

1. QUALITY IMPROVEMENT USING 7 QC TOOLS (using Microsoft® Excel)

INTRODUCTION

“The term “7 tools for QC” is named after the 7 tools of the famous warrior, Benkei. Benkei owned 7 weapons, which he used to win all his battles. Similarly, from my own experience, you will find that you will be able to solve 95% of the problems around you if you wisely use the 7 tools of QC.”

- ISHIKAWA KAORU,
Professor Emeritus, University of Tokyo

Dealing with quality problems can be similar to being lost. You don't know where you are. In quality improvement process, problem solvers need to know where they stand, what the problem really is, and what the cause of the problem is before any solutions can be proposed. Problem solving should follow a logical, systematic method. This will place emphasis on locating and eliminating the root or real cause of the problem. Other, less systematic attempts at problem solving run the risk of attempting to eliminate the symptoms associated with the problem rather than eliminating the problem at its cause. Organized problem-solving efforts utilize a variety of quality tools for problem analysis. The 7 QC Tools are scientific management tools, which are basic and easy to understand. They form the fundamental foundation for all problem solving and quality control activities.

Different from traditional method of teaching 7 QC Tools, this program capitalizes on the utilization of common computer spreadsheet software to accelerate all those meticulous calculations, graphing and searching of statistical tables activities. By doing so, it quickly bring participant's knowledge/skills to speed and allow more time to focus on *interpreting* the results, *recognizing* the fundamental workings of the tools, and *establishing action plans* for the improvement of quality. Apart from lectures and practice sessions, this program also includes computer simulations to help reinforce participant's understanding of the QC Tools functions in Problem Solving cycles. This training program provides the foundation skills for those who involved in problem solving and quality control activities

NOTE: Value-add MS Excel working templates will be given to participants after completion of this course. With this valuable tool, participants can immediately put to use all the 7 QC tools in their workplace.

COURSE CONTENTS:

1). Introduction :

- why use MS Excel as a statistical tool?
- MS Excel: Add-in, functions, charts
- Benefits of charting presentations.
- Importance of using data/facts for problem solving.
- What are the 7 QC Tools?
- 7 QC Tools used in PDCA problem solving cycle
- Introduction to Systematic Problem Solving process

2). Understanding Data & Basic Statistics

- Good data Vs Appropriate data
- Types of data, Variations, Central Tendency & Dispersion
- Descriptive Statistics
- Law of Variation
- Common and Special Causes.

3). Case Studies

- Making a quality improvement decision.
- Using PDCA approach to problem solving.
- Quality Team improvement (QCC) Activities

4). Tool : Histogram

- When & why use Histogram
- Constructing a Histogram
- Interpreting Histograms
- Stratification and other considerations

5). Tool : Pareto Diagram

- When & why use Pareto Diagram?
- Constructing a Pareto Diagram
- Interpreting Pareto Diagram
- Other considerations

6). Tool : Check Sheet

- When & why use Check Sheet ?
- Constructing a Check Sheet
- Interpreting Check Sheet
- Stratification and other considerations

7). Tool : Graphs

- When & why use Graphs ?
- Constructing Graphs
- Other considerations

8). Tool : Cause & Effect Diagram

- When & why use Cause & Effect Diagram ?
- Constructing a Cause & Effect Diagram
- Brainstorming technique
- 5 W's and 1 H questioning technique

9). Tool : Scatter Diagram

- When & why use Scatter Diagrams ?
- Constructing a Scatter Diagram.
- Interpreting Scatter Diagrams
- Stratification and other considerations

10). Tool : Control Chart

- Introduction to Control Chart?
- Constructing a basic Xbar-R chart.
- Interpreting a basic Xbar-R chart
- Other considerations

11). MS Excel Exercises

- Accelerated method of constructing all the 7QC tools using MS Excel.
- Interpretation of what the data/tools reveals.
- Stratifications and making decisions based on interpretation of data.

12). Presentation of Quality Improvement Activities

- Presentation using Quality Improvement Storyboard
- Correct presentation of charts/tables.
- Actions Plan

Special note: Computer spreadsheet program will be utilized throughout the course to demonstrate the power of the tools used and to significantly reduce the time required for calculation and graphing activities. Participant with prior knowledge of basic computer spreadsheet (e.g. MS Excel: using formula, edit graphs, printing, etc) will help complement the accelerated learning objectives of this course. MS Excel working templates will also be provided to equip participants for immediate transfer of training to their workplace.

COURSE OBJECTIVES :

At the end of the course, participants will ..

- Understand the usage and recognize the power in each of the 7 QC Tools
- Learn how to construct the tools (manually and fast paced by using computer spreadsheet software)
- Learn how to solve problems effectively using a step-by-step process
- be able to interpret and make accurate business decisions using the correct tools
- Experience the Quality Control Circle (QCC) way of presenting an improvement business project to a targeted audience.
- Experience the team dynamics in solving problems.
- Be able to use the MS Excel working templates to solve problem back in their workplace.

WHO SHOULD ATTEND:

- Team (Project/SGA/QCC/WIT) Leaders & Members
- Managers, Executives, Engineers, Supervisors, QCC Facilitators

ADMINISTRATIVE DETAILS

Duration : 2 days
Time : 9.00am – 5.00pm
Venue : In-house or external training program

Language Medium: English

TRAINER:

Nelson Kok is a graduate from the Universiti Sains Malaysia, and holds a Master in Business Administration and B.Sc (Hons) degree in Physics. He has more than 19 years of work experience, working with both multinational companies such as AT&T Consumer Products Pte Ltd, Corner Peripherals Sdn Bhd, Read-Rite (M) Sdn Bhd, and as well as local companies such as Globetronics Technology Berhad, Amquest Sdn Bhd and GGN Solutions Sdn Bhd. He is currently an entrepreneur running his own business and also an external consultant to various training providers.

He started his career as a Production Supervisor, Production Manager, HRD/Training Manager, TQM Manager and IT Manager. In the last 5 years, he held the position of General Manager in an Information and Communication Technology (ICT) company where he gained Internet Technology (IT) skills and entrepreneurial experience. Throughout his career, he was a certified trainer for many management, quality and productivity programs such as *5S Good Housekeeping, SPC, QCC, Quality Improvements using 7QC Tools, 7 Steps Problem Solving, QIT, TQM, MRP II, ERP, Team Building Program, Effective Meetings Workshop, Effective Supervisory Skills, Problem Solving & Decision Making, Effective Time Management, Motivation At Work, Frontline Leadership Program, and 7 Habits of Highly Effective People*. He has also conducted many quality audits and was directly involved in company's ISO 9002 and Quality Management Excellence Award (QMEA) certifications. He is currently involved in research, development and marketing of Internet Control Solutions and software packages. Nelson's area of specialization is in helping organizations to achieve higher productivity using proven Management, Quality and IT tools and techniques.