September 2011

Contents

5S

1. Introduction

The method of 5S is one way to engage people and contribute to culture change. 5S is a visually-oriented system of cleanliness, organisation, and arrangement designed to facilitate greater productivity, safety, and quality. It engages all employees and is a foundation for more self-discipline on the job to achieve better work and product quality.

2. What is 5S Methodology?

The 5S methodology is a Japanese methodology, comprising five Japanese words; seiri (sort); seiton (set in order); seiso (shine); seiketsu (standardise); and 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.

3. The Origins of 5S

As with many of today’s best practice tools, 5S was developed in Japan by Hiroyuki Hirano. Many Western managers who came across the approach for the first time found the experience englightening. They had perhaps always known the role of housekeeping within optimised manufacturing performance and the elements of best practice. However, Hirano provided a structure for improvement programmes. He pointed out a series of

clearly-identifiable steps, each building upon its predecessor. Western managers, for example, had always recognised the need to decide on locations for materials and tools and upon the flow of work through a work area. Central to this (but perhaps implicit) is the principle that items not essential to the process should be removed – stored elsewhere or eliminated completely. By differentiating between seiri and seiton, Hirano made the distinction explicit. He taught his audience that any effort to consider layout and flow before the removal of the unnecessary items was likely to lead to a sub-optimal solution.

Equally the seiso, shining or cleanliness, phase is a distinct element of the change programme that can transform a process area. Hirano's view is that the definition of a cleaning methodology (seiso) is a discrete activity, not to be confused with the organisation of the workplace and this clearly helps to structure any improvement programme. It has to be recognised, however, that there is inevitably an overlap between seiton and seiso. Western managers understood that the opportunities for various cleanliness methodologies vary with the layout and storage mechanisms adopted but by breaking down the improvement activity in this way it is quite clear that the requirements for the cleanliness regime have to be understood as a factor in the design aspect of seiton. Interestingly, as noted by John Bicheno, Toyota's adoption of the Hirano approach, is '4S', with seiton and seiso combined – presumably for this very reason. The improvement team must avoid the trap of designing the work area and then considering the cleanliness or tidiness mechanism.

Hirano also reminded the world of the Hawthorne Effect. We can all introduce change and while people in the business consider the change programme to be under management focus the benefits of the change will continue, but when this focus has moved (as is inevitably the case) performance will once more slip. Western managers, in particular, may have benefitted from the distinction between the procedural or mechanical elements, seiketsu, of keeping these matters in focus and the culture change, shitsuke, which is most definitely a distinct approach to bringing about a new way of working.

4. The Objectives of 5S

Hirano identified a range of benefits from improved housekeeping, all of which can be regarded as falling within the lean portfolio – that is, they are all based around the elimination of waste in one form or another.

The most obvious benefit from items being organised in such a way (i.e. that they are always readily available) is that of improved productivity. Production workers being diverted from production to look for tools, gauges, production paperwork, fasteners, and so on is the most frustrating form of lost time in any plant. A key aspect of Hirano's organisation approach is that the often-needed items are stored in the most accessible location and correct adoption of the standardisation approach means that they are returned to the correct location after use. Another element of Hirano's improved housekeeping is improved plant maintenance – workers 'owning' a piece of plant, responsible for keeping it clean and tidy, can take ownership for highlighting potential problems before they have an impact on performance.

The next aim is quality. The degree of impact of dirt in a manufacturing environment varies with the nature of the product and its process but there are few, if any, areas where dirt is welcome. Even if it is only in the form of soiled documentation accompanying the goods to the customer can send a very negative message about the company and its culture. In other cases dirt can have a serious impact on product performance – either directly or indirectly, perhaps through compromising the integrity of test processes. However, 5S does more than addressing dirt; an inappropriate layout can result, for example, in product damaged through excessive movement or through the use of tooling other than that defined as the standard. Standardisation is a theme of Hirano's approach. A standard operating procedure (SOP) for tool certification is much easier to achieve if the tool to be certified is always in a clearly-marked location.

Another goal is improved health and safety. Clear pathways between workbenches and storage racks and properly-swept floors can minimise accidents. As with quality, a well-organised, clean and tidy facility lends itself more readily to standard practice. Hirano also described how an environment in which the workforce has pride in their workplace can contribute to a considerable extent in a number of ways including customer service. Improving the layout of the facility merges with the concept of visual management; if workers can see the status of plant and

of work in the facility, thus removing the need for complex tracking and communication systems, then benefits will accrue. 5S can also be a valuable sales tool when potential customers visit. A well-organised, clean and tidy facility sends a message of a professional and well-organised supplier.

One common point made by all practitioners is that the adoption of 5S must be driven by goals. An article in the journal of the UK's Institute of Operations Management written by Mark Eaton and Keith Carpenter of the Engineering Employers' Federation noted that "the successful implementation of 5S requires that everyone understand why it is being used and what the expected results are. As with all lean techniques the aim is improvement in business performance; the adoption is not an end in itself".

5. The Benefits of 5S

Improved safety, ownership of workspace, improved productivity and improved maintenance is some of the benefits of the 5S methodology.

Some of 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
- Cleaner and safer work areas – when a work area is clean and organised tripping hazards and other dangers are eliminated
- Less wasted time through more workplace organisation – when tools and materials are accessible and orderly, workers need less time to "go get" and less time to search
- Less space – when unneeded items are eliminated and the needed ones are organised, required floor space is dramatically reduced
- Improved self-discipline – the 5S system, especially its visual nature, makes abnormal

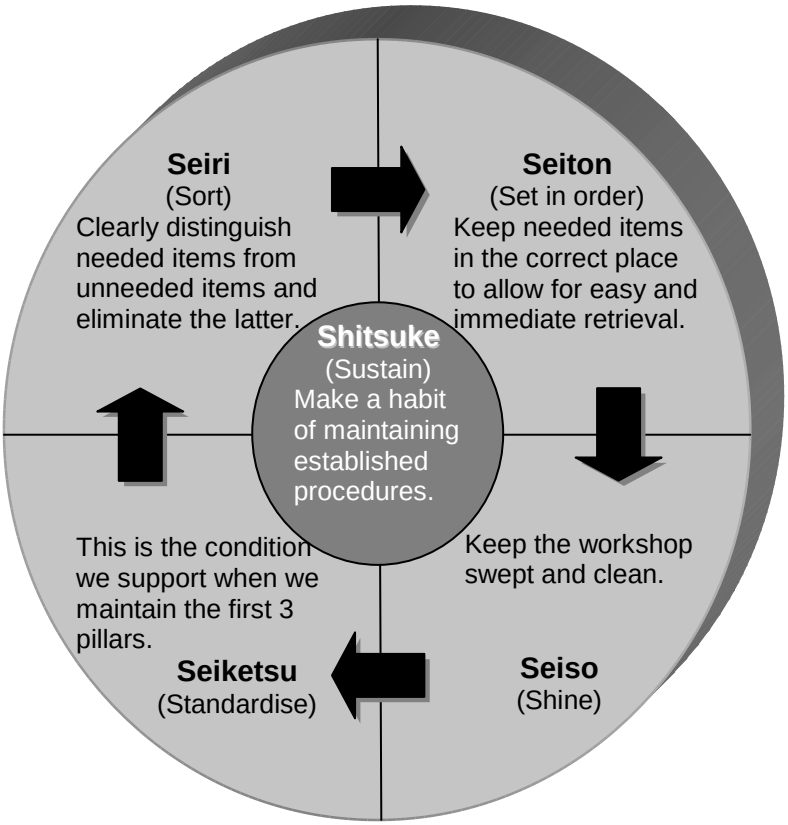
conditions noticeable and makes ignoring standards more difficult

- Improved culture – when 5S is applied systematically, it fosters better teamwork and enthusiasm. People like to work in a well-organized and clean environment. They feel better about themselves and better about their work, and they restore the self-discipline that is found in winning teams.

6. The 5S Methodology

6.1. The Five Elements of 5S

5S is a cyclical methodology, which results in continuous improvement.



(i) Seiri (Sort)

Sort, 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.

6.2. Implementing the 5S

Often, companies mistakenly view 5S as a housekeeping activity. 5S is a visual system and a system for engaging employees. 5S must be a team effort and the results must enable anyone to "tell at a glance" what is right and what is out of place. It also must make doing the work easier. Implementing 5S occurs in two phases: initial implementation and later refinement.

5S is a workplace organisation and continuous improvement system that lays the foundation for

all other lean improvement activities. 5S is not a system, or program that can be started and completed. It is a continuous improvement process that provides a never ending methodology to continuously improve operation. It has been proven to work in any business, every sector, all industries, any country and has been instrumental in changing the culture of organisations worldwide.

A typical 5S implementation would result in significant reductions in the square footage of space needed for existing operations. It also would result in the organisation of tools and materials into labelled and colour coded storage locations, as well as "kits" that contain just what is needed to perform a task. 5S provides the foundation on which other lean methods, such as TPM, cellular manufacturing, just-in-time production, and six sigma can be introduced.

5S can be implemented using the following steps:

Step 1: Start with the leadership team

As with any improvement effort, implementation of the 5S's must be driven from the top of the organisation. Only the top management can create the environment needed and give the effort the visibility and importance it needs for long term viability. Hence, it is vital to get commitment from the top management to allocate resources for training and process improvements.

Step 2: Build the infrastructure

The 5S effort should fit within an organisation's existing improvement structure. Divide and conquer by establishing 5S sub-committees for communications, training, project support and best practices. The organisation should also appoint a person or a team to be the ambassadors or champions of the company's 5S.

Step 3: Launch communications

Conduct short, focussed and frequent communication sessions with all employees on what, why, how, when and who of the 5S initiative. Deliver the message in several formats including group meetings, using the organisation's Intranet

or website, bulletin board postings and internal newsletters.

The 5S promotion can be driven by:

- Appointing 5S facilitators in each department
- Organising a 5S workshop for 5S facilitators to understand the phases and objectives of the drive
- Setting seiri day(s) for straightening up the workplace
- Setting seiton day(s) for sorting out equipment and documentation so that anything can be found within 3 minutes
- Setting seiso day(s) sweeping and cleaning the workplace
- Setting seiketsu day(s) to manage and track the use of storage
- Setting shitsuke day(s) for self-discipline to follow rules, procedures and standards as well as to carry out a 5S audit
- Setting daily 5S activities for all staff
- Organising a competition and prize presentation ceremony for the best 5S department

Step 4: Train teams in 5S techniques

Develop a plan to train everyone in basic 5S concepts and then supplement the generic training with just-in-time training in work-area-specific practices. Note that the initial teams may need to be trained in problem-solving techniques and root cause analysis. Additionally, there may be a need to provide training for the leadership team in communication skills, recognition strategies and facilitation skills.

Step 5: Begin the 5S pilots

Select areas that need the 5S's as pilot areas. What is learned and gained in the pilot areas will be used to help in the development of a full roll-out pan. The first pilot work areas to receive 5S treatment should be ones with high visibility. For example, select work areas in which nobody wants to work because they are congested or dirty.

Step 6: Establish Best Practices

Creation and use of a best practice database can help multiply the impact of 5S successes by providing the means to share successes throughout the organisation.

Step 7: Develop a full roll-out plan

After completing the initial pilots and before involving the rest of the organisation in the 5S effort, step back and evaluate how the pilots performed. Get ideas from members of the pilots about how to strengthen the 5S process and use those ideas to develop a roll-out plan. A comprehensive roll-out plan defines the sequence of events, establishes roles, responsibilities and performance measures.

Step 8: Continually evaluate and adjust

As with any process, use the lessons learned to make improvements to the 5S effort. Modify and strengthen the infrastructure, select new tools to add to the "arsenal", develop improved methods to measure and communicate progress, and challenge work areas to constantly improve.

6.3. Measuring the 5S Level of Achievement

The 5S methodology uses a five-level maturity matrix to grade the level of achievement. The overall 5S Level of Achievement is the lowest level attained for any of the S's. 5S is only as good as its weakest link. If a work area has not addressed standardising and sustaining, no matter how high

the level achieved for the other S's, the area will eventually revert to a non-5S state.

5S Levels of Achievement					
Level V: Continously Improve	Cleanliness problems are identified and mess prevention actions are in place.	Needed items can be retrieved within 30 seconds and require a minimum number of steps.	Potential problems are identified and counter measures are documented.	Reliable methods and standards for housekeeping, daily inspections and workspace arrangement are shared and used throughout similar work areas.	Root causes are eliminated and improvement actions focus on developing preventive methods.
Level IV: Focus on Reliability	Work area has documented housekeeping responsibilities and schedules and the assignments are consistently followed.	Needed items in work area are minimised in number and are properly arranged for retrieval and use.	Inspection occurs during daily cleaning of work areas and equipment and supplies.	Reliable methods and standards for housekeeping, daily inspections and workplace arrangement are documented and followed by all members of the work group.	Sources and frequency of problems are documented as part of routine work, root causes are identified, and corrective action plans are developed.
Level III: Make it Visual	Initial cleaning has been performed and sources of spills and messes are identified and corrected.	Needed items are outlined, dedicated locations are properly labelled and required quantities are determined.	Visual controls and identifiers are established and marked for the work area, equipment, files and supplies.	Work group has documented agreements on visual controls, labelling of items, and required quantities of needed items.	Work group is routinely checking area to maintain 5S agreements.
Level II: Focus on Basics	Needed and not needed items are identified. Those not needed are removed from work area.	Needed items are safely stored and organised according to frequency of use.	Key work area items to be checked are identified and acceptable performance levels documented.	Work group has documented agreements for needed items, organisation, and work area controls.	Initial 5S levels has been determined and performance is documented and posted in work area.
Level I: Just Beginning	Needed and not needed items are mixed throughout the work area.	Items are placed randomly throughout the work place.	Key work area items checked are not identified and unmarked.	Work area methods are not consistently followed and are undocumented.	Work area checks are randomly performed and there is no visual measurement of 5S.
	Seiri (Sorting)	**Seiton (Simplifying)**	**Seiso (Systematic Cleaning)**	**Seiketsu (Standardising)**	**Shitsuke (Sustaining)**

Source: Bresko, M. (n.d.). The 5S method of improvement – enhancing safety, productivity and culture. *Reliabilityweb.com*. Retrieved August 25, 2011, from http://reliabilityweb.com/index.php/articles/the_5s_method_of_improvement_-_enhancing_safety_productivity_and_culture/

Case Study

Palm Beach Seafood Restaurant

At One Fullerton's Palm Beach Seafood Restaurant, the loud shattering of porcelain bowls slipping through its staff's fingers used to be a common occurence. However in 2009, operations manager Ms Doris Chee, found a way to reduce its frequence drastically.

Ms Chee noticed that her workers tended to fill their storage cupboards with as many bowls as possible, often up to brim. This made it difficult for them to take the bowls out quickly, leading to the several breakages a day. As a solution, she introduced "height limits" for the tableware. Pointing to the green tape markings on the cupboard's interior walls, she imposed the rule that no bowls can be stacked above the line. The same rules apply to the procelain plates in another cupboard.

The restaurant's operations manager had this "brainwave" after attending 5S, a structured programe to help restraunts standardise operations and organise better. The course was launched by the Restaurant Association of Singapore and Spring Singapore in 2008. As part of the course, particpants are coached by a consultant who also conducted performance audits. The group also made a trip to Johor Baru to see how 5S is implemented in the kitchens of Red Box, a global karaoke chain. The classes, trips and implementation costed Palm Beach about SGD$10,000, including storage materials for ingredients. It took almost a year to put everything in place, and after its successful implementation, Palm Beach is said to operate "like a completely different restaurant".

Ms Chee shared that before, their boxes of ingredients would be "all over the kitchen" and their cooks would have to look into a number of fridges before finding the right one. It was the same with dustbins, disinfecting liquid and dishes. Today, every items has a "home" – an allocated space that is labelled correctly. Storage facilities such as shelves and fridges now have their own plans to indicate the items stored there. Lights and air-conditioner switches are clearly marked so staff know exactly when they have to be switched on and off. The kitchen and service areas have also been divided into zones so that the staff know exactly what they need to be responsible for. At the end of each month, the 30-strong staff gather in groups to discuss ideas on how to do better. With the successful 5S implementation, the restaurant reports cost savings from fewer breakages and lower electricity consumption.

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

Books are available at the Lee Kong Chian Reference Library.

Recommended Readings

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President and CEO
Singapore Technologies Engineering Ltd
Winner of the International Asia Pacific Quality Award in 2005 and the Singapore Quality Award with Special Commendation in 2007
Singapore

Dr Kenny Yap Kim Lee
Executive Chairman and Managing Director
Qian Hu Corporation Limited
Winner of Singapore Quality Award in 2004 and 2009 and the People Excellence Award in 2009
Singapore

Sister Mary Jean Ryan, FSM
Chair and Chief Executive Officer
SSM Health Care
1st Healthcare Institution to win the Malcolm Baldrige National Quality Award
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Mr Harry A Xydas MSc, FAICD
Chairman
Doric Group Holdings
Winner of Gold Medal and Overall Award for the Australian Business Excellence Award
Australia

Dr Han Meng Siew
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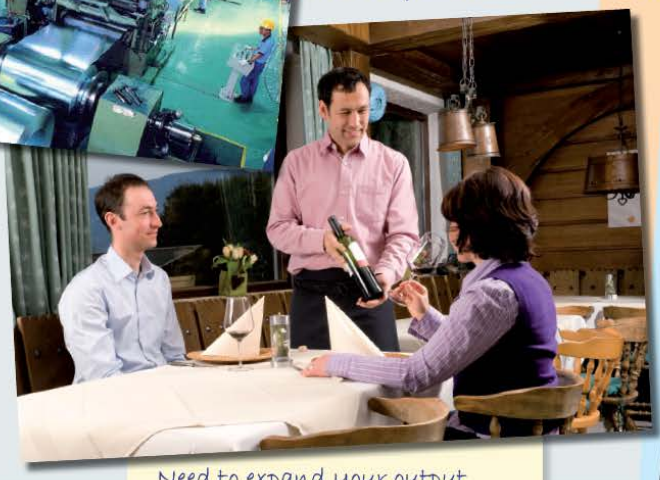

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SINGAPORE PRODUCTIVITY ASSOCIATION

The Singapore Productivity Association (SPA) was set up in 1973 as an affiliated body of the then National Productivity Board, now SPRING Singapore. Its objective is to promote the active involvement of organisations and individuals in the Productivity Movement and to expedite the spread of productivity and its techniques.

SINGAPORE PRODUCTIVITY ASSOCIATION

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• Factors Affecting Enterprise Productivity
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• Productivity Promotion in Businesses
• Productivity Challenges</td></tr>
<tr><td>Module 2: Productivity Tools, Techniques & Management Systems
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• Productivity Measurement & Analysis
• Process management:
▪ Cost of Quality
▪ Lean Six Sigma
▪ Process Mapping & Analysis
• Integrated Management Systems</td><td>Module 2: Productivity Tools, Techniques & Management Systems
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• Process management:
▪ Cost of Quality
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▪ Process Mapping & Analysis</td></tr>
<tr><td>Module 3: Innovation & Service Excellence
(Duration: 3 days)
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• Service Excellence
• Team Excellence</td><td>Module 3: Innovation & Service Excellence
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• Introduction to Service Excellence & Sales Productivity
• Store Management & the Roles of a Store Manager
• Minimising Operational Constraints & Focusing on Sales
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• Coaching & Motivating Sales Staff
• Service Behaviours that Encourage Business</td></tr>
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(Duration: 1 day)
• Management Commitment
• Managing & Sustaining Change
• Overcoming Resistance to Change
• Training and Education
• Planning for Implementation and Control of Productivity Improvement Programme
• Briefing on project assignment & Role of Productivity Practitioner</td></tr>
</table>

As part of the CPP curriculum, participants are required to start a productivity improvement project upon completion of the in-class component. Project guidance will be provided by a professional consultant assigned for this purpose and is for a total of 2 man-days.

Funding & Payment

The course is supported by the Singapore Workforce Development Agency (WDA). Funding is available at 70% and 50% of the course fees respectively for SMEs and MNCs/LLEs/Statutory Boards. Please find the prices payable in the net fee table below:

For SMEs:	Net Fee	Nett Fee with GST
SPA Member (S$3,700)	S$1,110	S$1,187.70
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For MNCs/LLEs/Statutory Boards	**Net 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

The schedule of our next runs is as follows:

CPP Schedule:

September - October 2011		
Date	**Module**	**Time**
Wednesday, 28 September 2011	Module 1	9-5 pm
Friday, 29 September 2011	Module 2	9-5 pm
Wednesday, 5 October 2011		9-5 pm
Friday, 7 October 2011		9-5 pm
Wednesday, 12 October 2011	Module 3	9-5 pm
Friday, 14 October 2011		9-5 pm
Wednesday, 19 October 2011		9-5 pm
Thursday 20 October 2011	Module 4	9-5 pm

CPP (Retail) Schedule:

September - October 2011		
Date	**Module**	**Time**
Wednesday, 28 September 2011	Module 1	9-5 pm
Thursday, 29 September 2011	Module 2	9-5 pm
Tuesday, 4 October 2011		9-5 pm
Thursday, 6 October 2011		9-5 pm
Tuesday, 11 October 2011	Module 3	9-5 pm
Thursday, 13 October 2011		9-5 pm
Tuesday, 18 October 2011		9-5 pm
Thursday, 20 October 2011	Module 4	9-5 pm

Core Faculty Members

MR. LAM CHUN SEE
B. ENG IN INDUSTRIAL & SYSTEMS ENGINEERING (UNIVERSITY OF SINGAPORE)

Chun see manages his own consultancy practice, Hoshin Consulting and is also an associate consultant/trainer to the PSB Corporation and Singapore Productivity Association. Prior to running his own practice, he has had years of experience as an industrial engineer with Philips, and trainer and consultant with the then National Productivity Board, APG Consulting and Teian Consulting, He was conferred the Triple-A Award in 1989 for helping to transfer Japanese know-how, particularly in the area of 5S, into local programmes and packages. Throughout his years of consultancy experience, Chun See has assisted many businesses in analyzing their productivity and quality objectives and performance; primarily through the application of the PDCA technique and basic QC tools.

MR. LEE KOK SEONG
M.SC. IN CHEMICAL ENGINEERING (IMPERIAL COLLEGE, LONDON UNIVERSITY), B.SC. IN CHEMICAL ENGINEERING (NATIONAL TAIWAN UNIVERSITY)

Kok Seong has accumulated vast experience in the areas of productivity training and management consultancy throughout his 30 years of experience with the Standards, Productivity and Innovation Board (SPRING). He has provided consultancy assistance and training for numerous organisations both within and outside of Singapore in the areas of Productivity Management, Operation and Production Management, total Quality Management, Total Productive Maintenance, Shopfloor Management, Occupational Safety Management, Industrial Engineering Applications and Supervisory Management. He has also been greatly involved in the pinnacle Singapore Quality Award (SQA) initiative since its inception in 1993. his track records include the assessments and site visits of award recipients like Micron Semiconductor (formerly Texas Instruments), Motorola, Baxter Healthcare, Philips Tuner Factory and Teck Wah Industrial Corporation Ltd. Mr. Lee is currently a certified SQA Senior Assessor, as well as a resource person for Basic and Advanced Training Courses for Productivity Practitioners, a position he has taken on since 2007.

MR. LOW CHOO TUCK
M.SC. IN INDUSTRIAL ADMINSITRATION (UNIVERSITY OF ASTON, UK); B.SC. IN PHYSICS (NUS); DIP IN QUALITY CONTROL INSTRUCTORS (INTERNATIONAL QUALITY CENTRE, NETHERLANDS); CERTIFICATE IN PRODUCTIVITY DEVELOPMENT (JAPAN PRODUCTIVITY CENTRE);

CERTIFICATE IN ADVANCED MANAGEMENT DEVELOPMENT (INSEASD)

Choo Tuck currently provides training and advisory services in productivity and quality management to businesses and government in the Asean region and Middle East. He was previously the Executive Director of the Restaurant Association of Singapore as well as the Singapore Productivity Association, and was also the Director for Strategic Planning in SPRING Singapore. During his many years of service with SPRING Singapore, he gained wide experience in productivity training, management consultancy and productivity promotion, and has helped more than a 100 businesses in improving productivity, quality control and business excellence, including organisations such as Cycle & Carriage, Motorola, PUB and DBS. On top of that, he has also served as an Asian Productivity Organisation (APO) expert on Productivity for several APO member countries, and was part of a team of experts engaged by the Singapore cooperation Enterprise to provide productivity expertise to the Government of Bahrain in 2007 and 2008.

MR. QUEK AIK TENG
B.ENG (HON.) IN MECHANICAL ENGINEERING (UNIVERSITY OF SHEFFIELD); DIP. IN BUSINESS EFFICIENCY (INDUSTRIAL ENGINEERING_ (PSB-ACADEMY); CERTIFIED MANAGEMENT CONSULTANT (CMC); PRACTISING MANAGEMENT CONSULTANT (PMC); MEMBER, INSTITUTE OF MANAGEMENT CONSULTANTS (IMC) SINGAPORE

Aik Teng currently manages his own consultancy, AT Consulting Services. Ne of his most recent projects includes being the LEAD Project Manager for the Singapore Logistics Association. Prior to running his own consultancy, he has been with SPRING Singapore for 20 years, and was the Head of the Organisation Excellence Department from 2004-05. He was also SQA Lead Assessor and Team Leader up till 2008 and has been involved in the SQA initiative since its inception in 1993. tasked to start up the consultancy unit within the then Productivity & Standards Board (PSB) to provide training and consultancy services to organisations, his consulting team assisted close to 30 organisations during that period. He was also involved in a project coordinated by the Singapore Cooperation Enterprise (SCE) to assist the Bahrain Labour Fund in their Labour Reform strategy, which included helping the Bahrain government to initiate a Productivity Movement as well as develop the productivity of the local enterprises. In addition, he was appointed as Project Manager to assist the Government of Botswana to implement a national Productivity Movement, from 1994 to 2003. Botswana is currently held as a model of Productivity in the Pan-Africa region.

MR. WONG KAI HONG
MBA IN STRATEGIC MARKETING (HULL), BSC (NUS)

Kai Hong is a business consultant, management trainer and company director. He has spent almost 2 decades in the consumer products industry, having worked with retailers like Isetan, Metro, Royal Sporting House, The Athlete's Foot and Sunglass Hut; brands like Reebok and Doc Martens; and technology group Wearnes Technology. He has been involved with various functions including operations, business development, project management, human resource, training, marketing, logistics, budgeting and general management. He has developed businesses in Singapore and many Asian cities such as Seoul and Beijing.

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