Revolutionize your business the Japanese way

A technical note by IESE's Rocio Arenas and Beatriz Muñoz-Seca analyzes five Japanese methods behind approaches like just-in-time manufacturing.

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Some operations management tools such as lean manufacturing and just in time — which have most notably changed the auto industry — have their roots in Japanese manufacturing practices.
A technical note by IESE's Rocio Arenas and Beatriz Muñoz-Seca examines the principles underpinning five Japanese improvement methods, to help managers learn how to make their own enterprise solutions more efficient and competitive.

1. The 5S philosophy

This focuses on effective workplace management to reduce waste and non-value-adding activities. It's about instilling discipline and order in the workplace. It is based on five words beginning with the letter "S."

The first, *seiri* (sort), aims to remove all extraneous items from the working area, to avoid clutter and distraction.

The second, *seiton* (set in place or straighten), is about having what is needed within easy reach, and maximizing ergonomic considerations.

The third, *seiso* (shine), is about making everyone responsible for, and conscious of, cleanliness in the workplace. *Seiso* serves to reduce workplace accidents, while eliminating the risk of product contamination. Regular cleaning also makes it easy to spot malfunctioning

tools or equipment.

The fourth, *seiketsu* (standardize), assimilates an understanding of how workstations should look, feel and function. The goal is for everyone to feel that they have contributed to success and will benefit from it.

The fifth, *shitsuke* (sustain), is about creating and maintaining the best environment to meet the challenges of sustaining 5S through:

- Visible commitment on the part of management
- Communication to keep everyone informed
- Regular audits of 5S activities
- Reward and recognition for a job well done
- Education to reinforce the importance of 5S
- Creating the right environment, using a program detailing what is needed to sustain 5S
- Keeping copies of audits and photographs of the workplace for the evidence portfolio

To implement 5S, a simple, measurable, positive and inspiring vision that captures the key objectives is required. Once this vision has been established, action lists are easier to generate, as everyone knows what they are aiming to achieve.

2. *Hoshin Kanri*

This is a step-by-step planning, implementation and review process for change. The purpose is to make it possible to break the status quo and make performance improvements by analyzing problems and deploying solutions.

Hoshin kanri allows the top management's vision to be translated into a set of coherent and attainable policies that can be understood and achieved at all levels of the company.

It operates at both the strategic planning level and daily management level, where it addresses more routine aspects of operations.

3. The *Taguchi* Method

This is useful, among other things, for fine-tuning a given process for best results. It is a system for evaluating and implementing improvements in products, processes, materials and

facilities.

According to the *taguchi* quality loss approach, a high-quality process should perform consistently, irrespective of variables in external conditions. Process variables should never deviate from desired values.

There is a standard procedure for implementing *taguchi* that involves identifying the main function, side effects, noise factors, objective functions and control factors. Then, having conducted a matrix experiment, the data are analyzed and a verification experiment is performed.

4. *Jidoka*

Jidoka — automation, or automation with a human touch — is often described as "stop and respond to every abnormality."

Jidoka prevents the production of defective products, eliminates overproduction and focuses attention on understanding the problem to ensure it never occurs again.

Rather than waiting until the end of the process to inspect a product, automation may be employed at early stages of the process to reduce the amount of work that is added to a defective product. It is a complete system of machine and human, to ensure that no defect is passed on to the next process.

Jidoka makes it possible to rapidly or even immediately address, identify and correct mistakes that occur in the process.

5. The *Takt Time* Approach

This became a cornerstone of the Toyota Production System. It is one of three elements for standardized work, the others being work sequence and standard work in process.

Toyota combined a German production concept with flow production, pull system and level production to form the basis of the just in time system.

At Toyota, they use *takt time* to analyze their jobs and make small, incremental improvements.

Takt time does not solve problems, but it does expose them, along with any weak points in the production chain.

While these five tools of the Japanese improvement movement were designed for, and have mostly been applied to, manufacturing processes, their implementation in the service world could generate new ideas on how to create more competitive service enterprises, say the authors.

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