated with production downtime and safety losses in the pilot project area</td>
<td>Time and Activity Data; Safety data; Process mapping; Resource accounting sheets; Enterprise resources planning system</td>
</tr>
<tr>
<td>20. Conduct “lessons learned” in order to determine how this pilot might be helpful to other company’s Five S implementation efforts</td>
<td>All</td>
<td>04/26/2006</td>
<td>Written summary to Management Oversight Committee</td>
<td>Systems approach tools</td>
</tr>
</tbody>
</table>
lem to be addressed before having an expert’s solution imposed on them. This also allows the expert to get a much better idea of what employees are thinking. The expert can then at least consider this information in conjunction with his or her “best practice.”

- When relying on an employee-driven approach, the organization should provide employee teams with outside professional facilitation until they are able to develop the skills needed to use the Systems Approach tools effectively. If necessary, the facilitator can also have outside experts present ideas to the employee team in a “focus group” setting. Employees can then interactively question the expert and gather the information they need to prepare their draft action plans.

- Employees can benefit from visiting other companies that have tackled the process-improvement issues they face. This again allows them to ask questions, and thus learn more about how to complete their draft action plans. If employees have the opportunity to visit another company, the best question to ask is, “If you had it to do over, would you have selected the same approach to the problem?”

- It is always a good idea to seek multiple points of view when trying to resolve difficult problems. Soliciting these views can be done before team members work through the various Systems Approach tools. However, they will benefit more from these exchanges if they first utilize the tools to analyze the problem and complete a preliminary draft action plan. At this point, they will have a much better sense of the problem.

Process improvement is crucial to the sustainability of every organization. Using the right combination of approaches can help put your organization on the path to continual process improvement.

**Notes**


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