



In their own words: APO success stories


Academic reports on how to improve productivity, quality, and competitiveness are valuable resources. However, it can be time-consuming to stay abreast of the numerous scholarly publications and difficult and/or expensive to gain access to them in a timely manner. Such reports also generally do not convey the drama, doubts, and difficulties involved in starting and sustaining productivity initiatives. The APO is happy to announce a new quarterly series debuting on its website called Success Stories (apo-tokyo.org/people/success_stories/). This feature is another result of the Demonstration Companies Program conducted since 1996 and benefiting some 70 SMEs so far. While the multiplier effects from demonstration companies have been considerable at the national level, Success Stories on the website will reach a much wider audience.

A professional team is assigned to document the outcomes of productivity and quality campaigns undertaken in demonstration companies, but care is taken to ensure that the stories are told in the words and from the perspective of those involved. They are related with wit and warmth, accompanied by numerous before-and-after photos and a wealth of information on market share, sales, costs, and savings. These are honest accounts of productivity journeys, with frank descriptions of problems overcome, sometimes in surprising ways. Some SMEs utilized familiar productivity tools in unusual situations; others gained insights into culture-bound thinking that hindered productivity increases.

The first success story focuses on PT. Sarandi Karya Nugraha (PTSKN), a leading manufacturer of hospital furnishings in Indonesia. Founder Isep Gojali recognized that 5S could turn the company around after a sales dip of 10% between 2012 and 2013. PTSKN employees initially thought that he was “trying to fix something that wasn’t broken.” “There was a high level of disagreement and resistance among them,” he recalled. “The first stage of 5S was extremely difficult as the employees had no idea what 5S was about.” How that resistance was overcome and improvements achieved makes compelling reading.



PTSKN employees in their safe, clean, light, uncluttered work environment. Note the color coordination of the uniforms and factory furnishings.

While the focus of the Success Stories series is on results achieved in SMEs, many lessons are applicable to larger enterprises, especially in the areas of negotiating resistance to change, the need for employee involvement, and fair sharing of the gains achieved. No success story will be specifically applicable to all enterprises in APO members given their differing stages of development and rich cultural diversity. Each story, however, paints a true-life picture of grappling with productivity issues, which can serve as an inspiration to all. 

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The Swedish Quality Award: a model for excellence

The Swedish Institute for Quality (SIQ) was founded in 1990 with the support of the Swedish government via the Ministry of Industry. In addition to the governmental commitment SIQ is also supported via its Members' Association which includes approximately 100 companies and institutions.

The SIQ has the task of promoting quality development and spreading knowledge in the field of quality and business excellence. Its mission is also to promote business excellence and total quality management in all sectors of the Swedish economy.

Since 1992, the Swedish Quality Award (*Utmärkelsen svensk Kvalitet*) has been an incentive for companies and organizations throughout the country to do top-quality work and be passionate about it. The vastly diverse organizations evaluated over the years have become a unique foundation of role models, not only to admire but also to learn from. The Swedish Quality Award was established by the SIQ to stimulate continuous improvement in all types of organizations. As a national institute, the SIQ developed the SIQ Model for Performance Excellence, which has become a fundamental tool for all enterprises wishing to monitor and evaluate their improvement and progress. "As a national institute, our mission is not only to support but also inspire all types of organizations, small as well as large, to develop their way of working and become successful," explained SIQ Managing Director Jerry Karlsson.

Since 1992, approximately 210 organizations have been thoroughly evaluated and 26 received the award, most from the hands of His Majesty Carl XVI Gustaf. The award has two categories, one for large organizations with 200 or more employees and one for small organizations with fewer than 200 employees. Recognition is given to all that apply. The judgment is based on meticulous onsite inspections in addition to the required documentation. "We are represented in all parts of society and thanks to the fantastic network of scientists, entrepreneurs, quality managers, listed companies, universities, government agencies, and many more we have the broad base and experience to evaluate all kinds of businesses," pointed out Managing Director Karlsson.

In February 2015 the Swedish Quality Award 2014 was given to MTR Stockholm AB, part of the MTR Corporation. MTR Stockholm is responsible for planning, operating, and maintaining the capital city's subway system. Dr. Raymond K.F. Ch'ien, Chairman of MTR Corporation, said that there

was no higher honor or recognition that a company could receive than one for quality. He praised the dedication and hard work of colleagues at MTR Stockholm who had adopted the culture of continuous improvement and best practices with support from colleagues, management in Hong Kong, and MTR's other railway hubs. "This culture of continuous improvement is the guiding light for all operations within the MTR family. We nurture and cultivate this culture and we share our experiences in a very fruitful way across all of our railway operations in Hong Kong, mainland China, Sweden, the UK, and Australia. By learning from each other, we grow stronger together and serve our customers in better ways," he continued.

SIQ Model for Performance Excellence

The SIQ Model for Performance Excellence is based on a total of 13 core values and seven criteria, which are further divided into 27 subcriteria (Figure 1). The model is based on a three-step improvement process. Carrying out the three steps is time-consuming and demanding. However, organizations that attempt it soon find a return on investment in terms of greater customer satisfaction and more effective operations. One of the applicants for the Swedish Quality Award reported a 10-fold dividend on every krona (SEK) spent on describing and evaluating the organization and carrying out improvements, accounting for half the annual profit. The three steps are summarized below.



Chairman Dr. Raymond K.F. Ch'ien (2nd L) of MTR Corporation receives the 2014 Swedish Quality Award on behalf of MTR Stockholm from Chairman Sven-Christer Nilsson of the Swedish Institute for Quality (1st R), along with CEO Peter Viinapuu, CEO of MTR Stockholm (1st L) and CEO Jeremy Long of the European Business of MTR Corporation (back row). Photo courtesy of the SIQ.

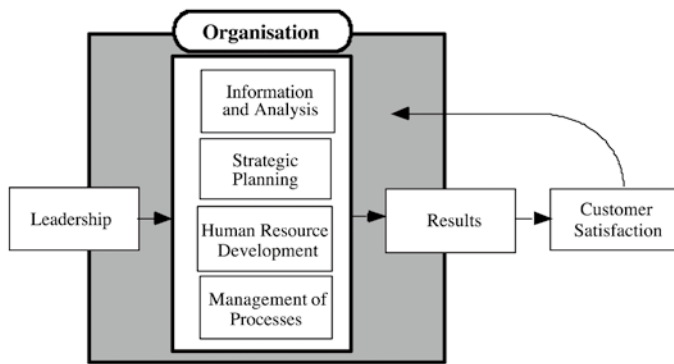


Figure 1. SIQ Model for Performance Excellence. *Figure courtesy of the SIQ.*

Step 1: Description

The first step entails making a description of the activities of your organization. The description should answer four questions: 1) How are we working? 2) To what extent are we accomplishing our goals? 3) What results have we achieved? 4) How do we evaluate results and identify areas for improvement in our work? The questions apply to all areas in the organization. In order to help find a structure and system, the award leads people to the areas that need to be described, i.e., the seven criteria. As many employees as possible should participate in working with the criteria. This promotes skill enhancement and increases the level of involvement in the organization.

The criteria can be used in different ways. Senior executives can share the working responsibility among themselves and then set up interfunctional groups to collect facts and figures and to carry out the area descriptions. These descriptions provide an overall picture of the organization, developed as a result of the joint efforts of all employees and accepted by all, which is a good point of departure for improvement.

Step 2: Evaluation

The second step entails an evaluation of the description made in step 1. The extent to which the core values of the organization permeate throughout is assessed in terms of approach, deployment, and results. People must judge how systematically the organization is working and how responsive it is in terms of preventing problems, as well as how approaches can be evaluated and improved. The extent to which the approaches are deployed and whether they are deployed in a relevant way must also be determined. The more relevant the deployment, the more positive the evaluation. The results of the approaches deployed should be judged on the basis of the targets set, as well as on the basis of the corresponding values of leading organizations and competitors.



Logo of the SIQ-Swedish Quality Award.

The evaluation is carried out in groups of four to six people, who work both individually and in a group as “examiners.” Their overall skills should be as broad as possible, and the examiners may come either from the organization itself or from outside. Organizations often share examiners with one another. The outcome of the evaluation is a feedback report, highlighting the strong points and the potential for improvement. This report may serve as a plan for improvement.

Step 3: Improvement

The strong points and the potential for improvement highlighted in the feedback report can provide the basis for the quality improvement process. The measures the organization needs to take are determined by the unique conditions of each workplace. The process of describing and evaluating the organization gives people a basis from which to determine which improvement goals should be developed and where resources should be invested. 🌀



Anna De Geer is the Communications Manager of the SIQ. The SIQ is responsible for promoting quality development in Sweden by creating, collecting, and spreading knowledge within the field of quality and business excellence. As a national institute, it strives to support and inspire all types of organizations to work with continuous improvement and learning from others. The SIQ is a nonprofit organization founded in 1990 with the support of the Swedish government. Currently, the SIQ Members’ Association includes approximately 100 companies and institutions. These stakeholders constitute an important national network with unique conditions for sharing knowledge and exchanging experiences in the field of quality and business excellence.

APO honors 2015 Asia-Pacific productivity champions

APO Secretary-General Mari Amano announced that one regional and four national winners had been selected by the APO's Governing Body to receive the APO Regional and National Awards 2015. The APO Awards are only conferred every five years. Individuals who have contributed significantly to advancing the productivity movement in the Asia-Pacific region are eligible for the Regional Awards, and those in a specific member economy of the APO are eligible for the National Awards.

The APO Regional Award 2015 will be conferred on Jong-Chin Shen, Republic of China, at the 57th Session of the APO Governing Body in Bangkok on 27 April 2015. The four recipients of the 2015 APO National Awards are Dr. Ming-Ji Wu, Republic of China; Boo-Keun Yoon, Republic of Korea; Natsagnyam Namkhair, Mongolia; and Dr. Ajva Taulananda, Thailand. These national awardees will be honored by their governments in ceremonies arranged by their NPOs. A gold-plated medal in a display frame and certificate will be given to all award recipients.

This is only the ninth conferring of the APO Awards since their inception in 1979. Including the 2015 awardees, 76 individuals, 19 of whom were regional awardees, have been honored so far. Their contributions to the national and regional productivity movements have had major impacts by helping to improve the quality of life throughout the Asia-Pacific. The APO hopes that the 2015 awardees will continue their work for higher productivity and that others will follow in their footsteps. 🌀



Observing energy efficiency in Japan

Nineteen high-ranking government officials, top managers, and energy efficiency professionals convened in Tokyo, 26–30 January. Representing 14 countries in the Asia-Pacific, they were attending the multicountry observational study mission on Energy Efficiency (EE) organized by the APO and Japan Productivity Center with support from the Ministry of Economy, Trade and Industry.

Enterprises, especially SMEs, in the Asia-Pacific region face rising energy costs. Energy management is critical to



Mission participants visiting ENEX2015 & Smart Energy Japan 2015 Exhibition

survive current intense competition. This requires a multifaceted approach, including developing technical and human capacity. To assist in this, the APO has implemented several EE projects since 2006. The study mission to Japan focused on EE in industries and exposed participants to Japanese best practices and technologies to achieve the highest levels. Experts from Germany, India, and Japan led discussions on Japan's EE promotion scheme and policies, best practices, and technologies that contribute to a sustainable society.

The mission made visits to leading Japanese companies including Zeon Corporation which exemplify the best EE practices. Other visits were hosted by low-carbon, energy-efficient multitenant Kokuryu Shiba Koen Building of Kokuryudo Company and Fujisawa Techno Center of Azbil Corporation to learn about factory and building automation systems for enhancing EE. "Learning about smart solutions impressed me a lot as well as the cutting-edge EE technologies," enthused Pakistani participant Joudat Ayaz. The participants were also among the more than 47,600 visitors to the ENEX 2015 exhibition held at Tokyo Big Sight with the theme Smart Energy Japan, which provided business-matching and networking opportunities for participants and exhibitors. 🌀



High-mix, low-volume environments: Challenges and new journeys for SMEs

Productivity, processes, and people

SMEs have always been pivotal to the economy and it is important that they remain competitive. With a large percentage of job creation and workforce employment created by and stemming from SMEs, productivity levels need to increase above and beyond inflation rates to be sustainable. Statistics for these are abundant; the numerous studies carried out by government organizations, business federations, and SME associations around the globe are not cited here.

To achieve a higher level of productivity, processes need to be streamlined. We should learn from best practices as a result of kaizen events arising out of our current industry verticals and importantly, from those across the horizontal. It is this cross-functional learning that allows us to leapfrog in our quest for continuous improvement. To enable streamlined processes, people play a crucial role. With reference to the Harada method (Harada T. and Bodek N. *The Harada Method of Self-Reliance*, PCS Inc., 2012), individuals should be self-reliant and in turn facilitate a company's process improvement journey. It can be useful to couple the Harada method with Scrum, an iterative and incremental agile software development framework, as it aids in the facilitation process.

Evolution of manufacturing

With changes in consumer demand, SMEs have begun to move from an environment of mass production to one of mass customization. Larger corporations operate in the former through the aggregation of orders or product families. This is important for volume leveraging, which in turn improves cost-to-serve metrics. Instead of economies of scale and their inherent benefits, SMEs that are further down the tiered structure of value chains typically need to leverage economies of breadth. Such diseconomies of scale present both challenges (e.g., tradeoff between set-up times and batch sizes) and, if managed well, provide tremendous opportunities such as the ability to react more quickly to demand shifts with reduced flow times. High-mix, low-volume (HMLV) environments are complex unless an SME competes in a market segment that has infinite demand and with customers who are time insensitive. Unfortunately, these are rare occurrences.

Quick Response Manufacturing

Quick Response Manufacturing (QRM) is rooted in the

concept of time-based competition pioneered by Japanese enterprises in the 1980s and emphasizes the beneficial effect of reducing internal and external lead times. The four concepts at the heart of QRM are:

- 1) Realizing the power of time. Lead time is much more important than most managers realize; long lead times create many organizational costs that are four to five times greater than labor costs.
- 2) Rethinking organizational structure. QRM transforms traditional functional departments into a network of advanced QRM cells that are applied across the company.
- 3) Exploiting system dynamics. By getting managers to understand how capacity, batch sizes, and other factors impact lead times, QRM enables them to make improved decisions that result in shorter lead times.
- 4) Implementing a unified strategy enterprise-wide. QRM is not just for the shopfloor; it is applied throughout the enterprise, including material planning and control, purchasing and supply chains, and new product development.

This discussion focuses on point 3 for a company involved in HMLV turnkey manufacturing of equipment and parts for the defense, oil and gas, and process industries. Putting in measures to control and understand system dynamics was key for the manufacturer, especially in an environment where variability is generally the norm. A useful approach is to identify a process boundary (or an area of interest) in which the benefits outweigh the cost of effort. In this study, a primary concern was throughput and the parameters surrounding it.

Skillsets affect throughput

The manufacturer was interested in quantitatively understanding the effects of employee skillsets on production throughput. To do this, it had to:

- 1) identify its primary and secondary skills;
- 2) provide cross-training, thus enabling flexibility in production; and
- 3) develop talent and leadership potential.

An example of an employee skillset matrix is shown in Figure 1. The output of the analysis is shown in Figure 2, and there are two general observations:

- 1) Unskilled/unproductive workers contribute to a significant reduction in throughput.
- 2) Throughput reduces exponentially, after which a steady state is achieved, i.e., the rate of decrease becomes insignificant.

Name / Skill	TPS	5S	7W	JIT	Standard Work	Visual Management	Kaizen Event
Ben	☐	●	●	☐	☐	●	●
Gerry	☐	☐	●	☐	☐	☐	☐
Jon	●	☐	☐	☐	●	☐	●

Figure 1. Sample skillset matrix. The shaded area depicts the level of development in a particular skill. For example, Ben is skilled in 5S and visual management. Reproduced, with permission, from Using a Skills Matrix to Identify and Improve Employee Skills (http://www.fgcu.edu/CEd/professional_development_programs.html).

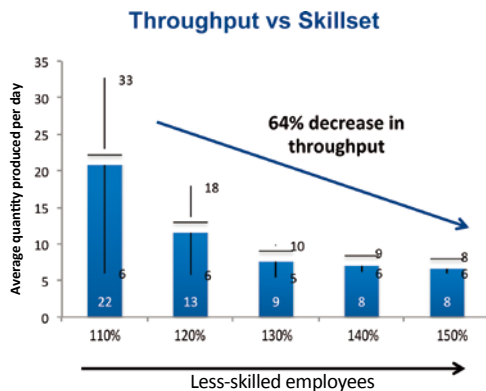


Figure 2. Effect of skillsets on throughput.

Cell utilization affects throughput

When measuring the productiveness of a manufacturing facility, process utilization can be a useful metric. It allows us to understand the demand, factors affecting the flow rate, and many other exciting insights. High utilization levels are achieved when:

- 1) Process capacities are high. Utilization of individual processes is an important metric. With the presence of bottlenecks, i.e., a process that limits increased throughput, it becomes difficult to leverage fully the capacities of remaining processes. There are several strategies commonly used to reduce this mismatch one of which is optimizing batch sizes.
- 2) Batch sizes are large, i.e., value-added activities dominate the total available production time.

In HMLV environments, the tradeoff lies in lower volumes and a higher product variety, implying that there will be several setups or changeovers (generally viewed as non-value adding). The output of the analysis is shown in Figure 3 and there are two general observations:

- 1) Throughput increases exponentially as the utilization of a cell increases with the process capacity as the limiting factor.
- 2) Throughput increases 11-fold after the 70% utilization mark.

The goal is to get access to reactive or spare capacity in the attempt to delay at least some production until better demand information is learned so that multiple orders can be placed during the selling season. This is an integral part of QRM. Such practices are designed to reduce the cost of mismatches between supply and demand.

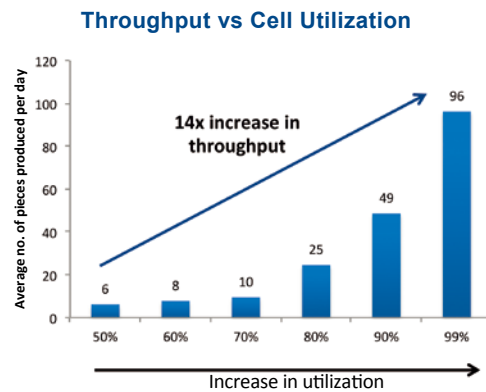


Figure 3. Effects of cell utilization on throughput.

What this means

Spare capacity can be a competitive advantage if quantified and managed effectively. This can be achieved through a deeper understanding of both internal and external dynamics. Here are some suggestions to leverage this opportunity:

- 1) Invest in your team with an enterprise-wide skill development structure. This can be either formal or on-the-job training.
- 2) Analyze how the interdependencies between set-up times, batch sizes, processing times, and capacities affect overall productivity.
- 3) Be a spare capacity channel for downstream partners so that their capacity can be reactive but only if it is aligned with your core competencies. 🌀



Dr. Koh Niak Wu is an entrepreneur and part of a team at Cosmiqo International Pte Ltd that deals with the analytics of supply chains and operations. He has worked in both the public and private sectors to improve productivity through technology innovations. Niak Wu is an avid believer in algorithms and how they will change the way the world works. He can be reached at kohnw@cosmiqo.com.

Food safety and quality standards for greater market opportunities

Food safety and quality (FSQ) are global concerns for the food industry as they are important for public health and impact international trade. Consumers are increasingly concerned about the quality and safety of the food they buy. Globalization of food trade makes food supply chains (FSCs) longer and more complex and increases the risk of food safety incidents. In response, governments are strengthening food control systems, while the food industry has put in place stringent FSQ standards.

FSQ standards, both public and private, are fundamentally about establishing control, conformance, and compliance in the production, processing, and distribution of food. Private food standards (PFS) are becoming basic requirements in the context of global trade in food and agricultural products. International PFS are aimed at ensuring safety. Some focus on the quality aspects of products in terms of production and processing methods. There is no legal obligation for exporters to obtain certification under PFS, but business partners in the FSC often require suppliers to be certified by third parties.

The certification entails costs, and the proliferation of PFS is becoming an obstacle for exporters in the agricultural and food sectors in developing countries of Asia and the Pacific. There is a need to promote a harmonized approach to managing FSQ across the industry. Producers and exporters of food products in APO member countries

need to know and understand the requirements of FSQ standards and certification.

To enhance participants' understanding of the structures, effectiveness, and requirements of public and private FSQ standards prevailing in world food and agricultural markets, the APO in partnership with the NPO of Pakistan organized a training course on Food Safety and Quality Standards for Market Access, 12–17 January, in Islamabad. Twenty-one participants from 11 member countries attended, and two trainers from Hong Kong and the Netherlands conducted the course.



At Metro Cash & Carry, participants admiring cold storage of fish in neat rows to maintain quality and safety.

The course consisted of an overview of food safety management systems, EU and USA legal requirements, risk analysis and assessment, hazard analysis and critical control point, management of nonconformity, private voluntary standards, the British Retail Consortium, and International Featured Standard food. To observe good FSQ practices, participants visited the Metro Cash & Carry, Islamabad, a wholesale and retail center. 🌐

New officer at the Secretariat

Mohammad Towfiqul Islam started as IT officer at the Secretariat on 5 January. He holds a BSc and a Master's in Computer Science from the National University of Bangladesh, in addition to an MA in e-Business Management from the International University of Japan. Coming to the Secretariat after more than 12 years of IT experience in the private sector, with eight-plus of those years in Japan, Towfiq will work to ensure that the APO's knowledge networking can expand smoothly and securely. He is determined to implement a common platform to achieve innovation at the Secretariat and among NPOs, spread KM to improve productivity, and achieve the Roadmap 2020 targets. Married with a young son, he likes to read, play/watch cricket, and "test yummy food of various countries" when not sitting in front of a computer screen. 🌐



Announcement: GBM

57th GBM to convene in Bangkok

The 57th Session of the APO Governing Body meeting will be held in Bangkok, Thailand, 27–29 April 2015.

The agenda for the meeting will include the Annual Report of the Secretary-General, approval of the APO revised budget for 2016, report on the proposed roadmap to achieve the APO Vision 2020, and assessment of the proposals for new Centers of Excellence.



Cambodia 5S Award Competition



Representatives of 5S award competitors gather for a commemorative photo with Senior Minister Dr. Cham Prasidh.

Joining the APO in 2004, Cambodia remains the youngest member country. The National Productivity Centre of Cambodia (NPCC) was initially under the auspices of the Ministry of Industry Mines and Energy, which has been recently split into the Ministry of Industry and Handicraft and Ministry of Mines and Energy. The NPCC is currently under the former.

5S was introduced in Cambodia in 2005, one year after the NPCC was established. To support SMEs, fundamental 5S, kaizen, productivity awareness, production management, and quality control toolkits have been translated into Khmer for easy use by owners, workers, and others who may not be proficient in English.

Currently, 5S implementation has been mainstreamed in the service, agriculture, and industry sectors in most provinces, including Battambang, Kompong Cham, Kompong Som, Pursat, and Kompong Som. A 5S demonstration project was carried out in 2009 and 2010 to spread the word to more remote areas of the country. Twelve model companies were selected to undertake the project with the NPCC, most of which were food-processing manufacturers.

To encourage the development of strong SMEs, the General Department of Industry and NPCC, with generous funding from the ADB, started a 5S Award Competition program. The program started on 16 May 2013 and the award ceremony was held on 25 April 2014. Ten compa-

nies were unanimously selected to participate in the 5S Award Competition. Those in the top three places received trophies and certificates: LyLy Food Industry Co., Ltd.; Eurotech Company Co., Ltd., a producer of pure bottled beverages; and ABC Bakery. Those ranked fourth to seventh for their 5S initiatives received certificates of appreciation, and those placing eighth through tenth can proudly display certificates of participation. The award ceremony was presided over by Minister of Industry and Handicraft Dr. Cham Prasidh. Additionally, all seven companies that met the selection criteria during the audition stage will now be permitted to use the 5S logo on their products. 🌀



Senior Minister Dr. Cham Prasidh poses with General Administrative Manager Sothy Chandravy of Eurotech Company Co., Ltd., one of the top three in the 5S competition, holding the trophy and framed certificate.