

# ADVANCE ROOT CAUSE ANALYSIS



## Introduction

This Advance Root Cause Analysis course deploy analysis of variance and experimental design designed to equip the participants with the knowledge and skills necessary to facilitate effective problem analysis. This course covers the systematic problem identification that involved interactions of inputs with the use of logic, data analytic, and process analysis to understand the problem and establish the root cause(s). The pertinent process of the data analytic to derive the effectiveness of the corrective actions and its integration to the overall business of the organisation to prevent recurrence will be discussed and demonstrated with case studies.

## Duration

2 days | 9am – 5pm | 14 hours

## Who should attend

Executives, Managers and Supervisors for Development, Manufacturing and Service sectors. Quality and process engineers, technicians, corrective action coordinators or managers; supervisors, team leaders, and anyone who wants to improve their ability to solve interacting recurring problems and to drive productivity with measurable outcomes.

## Pre-requisite

Participants preferably have completed the Root Cause Analysis Methodology and Implementation course.

## Course Fees

Member: S\$583.20  
Non-Member: S\$648.00  
*Registration Fee of S\$17.28 apply*  
*All fees stated are inclusive of 8% GST*

## Award of Certificate

Certificate of Completion will be issued to participants who have attended at least 75% of the course.



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## Course Contents

### Understand the Methodology and Implementation of Advance Root Cause Analysis DAY 1

1. Introduction
2. The pitfall of using One-Input-at-a-Time for root cause analysis
3. What are interaction factors or inputs?
4. Advance Root Cause Roadmap
5. Deploying Analysis of Variance for Root Cause Analysis
  - One-way analysis of variance
  - Two-way analysis of variance
6. Development of the data matrix for analysis
  - Breaking down total variance to variation of interest and variation due to error
  - Data analytic (statistics) to derive the root cause(s) and irreversible corrective actions.
  - Case studies



Please refer to this URL  
<https://www.sqi.org.sg/courses/>  
or QR Code for soft copy  
and updated training schedule

### Day 2

7. Deploying Factorial Experimentation for Root Cause Analysis
  - Experimentation with two factors
  - How to establish the experimental error for analysis for a two-factors experiment?
8. Experimentation with four or more factors
  - Identification of problem
  - Brainstorming
  - Multi-voting
  - How to use to create an experimental matrix
  - Establishing the experiment error for analysis
  - Data analytic to establish the root cause(s) result from interacting factors and main factors
  - Irreversible corrective action
  - Case studies

### Membership Application

Register membership online at [www.sqi.org.sg/membership-join/](http://www.sqi.org.sg/membership-join/) or contact us to get the membership application form.

Membership Categories:

- ~ Organisation membership
- ~ Individual membership

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