Productivity methodologies, tools, and techniques

The APO News *has started this new series of short columns to introduce the major productivity methodologies, tools, and techniques taught in the APO Development of Productivity Practitioners: Basic Program, and Advanced Program. These articles will be contributed by the course trainers to help readers understand the basic concepts and selected topics from the course curricula.*

Employee involvement through quality circles—Kelvin Chan

Quality circles (QCs) have been a popular employee involvement technique among organizations pursuing excellence since the first was formed in Japan in 1962. The philosophy behind them was based on the belief of quality guru Armand V. Feigenbaum that quality control planning could only succeed with "quality-mindedness" from top management down to workers. Since 1951, QCs have evolved into a structured system to harness the collective wisdom of everyone in an organization.

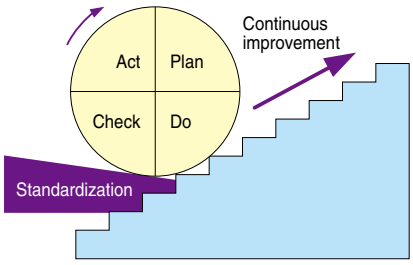

Figure 1. QC activities for continuous improvement.
Source: Teian Consulting International, Singapore.

Organizations need to have a well-defined system to promote self-managed teams to tackle problem after problem to achieve continuous improvement at the workplace (Figure 1). The problem-solving approach used is sometimes called the QC story and is based on the plan-do-check-act (PDCA) or Deming cycle (Figure 2). This approach does not require QC members to have in-depth technical knowledge to solve problems. The requirement is simply ideas for improvement and the will to try them. If proposed solutions do not work, the QC can redesign them and try again. As long as the leader is trained in the appropriate techniques, the QC is able to function.

The seven QC tools used are simple and easily understandable so that workers can readily participate after some training. The statistical tools used include checksheets, graphs, control charts, Pareto diagrams, cause-and-effect diagrams, histograms, and stratification-and-scatter diagrams. In some instances, I have had difficulty convincing higher-echelon executives and engineers that such tools are effective. Some of them believed that these tools were too simple and that more sophisticated ones were needed. However, these tools were derived from statistical quality control methods and carefully compiled by a group of Japanese scientists including Dr. Kaoru Ishikawa, credited with inventing the cause-and-effect diagram. According to leading QC Management Consultant Toyoki Ikeda, the tools can deal with 99% of problems at the workplace. In addition, it could be difficult to communicate how to use sophisticated tools to workers.

According to quality guru Philip Crosby, initial quality awareness can yield about 15% improvement. This means that any additional improvement would need more hard work. QCs can fill this gap and help organizations tackle problems that require analysis at the workplace. QC activities make use of creative minds and enable self-fulfillment of workers as they are able to make decisions. The activities benefit the organization through efforts to reduce operational costs. For example, in an oil and gas exploration company, brainstorming on problems led to the identification of a huge amount of waste in the fixed scheduling of helicopter flights to oil rigs, as members pointed out that they had seen helicopters in the air with no passengers many times. The rescheduling of work and flights alone helped the company to save millions of dollars per year. The skills, communication, interpersonal relationships, and morale of workers also improved, resulting in a more committed workforce.

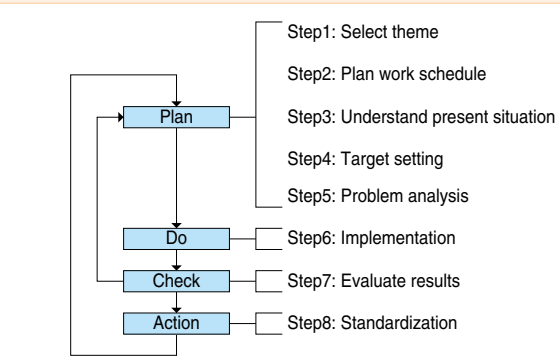

Figure 2. The QC story based on the PDCA cycle.
Source: Teian Consulting International, Singapore.

Contributed by Director and Principal Consultant Kelvin Chan, Teian Consulting International Pte Ltd, Singapore, resource speaker of the APO training course on Development of Productivity Practitioners: Basic Program.