

LEAN

A Second Look At 5S

by **James Van Patten**

A few years ago I attended a conference of lean practitioners—most of them consultants as it turned out. Given that lean had fallen out of favor—replaced by Six Sigma—much of the hallway conversations concerned the promotion of lean and its benefits.

Discussing the future of lean consulting, one

very senior manager of a well-known consulting firm summed up his perspective with the statement, “We can’t expect to sell 5S anymore. I mean, after all, we’re just cleaning up a client’s shop floor.” Heads nodded in agreement, and the conversation moved to some of the more concrete benefits of lean.

I was taken aback by the statement that 5S involves simply cleaning up. The consultant had missed the point of 5S—and I wondered whether many of his clients missed the point, too.

5S has the potential to deliver tremendous benefits, and the cleaning up part is merely one of its more obvious byproducts. But to ensure a 5S campaign delivers what it’s capable of, it needs to be understood and implemented as much more than cleaning up.

5S is an idea that reshapes how you think about the workplace and provides a foundation for all improvement.¹ The idea of 5S, when understood on that level, has wide application and great power.

For example, one company used 5S to rationalize its product line, reducing products offered by two-thirds and transitioning current clients to the product numbers that remained. The general manager said to me, “I saw what 5S did for our production

In 50 Words Or Less

- **5S is not simply about cleaning up a shop floor.**
- **It’s an idea that reshapes how you think about a workplace and provides a foundation for significant improvement.**
- **It’s a way to change how people approach their work, workplaces and each other.**

lines, so I used it to straighten out our product lines, too.”

Another company used 5S to organize a warehouse and in the process learned that much of the slow moving product stored was due to cancelled distributor orders. This led to a revision of distributor agreements and better management of their distribution system.

A third company used 5S as a way of developing an organizational lifestyle of improvement: empowering all employees to find and implement ways of bettering their workplaces immediately while not requiring a lot of time or management approval. It used 5S as the common roadmap for improving everything from machine uptime to safety, inventory, quality and morale.

What made these and other organizations successful was understanding that 5S is not a cleanup. It is a prescription for dramatically changing how people approach their work, their workplaces and each other.

The 5S's

Table 1 lists the original five Japanese S words and their rough translations. Although Japanese doesn't translate into English easily, the original 5S's are more properly seen as characteristics of a person or organization (for example, organized, neat, clean) than as steps in a process (such as organizing, straightening, cleaning).

Because what people do is affected by how they think, inspecting an organization's 5S's is a way to estimate how well the organization focuses on priorities, reduces waste and slack, and eliminates root causes in everything it does.

Think of the 5S's as similar to the Boy Scout Law: "A scout is trustworthy, loyal, helpful, friendly, courteous, kind, obedient, cheerful, thrifty, brave, clean and reverent."² These are characteristics of each Boy Scout one hopes are represented in everything he does—from setting up campsites to attending meetings to conducting himself daily.

That is, Boy Scouts are expected to be trustworthy, loyal, helpful and friendly. The Boy Scouts do not conduct weekend projects or offer merit badges to create trustworthiness, loyalty or helpfulness. They are expected to embody these characteristics every day in everything they do.

So it is with the 5S's. Within a culture of 5S,

employees are expected to be organized, neat, clean, standardized and disciplined in everything they do.

By practicing the 5S's, an employee's work and workplace will be continually improved by becoming more organized, neater and cleaner. This is why practicing the 5S's has sometimes been called a lifestyle.

A Lifestyle Becomes a Project

The effect of substituting a list of five English verbs for the original Japanese word is subtle but profound. It refocuses 5S from a set of characteristics to embody into a set of activities to complete. That is, 5S changed from an ongoing effort to practice a new lifestyle to a cleanup project defined by five steps, each beginning with the letter S.

As a project, 5S now had a beginning and an end. It became possible to "do a 5S" rather than "practice the 5S's." It is as if our Boy Scouts decided to "do trustworthy, loyal, helpful and friendly" this week, then do something else next week.

But practicing the 5S's does require activity; that is, it's not possible to be clean without cleaning or to be organized without putting things away. Successful organizations integrate the 5S activities into the daily work rather than separate them into projects or events. They practice the 5S's in everything they do.

Launching the 5S Lifestyle

At some point, most organizations decide to give the 5S's a try. Some begin by integrating 5S activities into the day-to-day work, but this requires a lot of understanding and expertise about 5S—not a normal circumstance.

Most companies, therefore, start by conducting a few initial 5S projects. The difficulty is, how can the 5S lifestyle be successfully launched as a project?

Launching the 5S lifestyle is similar to launching any other lifestyle change (such as losing weight or getting fit or moving overseas) in that each requires learning new things, persistent effort and behaving in new ways. An initial activity (such as starting a weekend diet or purchasing new running shoes or listening to a French language CD) might be a start toward a new lifestyle, but that isn't enough. All require persistence and new behaviors.

An initial 5S project is also a good start to imple-

menting the 5S lifestyle, but it isn't enough. Only when everyone in the organization understands 5S as a new way of working will the new lifestyle have a chance of taking root.

This means the 5S project should be positioned as the first step—the launch—of a new way of working and not as a project. Each step in the 5S project also should be discussed as a component of a new lifestyle and not as a step in a project.

Here are a few hints to help facilitate initial 5S projects to ensure they are seen as the launch of a lifestyle, rather than as a step in a project.

Activity 1—Separate

The challenge is to distinguish between what is essential and what isn't rather than to approach the issue as you would approach cleaning out your garage.

The first step in a 5S launch is deciding how essential everything is in the workplace. To do that, the team briefly discusses the work done there: What do we make here? Who are our customers (internal and external)? What are our customers' requirements (quality and quantity)?

The team members go to the workplace and move items they think they don't need, don't use very often or can't identify to what's called a red tag area. The purpose of this activity is for team members to discuss the value of the items in their work area.

With the team circled around the red tag area, members discuss questions including "What is this used for? Who uses this? When and where do we use it? How often is it used? Does everyone use it?"

Through this discussion, the team members understand more about their work and how they might work differently. Because this is frequently the first time employees have discussed these items and how they are used, significant work process improvements often are generated then and there. They're likely

to hear, "I didn't know you could do it that way."

Activity 2—Straighten

The challenge is to put things where they best meet their functional purpose rather than to make the workplace neat.

The second step in a 5S launch is taking the first step items and putting them where they best support the function they provide. The team is encouraged to put items at their point of use and improve the workplace's visual management.

Straightening is often confused with making a work area neat by putting everything away in cabinets or drawers. This can make items hard to find and often slows down the work. Successful straightening improves flow, putting everything out in the open and at its point of use. Straightening also includes the layout of equipment and machines as it affects the smooth flow of material.

To illustrate, imagine the difference between a home kitchen and a restaurant kitchen. It is difficult to make even a cup of coffee in someone else's kitchen because it is so neat. Everything is put away in drawers, cupboards and cabinets, so you must search for everything.

But in a restaurant kitchen, everything needed is out in the open, right where you use it. Need a fry pan? It's stacked over the stove. Need a knife? It's in a block or rack or maybe even hanging from your belt. The coolers, oven, stove, counters and

TABLE 1 5S Definitions and English Translations

Japanese term	Definition	English term	Typical definition
<i>Seiri</i>	Organized: Distinguish between the less essential and the necessary.	Separate	Get rid of everything not needed.
<i>Seiton</i>	Neat: Put things where they best meet their functional purposes.	Straighten	Put things away.
<i>Seiso</i>	Clean: Inspect for and eliminate waste, dirt and damage.	Scrub	Clean and paint.
<i>Seiketsu</i>	Standardized: Maintain known, agreed upon conditions.	Standardize	Develop rules to keep everything clean and organized.
<i>Shitsuke</i>	Disciplined: Practice the habit of doing what is required even if it is difficult.	Systematize	Audit the workplace to ensure the rules are being followed.

Source: Takashi Osada, *The 5S's: Five Keys to a Total Quality Environment*, Asian Productivity Organization, 1991.

prep areas are themselves organized to promote the smooth flow of food preparation from raw produce to plated meals ready to be served.

Activity 3: Scrub

The challenge is to identify and eliminate the root causes of waste, dirt and damage rather than to clean up.

The third step in a 5S launch is inspecting, cleaning and repairing everything in the workplace to identify and eliminate the root causes of dirt and damage. The key activity of this step is inspecting

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and removing all of the root causes of waste, dirt and damage.

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Some 5S projects are almost entirely focused on cleaning and painting and, as a result, sweep away all the valuable information that can be gained by close inspection. It's useful to think of the scrub step as industrial archeology in which the project team's goal is to gather data about the workplace the same way archeologists gather data: up close with hand tools and rags.

Not only do archeologists remove all the dirt and debris covering a lost city, but they also learn a lot about the city in the process. And like these archeologists, the scrub step in 5S is more about gathering information than having a clean worksite.

Some organizations use power washers and contractors to clean up a work area as part of a 5S project. That's about the same as doing archeology with a steam shovel. You might move a lot of dirt,

but you lose a lot of information in the process.

Throughout the scrub activity, it is important to keep the team members focused on the information they are gathering by periodically asking them three questions:

1. What are you finding?
2. How did it get there?
3. How do you keep it from coming back?

Activity 4: Standardize

The challenge is to visually maintain known, agreed upon conditions rather than to write work instructions.

The fourth step of a 5S launch is working with the team so its members agree on and implement the new, normal way of working. That is, the team members discuss a new way of working that keeps the workplace organized, clean and functional based on what the team has learned about the following:

- The priorities and uses of the tools, equipment, information and other objects found in their workplace.
- Improved locations for these items to support the flow of valuable work.
- Sources of waste, dirt and damage and how to keep them from recurring.

The new way of working usually is referred to as a work standard and concerns everything about the workplace and the work done there. One way to help the team develop its standards is to use the 5Ms, borrowed from Kaoru Ishikawa's fishbone diagram:³

- **Manpower:** What should change about how people are hired, trained, given goals, staffed and rewarded?
- **Methods:** What should change about how or when the work is done?
- **Materials:** What should change about the specifications, amounts, locations or deliveries of the materials and information used in the workplace?
- **Machines:** What should change about the design, installation, layout, maintenance, setup and operation of the required machinery and tools?
- **Measurements:** What should change about the source, nature, detail, timeliness and scope of the information that is collected and reported about the workplace?

After this discussion and the creation of new standards, the team members might want to reconsider the way they have prioritized and organized their work area during the previous 5S launch activities. An organization achieves standardization when employees value working to a common standard more than working however they feel like working or how they think a job should be done.

Activity 5: Systematize

The challenge is to do what you know is required even if it is difficult, rather than to audit periodically for cleanliness and organization.

The fifth activity of a 5S launch is to ensure the personal discipline to follow the agreed on standards and to practice the personal attributes of organization, neatness and cleanliness.

This is where many organizations fall down because they fail to adequately support their teams as they build the habit of 5S. That is, a 5S team will successfully complete the first four activities, but because the organization hasn't changed anything to support the effort, it is all but impossible for the team to follow its new lifestyle of organization, neatness and cleanliness.

Teams require time, support and recognition for demonstrating the self-discipline required to develop the new habit of the 5S lifestyle. Some individuals might be self-motivated enough to achieve the 5S lifestyle with little help, but most require support from the organization. This initial support is often ensuring mechanical compliance, in which team members are required to be organized and neat and keep the workplace clean until it becomes a habit.

Imagine trying to lose weight while eating the same food in the same cafeteria. It's the role of management to find and deploy ways for teams to more easily follow their new standards and be recognized for being organized, neat and clean.

Much More Than a Cleanup

5S can be many things. It can be a powerful technique for developing an organization and deploying a new lifestyle. It can help improve communication between the shop floor and support departments. It can help develop the characteristics employees require to be part of a world class organization. It can reduce injuries, downtime, defects, lead times,

inventories and associated production costs.

Or it can clean up a workplace for a month or two. It's up to you.

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NOTE

For a more in-depth discussion of 5S, see Takashi Osada, *The 5S's: Five Keys to a Total Quality Environment*, Asian Quality Organization, 1991.

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