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Monozukuri

1. Overview

Monozukuri is a unique Japanese manufacturing style, referring to the Japanese spirit or quest for manufacturing excellence. It was first introduced in 1998, and its purpose was to “reverse the trend of de-industrialisation and the hollowing out that Japan was experiencing after the end of the Japanese financial bubble in the 1990s”. Monozukuri was hoped to reaffirm the country’s strengths in manufacturing. It conveys the “deep pride and dedication invested in developing high quality products, and constantly improving the production process”.

2. What is Monozukuri?

Monozukuri is generally used specifically to describe Japanese-style manufacturing processes, which means the “process of making or creating”. However, the Monozukuri concept embraces more than just the literal meaning. It is an art, which has overtones of excellence, skill, spirit, zest and pride in the ability to make things good. It comprises the ideas of development, production, procurement and service, as well as material and immaterial qualities combined with organisational capabilities. These concepts are all deeply rooted in the traditional culture of the Japanese.

Monozukuri is often used to describe technology and processes, which integrates development, production and procurement. It comprises intangible qualities, such as craftsmanship and dedication to continuous improvement known as the Kaizen philosophy. The Kaizen philosophy focuses on the “improvement of all aspects of a company, from its manufacturing to its shift workers and management staff”. Monozukuri is also a key concept that is applied to the Toyota Production System, particularly to the use of robotics, and involves the management of skill, technology and human resources.

3. Benefits of Monozukuri

Monozukuri requires strict and disciplined organisation during the manufacturing process in order to produce excellent products and continuously improve on them. Monozukuri techniques provide customers with safe and secure goods and services of outstanding quality, which are produced and performed in a meticulous manner. It is also a catalyst for innovation, management solutions, production processes, human resources, sales and marketing. Monozukuri also nurtures a culture of manufacturing excellence.

4. Kaizen

Kaizen is the Japanese term for improvement, which refers to philosophies or practices that focuses upon continuous improvement of processes in manufacturing, engineering, supporting business processes and management. Kaizen involves all employees, from the CEO, to the assembly line workers. The Kaizen philosophy lies behind many Japanese management concepts. The main aim of Kaizen is to eliminate waste. In manufacturing, Kaizen relates to finding and eliminating waste in machinery, labour or production methods. The five key elements of Kaizen are; teamwork, personal discipline, improved morale, quality circles, and suggestions for improvement. These key principles demonstrate well just how different Kaizen strategies are from other lean manufacturing methods.

4.1. Benefits of Kaizen

Kaizen requires the involvement of each and every employee in making change, even though it may be small, incremental changes. It focuses on “identifying problems at their source, solving them at their source and changing standards to ensure problem stays solved”. Continual small improvements add up major benefits for companies that adopts Kaizen. This result in improved productivity, improved quality, better safety, faster delivery, lower costs, and greater customer satisfaction. Also, employees who are working in Kaizen-based companies generally find work to be easier and more enjoyable, hence resulting in higher employee moral and job satisfaction, at the same time lowering employee turn over.

Among other key benefits of Kaizen are;

- Reduction of wastes in areas such as inventory, waiting times, transportation, worker motion, employee skills, over production, excess quality and in processes.
- Improvement of space utilisation, product quality, use of capital, communications, production capacity and employee retention.
- Providing immediate results. Instead of focussing on large, capital intensive improvement, Kaizen focuses on creative investments that continually solve large numbers of small problems. The real power of Kaizen, however, is in the ongoing process of continually making small improvements that improve processes and reduce waste.

4.2. The 5S Methodology

The 5S methodology is one of the methodologies, which embraces the Kaizen philosophy. It is a Japanese methodology, comprising five Japanese words;

- i. Seiri (Sort)
- ii. Seiton (Set in Order)
- iii. Seiso (Shine)
- iv. Seiketsu (Standardise)
- v. Shitsuke (Sustain)

The 5S methodology, also referred to as a housekeeping methodology, is a systematic process, which improves quality and productivity through “maintaining an orderly workplace and using visual cues to achieve more consistent operational results”. It also provides a methodology for organising, cleaning, developing and sustaining a productive work environment, and encourages workers to improve on their working environment and assist them in reducing waste, unplanned downtime, and in-process inventory.

The key benefits of the 5S methodology are;

- Understand the importance of improving productivity in the organisation through 5S
- Identify and eliminate waste in the organisation
- Acquire sufficient knowledge and skills for improving the workplace through 5S

Method and Implementation Approach

5S is a cyclical methodology and results in continuous improvement.



Source: Lean manufacturing and the environment: 5S. (2009, October 15). Retrieved October 1, 2010, from <http://www.epa.gov/lean/thinking/fives.htm>

i. Seiri (Sort)

Sort or also known as organisation, focuses on "eliminating unnecessary items from the workplace that are not needed for current production operations". It involves using a visual method called "red tagging", which is an effective method in identifying unneeded items. Red tagging involves evaluating the necessity of each item in a work area and dealing with it appropriately. Items that are deemed not important for operations or that are not in the proper location or quantity will

be classified under red tag items. These items are then moved to a central holding area for subsequent disposal, recycling or reassignment. Often, organisations are able to reclaim valuable floor space and eliminate items such as broken tools, scrap, and excess raw materials through sorting.

ii. Seiton (Set in Order)

Set in order or also known as straighten, focuses and maximises on efficiency. It focuses on creating “efficient and effective storage methods” to arrange items for easy usage and uses labels so that items can be easily located and put away. Set in order can only be carried out once unneeded items are identified and put away during the sorting.

Strategies for effective set in order include;

- painting floors
- affixing labels and placards to designate proper storage locations and methods
- outlining work areas and locations
- installing modular shelving and cabinets

iii. Seiso (Shine)

Shine emphasises on the need to keep the workplace clean and neat, after the clutter in the work areas are eliminated and remaining items are organised. Daily follow-up cleaning is essential to sustain the improvement. A clean environment enables “workers to notice malfunctions in equipments such as leaks, vibrations, breakages, and misalignments”. These changes, if left unattended, could lead to possible equipment failure or loss of production.

iv. Seiketsu (Standardise)

Standardising the best practices in work area should be put in place after sorting, set in order and shine are implemented. Standardise involves standardising work practices or operating in a consistent manner. The process involves the assignment of the 5S job responsibilities,

integrating 5S duties into work duties, and checking on the maintenance of 5S. Some useful tools that could be used are; job cycle charts, check lists, visual cues, etc. The second part of standardise is prevention, which emphasises on the prevention of accumulation of unneeded items, and prevention of procedures from breaking down.

v. Shitsuke (Sustain)

Sustain involves sustaining the discipline, which refers to maintaining and reviewing standards. Staff should ensure that all correct procedures are undertaken and maintained at all times. Tools for sustaining the 5S include signs and posters, newsletters, pocket manuals, team and management check-ins, performance reviews, and department tours.

5. Toyota Production System

The Toyota Production System (TPS) is a technology of comprehensive production management. It is a “production system that is steep in the philosophy of the complete elimination of all waste and that imbues all aspects of production with this philosophy, in pursuit of the most efficient production method”. The basic idea of this system is to maintain a continuous flow of products in factories in order to flexibly adapt to demand changes. The realisation of such production flow is called Just-In-Time (JIT) production, which means producing only necessary units in a necessary quantity at a necessary time. As a result, the excess inventories and the excess work force will be naturally diminished, thereby achieving the purposes of increased productivity and cost reduction. Demand flow technology, world class manufacturing and lean manufacturing are some of the terms that are essentially variations of Toyota Production System.

More detailed information on the Toyota Production System can be obtained from the following website:

http://www2.toyota.co.jp/en/vision/production_system/

5.1. TPS Concept

The Toyota Production System was established based on two concepts; jidoka and Just-in-Time. Based on the basic philosophies of the two concepts, TPS can “efficiently and quickly produce vehicles of sound quality that fully satisfy customers’ requirements”.

Jidoka – Manufacturing High-Quality Products

The term jidoka is defined as “automation with a human touch”, as opposed to a machine that simply moves under the monitoring and supervision of an operator. The term “jido” used by Toyota is applied to a machine with a built-in device for making judgements. This is in contrast with the regular Japanese term “jido” which is simply applied to a machine that moves on its own. Jidoka also refers to a practice of “stopping a manual line or process when something goes amiss”.

More information on Jidoka can be obtained from the following website:

<http://www.strategosinc.com/jidoka.htm>

Just-in-Time- Philosophy of Complete Elimination of Waste

Just-in-Time or JIT means “making only what is needed, when it is needed and in the amount needed”. This is necessary create a detailed production plan, in order to efficiently produce a large number of products such as automobiles. Supplying only what is needed, when it is needed and in the amount needed according to the production plan would eliminate waste, inconsistencies and unreasonable requirements. This would then result in improved productivity.

More information on the Just-in-Time manufacturing can be obtained from the following website:

<http://www.siliconfareast.com/jit.htm>

TPS concept

Jidoka — Highlighting/visualization of problems —

-Quality must be built in during the manufacturing process!-

If a defective part or equipment malfunction is discovered, the machine concerned automatically stops, and operators stop work and correct the problem.

For the Just-in-Time system to function, all of the parts that are made and supplied must meet predetermined quality standards. This is achieved through jidoka.

1. Jidoka means that a machine safely stops when the normal processing is completed. It also means that, should a quality or equipment problem arise, the machine detects the problem on its own and stop, preventing defective products from being produced. As a result, only products satisfying the quality standards will be passed on to the next processes on the production line.
2. Since a machine automatically stops when processing is completed or when a problem arises and is communicated via the "andon (problem display board)," operators can confidently continue performing work at another machine, as well as easily identify the problem cause and prevent its recurrence. This means that each operator can be in charge of many machines, resulting in higher productivity, while the continuous improvements lead to greater processing capacity.



Just-in-Time — Productivity improvement —

- Making only "what is needed, when it is needed, and in the amount needed!"

Producing quality products efficiently through the complete elimination of waste, inconsistencies, and unreasonable requirements on the production line.

In order to deliver a vehicle ordered by a customer as quickly as possible, the vehicle is efficiently built within the shortest possible period by adhering to the following:

1. When a vehicle order is received, a production instruction must be issued to the beginning of the vehicle production line as soon as possible.
2. The assembly line must be stocked with small numbers of all types of parts so that any kind of vehicle ordered can be assembled.
3. The assembly line must replace the parts used by retrieving the same number of parts from the parts-producing process (the preceding process).
4. The preceding process must be stocked with small numbers of all types of parts and produce only the numbers of parts that were retrieved by an operator from the next process.

Source: Toyota. (2010). *Toyota Production System*. Retrieved October 1, 2010, from http://www2.toyota.co.jp/en/vision/production_system/

5.2. Key Objectives of TPS

The key objectives of TPS are to “design out overburden (muri) and inconsistency (mura), and to eliminate waste (muda)”. The most significant effects on process value delivery are achieved by designing a process capable of delivering the required results smoothly, by designing out “mura”. It is also vital to ensure that the process is as flexible as necessary without stress or “muri” since this generates “muda”.

Finally, the tactical improvements of waste reduction or the elimination of muda are very valuable. The seven kinds of muda that are addressed in the TPS are;

- (i) over-production
- (ii) motion (of operator or machine)
- (iii) waiting (of operator or machine)
- (iv) conveyance
- (v) processing itself
- (vi) inventory (raw material)
- (vii) correction (rework and scrap)

Case Studies

Kao Corporation

Kao Corporation's principal business field is consumer products, in particular in the areas of beauty care, health care and home care. Kao's products include soaps, facial cleansers, shampoos, baby diapers, detergents, kitchen cleaning products and house cleaning detergents. The company is driven by the values of innovation and integrity, and the principles of customer friendly, respect and teamwork and global perspective. It strives for the whole-hearted satisfaction and enrichment of the lives of people globally through yoki-monozukuri. In November 2006, Kao Corporation received the renowned Nikkei Monozukuri Award.

Yoki-Monozukuri

Kao Corporation defined yoki-monozukuri as "a strong commitment by all members to provide products and brands of excellent value for consumer satisfaction". Yoki means good or excellent, while monozukuri means means the "manufacturing of products".

Kao strives to "develop innovative products and brands to maximise consumer satisfaction by determining the needs of consumers and fusing them with the seeds of R&D". They create "dynamic synergy" through merging the creativity and energy of each person and team to enhance yoki-monozukuri, which is driven by the "passion of individual members as the source of corporate strength". Kao reinvest the profits earned through yoki-monozukuri towards the continuous creation of products and brands of excellent value. In return, yoki-monozukuri earned them the respect and trust from their consumers, employees, business partners, etc., thereby achieving profitable growth.

Business Activities

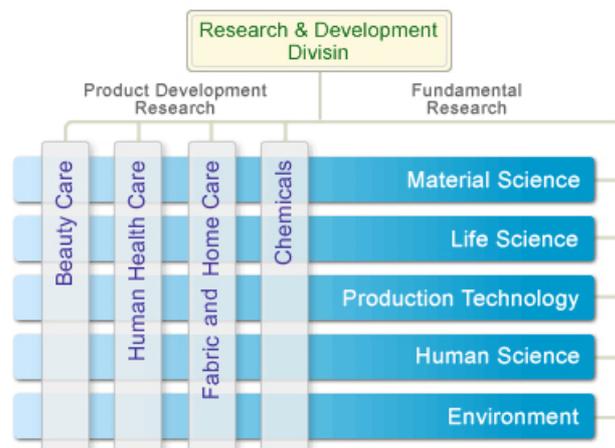
Kao's foundation of business activities is yoki-monozukuri, which represents their efforts to improve, from the perspective of their consumers/customers through three types of value provided by their products; functional value including quality, safety and functionality, emotional value and environmental value.



Source: Kao Corporation. (2010). *Business Activities*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/activities.html

Research and Development

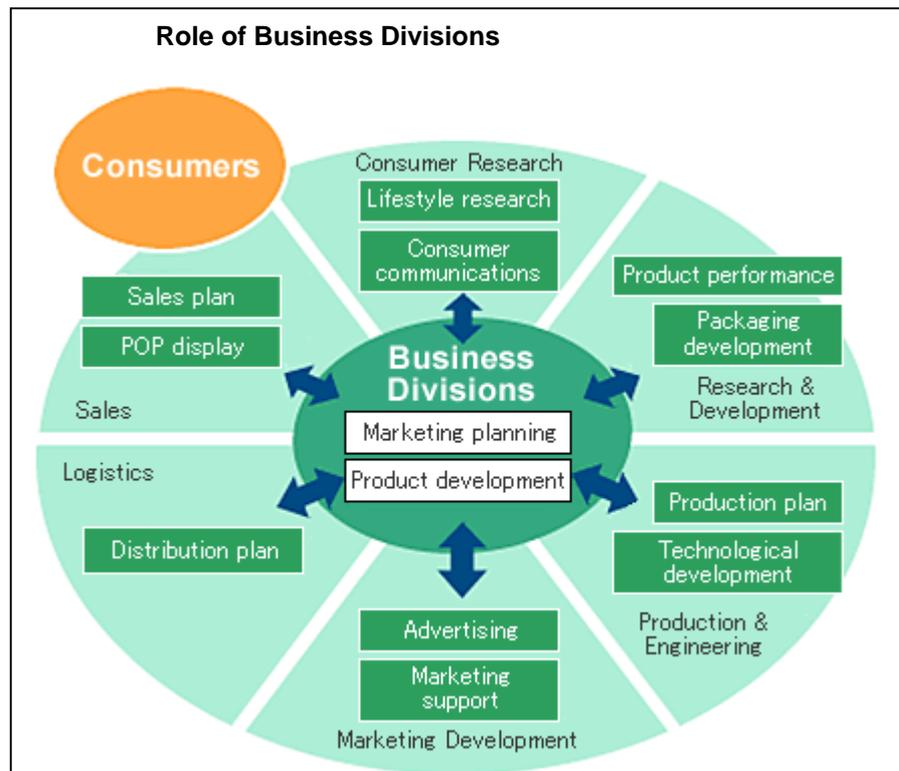
Kao's R&D is committed to create innovative products, with the motto "Integration of Diversity" in mind. Kao's R&D division comprises two research functions – the Product Development Research Laboratories and Fundamental Research Laboratories. The two functions work hand in hand and form a research team in accordance with research subjects. Through such matrix operations, expertise in each field can be cross-functionally utilised in a dynamic and flexible fashion. This integration would lead to the development of yoki-monozukuri that achieves consumer satisfaction.



Source: Kao Corporation. (2010). *Research and development*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/activities_00.html

Marketing

Customer driven yoki-monozukuri is the foundation of Kao's marketing, which explores consumers' needs, meeting them with innovative technologies and creating new products. Individual divisions work hand in hand, and continuously propose new values that respond to the changes over time.

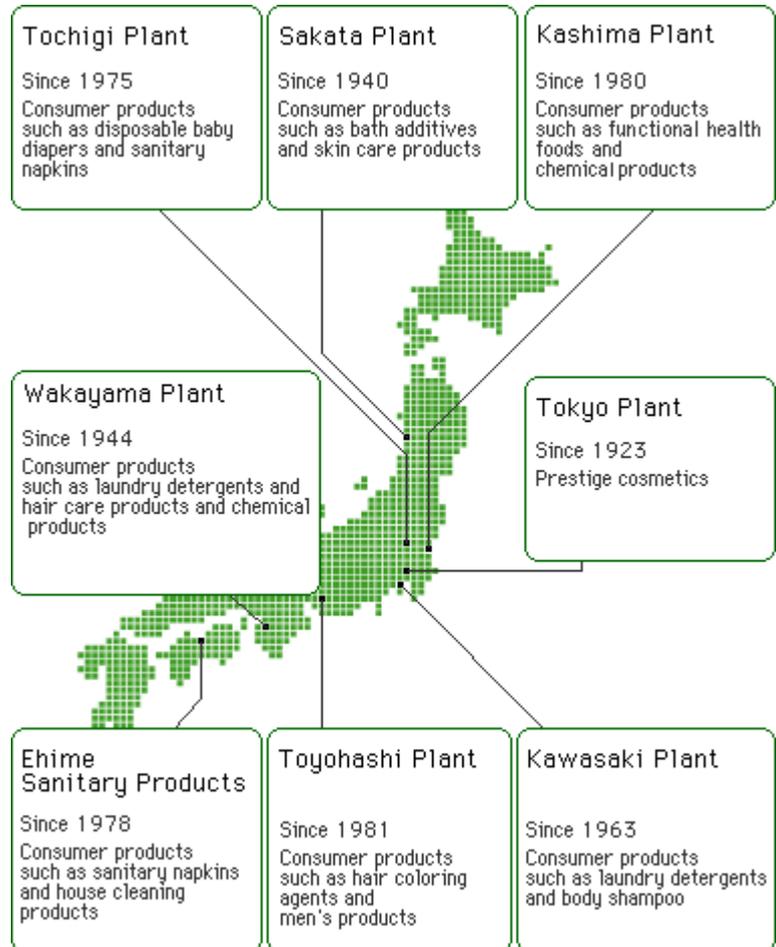


Source: Kao Corporation. (2010). *Marketing*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/activities_01.html

Production

To reinforce cooperative operation between each production base and the business division, Kao has established production centres across eight factories throughout Japan. Kao constantly aims to pursue better quality and lower costs in the implementation of production systems, which respond swiftly to the drastic changes in the marketplace.

Production Bases in Japan

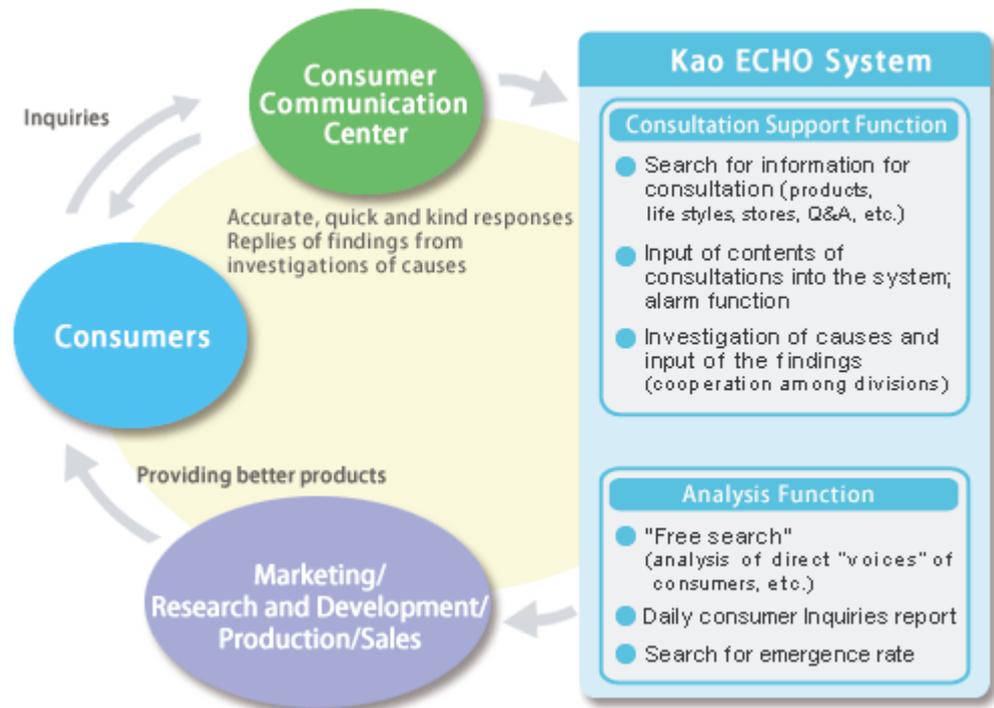


Source: Kao Corporation. (2010). *Production*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/activities_02.html

Consumer Communication

The Consumer Communication Centre enables Kao to directly interact with consumers to discover their real needs. This would result in the development of new and improved products and an enhanced level of service. When enquiries or feedbacks are received, they are immediately input into the Kao ECHO systems. Kao ensures that all enquiries or feedbacks are regularly checked and determined if any quality related issues need to be addressed. Then, in the spirit of their yoki-monozukuri commitment, feedbacks voiced by their customers, which are taken seriously, would be looked at as a whole in terms of consumer desires for better product performance and design.

Role of the Consumer Communication Center

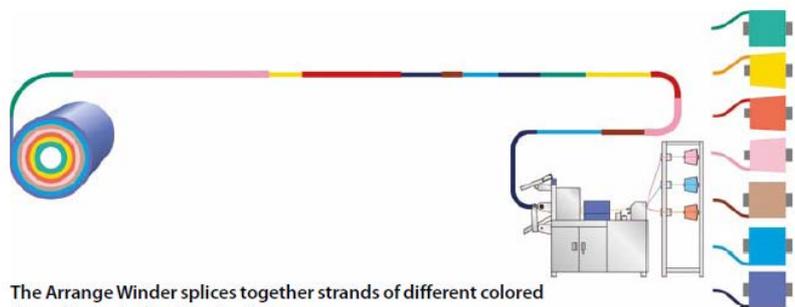


Source: Kao Corporation. (2010). *Consumer Communication*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/activities_05.html

Katayama Co., Ltd.

The president of Katayama Co., Ltd., Shozo Katayama, sums up his thoughts on monozukuri with the following statement, "You can't fail if you don't give up." It is a conviction, which he kept close to his heart, and one which led to success in 2004 when his company developed the world's first multi-product, small-lot textile production system.

The product, known as the Arrange Winder, enables automated weaving of nine different coloured sections of thread into a single length of yarn. The loom allows delivery times to be shortened to one-sixth and manufacturing costs to be reduced to one-third those of conventional weaving machines. The Arrange Winder weaves single-strands of different coloured threads together into a single strand of warp yarn (the yarn attached lengthwise to a loom, across which the weft yarn is woven). This allows the production of multi-coloured fabrics. Previously, changing the pattern of a fabric required removing the warp yarn from the loom and replacing it with yarn of a different colour. Hence, by eliminating this step, the Arrange Winder also dramatically boosts efficiency.



The Arrange Winder splices together strands of different colored thread into single strands of warp yarn. ©Katayama Co.

Source: Katayama Co., Ltd. (2009, June). *Monozukuri and SMEs: Innovations with global impact*. Retrieved October 14, 2010, from www.gov-online.go.jp/pdf/hlj_ar/vol_0023e/32-35.pdf

The development of Arrange Winder took five years to complete. At one point, the machinery manufacturer that was working together in developing the product almost backed out from the project. However, due to Katayama's enthusiasm, he succeeded in persuading the manufacturer to continue. Their efforts resulted in the development of one of the world's most impressive textile machines.

Desire to revive local industry

Katayama's determination and not wanting to watch the decline of his hometown are among the underlying factors that contributed to the development of the revolutionary loom. Katayama's company is based in the city of Nishiwaki in Hyogo Prefecture, a city with more than 200 years old tradition of producing *Banshu-ori* textiles.

Banshu-ori textiles employ a method where yarns are dyed in a wide range of colours before being woven into a fabric on a loom. The material then undergoes shrink-proofing and other processes before finishing up as yarn-dyed fabric. The systematic interweaving of dyed warp and weft yarns can be used to create numerous patterns, such as checks and stripes. The *Banshu-ori* production peaked in the 1960s, and sales of textiles topped 100 billion yen. Soon, the warp beam, a rod wound with 500 different warp yarns, all of which can be dyed in a single step, was invented. The warp beam enables mass production, and its cost benefits and inexpensive labour, fuelled an expansion in the market for *Banshu-ori* textiles. The success of *Banshu-ori* textiles spread beyond Japan, which included Europe, North America and even Africa. This success, however, was the beginning of the local industry's decline. With the appreciation of yen against the US dollar in 1985, the boom in exports went into reverse. At the same time, Japan also started importing large quantities of low priced fabrics from China and other developing countries in the 1990s, exacerbating the decline of *Banshu-ori* textiles.

Hence, in the year 2000, Katayama decided to revitalise the region, not without reviving the *Banshu-ori* textile industry. This spurred him to set about creating a revolutionary textile preparation system. At this juncture, he also made two resolutions based on lessons from the industry's past mistakes: "to grasp the diverse needs of customers" and "to offer outstanding cost effectiveness".

New opportunities

Katayama Co. specialises in selling and servicing textile machinery since 1913. However, none of its employees are specialist engineers. Hence, the firm decided to enlist local institutes of technology and a machinery manufacturer to collaborate in the development of the new product.

Initially, Katayama had focussed on ways of using the excess yarn generated when fabric is manufactured by machine, which until then had been incinerated as waste. In 2000, the company succeeded in making a device to connect the

different coloured lengths of yarn into a single strand. By producing unique, multi-coloured yarn to appeal to the highly individual and diverse needs of customers as well as offering cost effectiveness by finding a use for waste yarn, the new machine was able to meet both of Katayama's requirements. However, major clothing labels failed to share his enthusiasm, and felt that there would be no market for them. This setback, though, paved way for the creation of the Arrange Winder.

The Arrange Winder

In his bid to outperform low-cost products, Katayama remained committed to manufacturing distinctive, high value-added products while at the same time reducing costs. While most machine manufacturers knew that they needed multi-product, small-lot looms to turn out distinctive products, they balked at developing such machines, as they believed they were not commercially viable. Hence, Katayama addressed this problem by turning to the technology for splicing leftover yarn that he had developed in 2000. He refined the technology by incorporating a device to enable the operator to systematically control the splicing of different-coloured yarn, making it possible to manipulate the warp yarn's pattern. This improvement reduced the time needed for each splicing to just two seconds. In addition to avoiding the need to replace the warp yarns when changing the fabric design, the new machine used leftover yarn to make producing small lots of different products cost effective.

With the invention of the Arrange Winder, Katayama felt that it gave them the power to compete with developing countries such as China. His determination to save the local industry won him allies and led to the development of the Arrange Winder, a world-class product.

Articles could be retrieved from NLB's e-Resources – <http://eresources.nlb.gov.sg>

Books are available at the Lee Kong Chian Reference Library.

Recommended Readings

Colenso, M. (Ed.). (2000). *Kaizen strategies for improving team performance: How to accelerate team development and enhance team productivity*. London: Financial Times.
[RBUS 658.402KAI]

Colenso, M. (2000). *Kaizen strategies for successful organizational change: Enabling evolution and revolution within the organisation*. London: Financial Times Prentice Hall.
[RBUS 658.406 COL]

Liker, J. K. (2006). *The Toyota way fieldbook: A practical guide for implementing Toyota's 4Ps*. New York: McGraw-Hill.
[RBUS 658.4 LIK]

Scotchmer, A. (2008). *5S kaizen in 90 minutes*. Gloucestershire: Management Books.
[RBUS 658.562 SCO]

References

Cost reduction through 5S. (2009). Retrieved October 1 2010, from <http://www.psb-academy.edu.sg/clc/detail/71/0/Cost-Reduction-Through-5S/>

Dutta, S. K. (n.d.). *Kao Corporation: Transformation of a company to a university*. Retrieved October 14, 2010, from www.iitk.ac.in/.../Colloquium-02-Swarup%20Kumar%20Dutta-Case%20study.pdf

Hudgik, S. (2010). *Kaizen: Kaizen is focused on making small improvements on a continuous basis*. Retrieved October 1, 2010, from <http://www.graphicproducts.com/tutorials/kaizen/kaizen-benefits.php>

Inforzato, R. (2009, January 1). *Get the monozukuri*. Retrieved October 1, 2010, from http://www.industrytoday.com/article_printview.asp?articleID=we156

Kaizen. (2010). *Wikipedia*. Retrieved October 1, 2010, from <http://en.wikipedia.org/wiki/Kaizen>

Kaizen: Continuous improvement. (n.d.). Retrieved October 1, 2010, from <http://hubpages.com/hub/Kaizen-Continuous-Improvement-Process>

Kao Corporation. (2010). *Business fields*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/business.html

Kao Corporation. (2010). *Consumer communication*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/activities_05.html

Kao Corporation. (2010). *Business activities*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/activities.html

Kao Corporation. (2010). *Marketing*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/activities_01.html

Kao Corporation. (2010). *Production*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/activities_02.html

Kao Corporation. (2010). *Research and development*. Retrieved October 14, 2010, from http://www.kao.com/jp/en/corp_info/activities_00.html

Katayama Co., Ltd. (2009, June). *Monozukuri and SMEs: Innovations with global impact*. Retrieved October 14, 2010, from www.gov-online.go.jp/pdf/hlj_ar/vol_0023e/32-35.pdf

Japan External Trade Organization. (2010). *Japanese monozukuri practices in the automotive industry: Toronto, Ontario*. Retrieved October 1, 2010, from <http://www.jetro.org/content/713>

Japan External Trade Organization. (2009). *Japanese monozukuri practices for the automotive industry: Enhancing collaboration between North American and Japanese enterprises and sustaining a culture of manufacturing talent*. Retrieved October 1, 2010, from https://www.jetro.org/images/stories/events/monozukuri/toronto/toronto_monozukuri_full_summary.pdf

Japan External Trade Organization. (2010). *Japanese monozukuri practices for the automotive industry: Explanation of terms*. Retrieved October 1, 2010, from <https://www.jetro.org/images/stories/events/monozukuri/monozukuri%20terms.pdf>

Lean manufacturing and the environment: 5S. (2009, October 15). Retrieved October 1, 2010, from <http://www.epa.gov/lean/thinking/fives.htm>

Michalska, J., & Szewieczek. (2007, October). The 5S methodology as a tool for improving the organisation. *Journal of Achievements in Materials and Manufacturing Engineering*. 24(2): 211-214. Retrieved October 1, 2010, from www.journalamme.org/papers_vol24_2/24247.pdf

Monozukuri skills: Unique industrial techniques. (2010). Retrieved October 1, 2010, from <http://esc-japan.erklaren.co.jp/monozukuri>

Pringle, P. (2010, July 23). *Monozukuri: Another look at a key Japanese principle*. Retrieved October 1, 2010, from <http://www.japanintercultural.com/en/news/default.aspx?newsID=88>
The mindset of monozukuri. (2010). Retrieved October 1, 2010, from <http://www.jetro.org/content/704>

Toyota. (2010). *Toyota Production System*. Retrieved October 1, 2010, from http://www2.toyota.co.jp/en/vision/production_system/

Toyota Production System. (2010). Retrieved October 1, 2010, from http://en.wikipedia.org/wiki/Toyota_Production_System

Toyota Production System and lean manufacturing: A brief overview. (n.d.). Retrieved October 1, 2010, from http://www.strategosinc.com/toyota_production.htm

What is kaizen? (2010). Retrieved October 1, 2010, from http://www.12manage.com/methods_kaizen.html

The Singapore Productivity Association Productivity Series

Certified Productivity Practitioner

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Why is Productivity Important?

Singapore businesses and the workforce are gearing up to address productivity challenges that have arisen in the past decade.

Key findings from the recently disseminated Report of the Economic Strategies Committee highlighted that:

“We must shift to achieving GDP growth by expanding productivity rather than the labour force. We must boost productivity in order to stay competitive, upgrade the quality of jobs, and raise our people’s incomes. A slower growing workforce makes it all the more important for every enterprise to innovate to create more value, and to maximise the potential and performance of every worker.



This shift to productivity-driven growth would require **major new investments in the skills, expertise and innovative capabilities of our people and businesses over the next decade.**”

The benefits from higher productivity are wide ranging:

- Increase in income / profitability.
- Lowering running costs / operational costs.
- Maximising the use of all of the company’s resources such as land, equipments / machineries, factory / space, workers, and etc.
- Gaining a greater share of the market.
- More cash flows mean more opportunity for the company to expand and grow.



What is the Certified Productivity Practitioner (CPP) Programme about?

One key investment by businesses would be the development of productivity managers to drive and implement productivity improvements in the company.

The Singapore Productivity Association has developed this course for the purpose of training managers to:

- analyse the productivity issues affecting their companies
- develop a solution (s); and
- implement improvements

The programme would be conducted in 2 parts:

Part 1 is an 8-day in-class component and comprises four modules:

- Module 1 – Understanding Productivity
- Module 2 – Productivity Tools, Techniques & Management Systems
- Module 3 – Innovation & Service Excellence
- Module 4 – Critical Success Factors

Part 2 would comprise 2 days of in-company project guidance:

Upon finishing Part 1, participants would embark on a company project to improve productivity in a specific area. Project guidance would be provided to help ensure that the solution(s) and plans are appropriately designed and delivered.

What would you learn?

At the end of the course you would:

- understand the key productivity concepts, including how productivity is measured
- know the relevance and types of tools available to improve productivity
- identify and develop a programme to address one productivity issue affecting your business
- understand the critical success factors for a sustainable productivity improvement culture in the company.

Who should attend?

This course is targeted at employees that are involved in developing, managing and implementing Productivity initiatives.

Targeted employees could include:

- Senior Managers
- Managers and Senior Executives
- Senior Supervisors

Participants should possess a minimum of GCE "A" level and at least 5 years of working experience.

Course Fees & Funding

As WDA provides funding for the course, participants need only pay the net fee as shown in the table below:

| For SMEs: | Nett Fee | Nett Fee with GST |
|------------------------------|----------|-------------------|
| SPA Member (S\$3,700) | S\$1,110 | S\$1,187.70 |
| Non-Member (S\$3,950) | S\$1,185 | S\$1,267.95 |
| For MNCs & LLEs | Nett Fee | Nett Fee with GST |
| SPA Member (S\$3,700) | S\$1850 | S\$1979.50 |
| Non-Member (S\$3,950) | S\$1975 | S\$2113.25 |

**Funding applicable for up to 2 participants from any single company.*

When would this be held?

| Certified Productivity Practitioner - 2nd Run | | |
|---|----------|----------|
| Date | Module | Time |
| Friday, 22 October, 2010 | Module 1 | 9-5 pm |
| Wednesday, 27 October, 2010 | Module 2 | 9-5 pm |
| Friday, 29 October, 2010 | | 9-5 pm |
| Wednesday, 3 November, 2010 | | 9-5 pm |
| Wednesday, 10 November, 2010 | | Module 3 |
| Friday, 12 November, 2010 | 9-5 pm | |
| Friday, 19 November, 2010 | 9-5 pm | |
| Wednesday, 24 November, 2010 | Module 4 | 9-5 pm |

| Certified Productivity Practitioner - 3rd Run | | |
|---|----------|----------|
| Date | Module | Time |
| Tuesday, 2 November, 2010 | Module 1 | 9-5 pm |
| Thursday, 4 November, 2010 | Module 2 | 9-5 pm |
| Tuesday, 9 November, 2010 | | 9-5 pm |
| Thursday, 11 November, 2010 | | 9-5 pm |
| Tuesday, 16 November, 2010 | | Module 3 |
| Thursday, 18 November, 2010 | 9-5 pm | |
| Tuesday, 23 November, 2010 | 9-5 pm | |
| Thursday, 25 November, 2010 | Module 4 | 9-5 pm |

| Certified Productivity Practitioner (Retail) - 1st Public Run | | |
|--|---------------|-------------|
| Date | Module | Time |
| Tuesday, 19 October, 2010 | Module 1 | 9-5 pm |
| Thursday, 21 October, 2010 | Module 2 | 9-5 pm |
| Tuesday, 26 October, 2010 | | 9-5 pm |
| Thursday, 28 October, 2010 | | 9-5 pm |
| Tuesday, 2 November, 2010 | Module 3 | 9-5 pm |
| Thursday, 4 November, 2010 | | 9-5 pm |
| Tuesday, 9 November, 2010 | | 9-5 pm |
| Thursday, 11 November, 2010 | Module 4 | 9-5 pm |

Please contact Secretariat for information on subsequent runs or Ms Leanne Hwee at DID: 6375 0938; Email: leanne.hwee@spa.org.sg.

How to register or get more information?

To register, please fill out our **Registration Form** here:

<http://www.spa.org.sg/images/events/downloads/Registration%20Form%20-%20CPP.doc>

To request for a brochure, please fill out our **Expression of Interest Form** here:

<http://www.spa.org.sg/images/events/downloads/Expression%20of%20Interest%20Form%20-%20CPP.doc>

Contact us

For more information about the seminar or future runs, please contact:

Ms Leanne Hwee at DID: 6375 0938; Email: leanne.hwee@spa.org.sg

The Singapore Productivity Association Productivity Seminar

BASICS OF PRODUCTIVITY

Refresh • De-myth • Inform

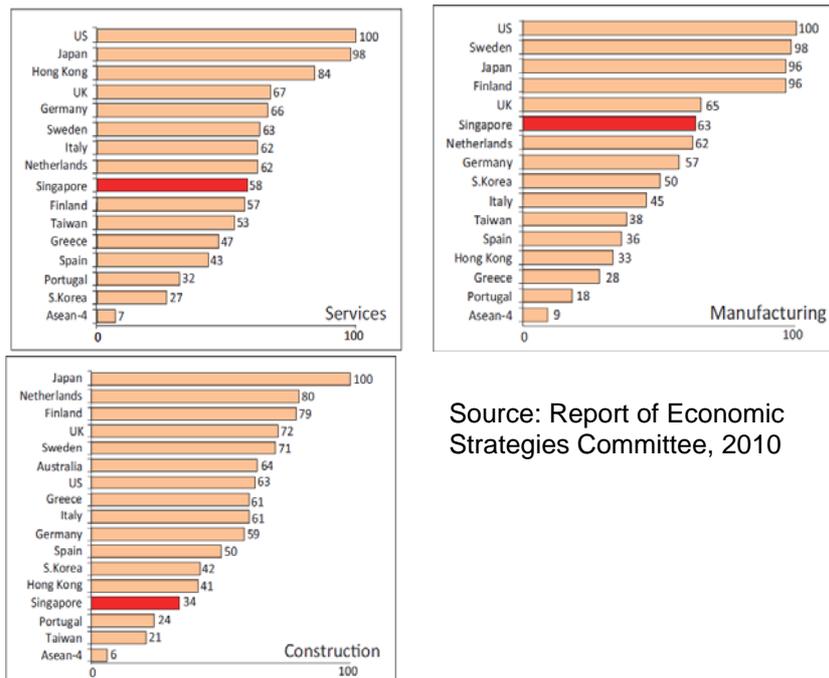
Why a Productivity Seminar?

Singapore businesses and the workforce are gearing up to address productivity challenges that have arisen in the past decade.

Key findings from the recently disseminated Report of the Economic Strategies Committee highlighted that:

“In absolute levels, Singapore’s productivity in manufacturing and services are only 55 to 65 percent of those in the US and Japan (see Figure 1). In the retail sector for example, our average level of productivity is about 75 percent of that in Hong Kong and one-third that of the US. In construction, productivity levels are half that of the US and one-third that of Japan.”

Figure 1: Cross Country Productivity Comparisons⁵



Source: Report of Economic Strategies Committee, 2010

What is the Seminar about?

The Singapore Productivity Association has developed this Seminar for the purpose of providing information to all parties on the basics of productivity. Specifically, the seminar aims to:

- Refresh – everyone on the meaning and concepts of productivity
- De-myth – explain what productivity is and is not, especially in the current day context
- Inform – about the Tools, Techniques and Methodologies

What would you learn?

At the end of the seminar, you would understand:

- the key productivity concepts, including how productivity is measured
- the relevance and types of tools available to improve productivity
- the way forward to implementing productivity in your company.

Who should attend?

This seminar is targeted at employee that needs to understand the importance and relevance of productivity at work. They may be involved in developing and managing; or are part of teams that implement Productivity initiatives.

Targeted employee could include:

- Managers
- Senior Executives
- Supervisors
- Senior workers with team leadership responsibilities.

When and Where would this be held?

Please look out for our schedule on our website: www.spa.org.sg or contact Ms Leanne Hwee at DID: 6375 0938; Email: leanne.hwee@spa.org.sg

How to register?

To register, please fill out our Registration Form here:

<http://www.spa.org.sg/images/events/downloads/RegistrationForm-PS.doc>

Contact us

For more information about the seminar or future runs, please contact:
Ms Leanne Hwee at DID: 6375 0938; Email: leanne.hwee@spa.org.sg