

**Course ID: S21**

## **ROOT CAUSE ANALYSIS: FUNDAMENTALS**

**One-day workshop**

### **1. What is this course about?**

Ever think you had fixed a problem, only for it to pop up again when you least wanted it to? The resolution of many process problems lies not in the development of a fix based on the symptoms of the problem, but in drilling down through to find the root causes of the problem and correcting or error proofing the root cause.

This foundation workshop introduces a number of non-statistical root cause tools, and some statistical tools, that enable teams and individuals to identify the root cause of process problems. The software application used is Microsoft Excel.

### **2. Learning Objective**

At the end of this workshop candidates will

- Be enabled to use a variety of non-statistical tools appropriate for individual and team-based root cause analysis;
- Understand how to use Excel to establish data patterns, summarise data tables, and establish tables of descriptive statistics for data sets;
- Be enabled to interrogate the data using statistical tools to establish patterns and correlation between variables;
- Understand when and where to use each tool.

The workshop is case study based and, to enhance student learning, actual organisation process problems (if available) will be used in the workshop.

### **4. What will I achieve?**

Upon completion of this course, you will:

- Be enabled to use a variety of non-statistical tools appropriate for individual and team-based root cause analysis;
- Understand how to use Excel to establish data patterns, summarise data tables, and establish tables of descriptive statistics for data sets;
- Be enabled to interrogate the data using statistical tools to establish patterns and correlation between variables, and
- Understand when and where to use each tool.

You will also have your own soft copy record of the course presentation material for future use.

All participants receive a certificate of completion.

## 5. Agenda

Time	Item
08:30	Introduction to root cause analysis (RCA) Problem statement Data types, data scales & data collection Run charts The 5 whys Cause and effects analysis
12.30	Lunch
13.30	Pareto chart Conditional formatting & pivot tables Correlation and regression Case study data review
16:30	Review & close

The course format involves PowerPoint demonstration, team-based pen and paper exercises and individual data set exercises using Excel.

## 6. Who should attend?

The root cause analysis workshop is appropriate for a wide audience including quality personnel, laboratory analysts, engineers, managers and team leads in any discipline. It works most effectively when paired with the Lean Ireland Error Proofing workshop. Ideally, they are run two to three weeks apart. The foundation course is also a prequel for the Lean Ireland Advanced workshop on Root Cause Analysis which address tools such as hypothesis testing and short run control charts.

## 7. Course customization

The content of each Lean Ireland course is customised to suit the client's environment. In addition, we will incorporate the client's data sets and case studies to illustrate the course principles and techniques. A follow-on 'Root Cause Analysis: Advanced' course is also available.

## 8. Contact

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