

## The Data-Shack workshop: W1. Introductory Analytics (2 days)

Analytics foundations & simple relations

### Prerequisite

None.

### Objectives

Introducing delegates to:

- asking Analytical Questions from Data
- aligning Analytical & Data Questions to Business Objectives
- essential concepts in analytics which are the foundation of most statistical tests
- descriptive analytics and how to describe data
- quantifying relations between continuous and categorical variables

### Description

This two-day workshop is designed to instruct the student on how to take advantage of the various analytical techniques to characterise data and subsequently explore relations between continuous and categorical data.

### Outcome

Delegates will leave the workshop with an excellent theoretical and practical understanding of Introductory Analytics and applying these in an operational and business context.

### Topics\*

1. Analytical Questions & Business Alignment
2. Essential concepts in analytics
3. Descriptive analytics for continuous variables
  - 3.1. Measures of location
  - 3.2. Measures of variation
  - 3.3. Measures of distribution shape
  - 3.4. Measures of ranges
  - 3.5. Assessing normality
4. Relations between continuous variables
  - 4.1. Correlations
5. Relations between categorical variables
  - 5.1. Frequency tables
  - 5.2. Cross tabulation
  - 5.3. Chi-square test
6. Relations between continuous and categorical variables
  - 6.1. *t*-tests
  - 6.2. Breakdown tables
  - 6.3. One-way ANOVA
7. Analysis of non-normal data (nonparametric methods)
  - 7.1. Nonparametric descriptive analytics
  - 7.2. Comparing 2 independent samples
  - 7.3. Comparing 2 dependent samples
  - 7.4. Comparing multiple independent samples

\* Note that the list of topics covered may vary slightly depending on the nature of the business questions to be answered, and the content of the supporting data supplied by the delegates

### Timing

10:00 – 11:00 Session 1 (1 Hour)  
11:00 – 11:15 Break (15 min)  
11:15 – 12:15 Session 1 (1 Hour)  
12:15 – 12:45 Lunch (30 min)  
12:45 – 13:45 Session 1 (1 Hour)  
13:45 – 14:00 Break (15 min)  
14:00 – 15:00 Session 1 (1 Hour)