

Derek Hendrikz Consulting Presents:

# Business Statistics

Duration:	3-days
Max. Participants:	20
Facilitators:	1
NQF Level:	5
SETQAA Accreditation:	Services SETA – Decision Number 2072

## About the workshop:

Business statistics is the science of good decision making in the face of uncertainty and is used in many disciplines such as financial analysis, econometrics, auditing, production and operations including services improvement, and marketing research. The Business Statistics programme is designed to give participants the necessary knowledge and skills in order to understand and apply basic business statistics within the business working environment. The methodology is practical in nature and participants will apply the skills taught throughout the workshop.

## The workshop outcome:

On completion of this workshop the participant should be able to apply basic business statistics within the business work environment.

## Workshop Objectives:

Participants will achieve the workshop outcome by being able to:

- Understand data analysis;
- Work with variables;
- Do data preparation;
- Present data;
- Measure central tendency;
- Measure variability;
- Do correlations analysis;
- Do regression analysis; and
- Apply statistical testing procedures.

## Training methodology:

The methodology is based on interactive learning, i.e. learners will learn by doing. Furthermore learners will use examples from their own environments, thus ensuring that the learning is anchored at their workplace. Most of the interactive learning will take the form of simulated exercises and case studies where participants will demonstrate the skills taught. As with all DHC training programmes, we strive to effect actual change back at the workplace through effective and practical outcomes based training.

## Programme:

Time:	Day 1:	Day 2:	Day 3:
08:00-10:00	Understanding data analysis.	Data presentation.	Correlation
10:00-10:30	<i>Convenience Break</i>		
10:30-12:30	Working with variables.	Measures of central tendency.	Regression
12:30-13:30	<i>Lunch</i>		
13:30-15:00	Data preparation.	Measurement of variability	Statistical testing procedures.
15:00-15:15	<i>Convenience Break</i>		
15:15-16:00	Day Review	Day Review	Programme Review & Evaluation

## Who Should Attend?

- Production & Operations Managers.
- Marketing research managers and employees.
- All employees working with business statistics.
- Any person who is interested in the application of business statistics.

## Day 1:

*Understanding data analysis:*

- Descriptive statistics.
- Relationships and associations.
- Methods of data analysis.
- Recording of data.

*Working with variables:*

- Variables and constants.
- Ordinal measurement.
- Measurement.
- Interval measurement.
- Discrete and continuous variables.
- Ratio measurement.
- Nominal measurement.
- Notation.

*Data preparation:*

- Ensuring data accuracy.
- Tabulation.
- Editing.
- Data problems.
- Coding.
- Use of percentages.

## Day 2:

*Data presentation:*

- Tabular vs. graphical data presentation.
- Bar diagrams.
- Ungrouped frequency distributions.
- Frequency polygons.
- Grouped frequency distributions.
- Skewness and kurtosis.
- Histograms.

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**Measures of central tendency:**

- The mode.
- The median.
- The mean.
- Proportions.
- Comparison of the mode, median and mean.
- Scale transformations

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**Measurement of variability:**

- The range.
- The variance.
- The standard deviation.
- The semi-interquartile range.

**Day 3:**

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**Correlation:**

- The scatter diagram.
- The product moment correlation.
- Computing the correlation coefficient.
- Scale transformations and the size of r.
- The Spearman rank-order correlation.
- The point-biserial correlation.
- The phi coefficient.
- Correlation and causation.

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**Regression:**

- The equation and graph for a straight line.
- Regression lines.
- The standard error estimate.
- The coefficient of determination.
- The effect of group heterogeneity on r.

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**Statistical testing procedures:**

- Hypothesis testing.
- Selecting level of significance.
- Obtaining the critical test value.
- Applying test of significance.

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**Beyond Comparison!**