



Certified Data Analysis Professional



3 editions in 2016



2 cities in 2016

Providing the necessary analysis tools for obtaining operational excellence

A comprehensive and intense training course on how to effectively apply new methods and data interpretation procedures used in general statistical data processing.

- ▶ Tailored statistical analysis of customized company indicators;
- ▶ Strategy adaptations based on prediction models;
- ▶ Targeted changes for process efficiency;
- ▶ Performance management improvement at an organizational level.



3 Key Business Benefits

- ▶ Achieve processes clarity and strategy optimization by implementing data analysis frameworks;
- ▶ Optimize the performance reporting processes by closing the gaps found in the data analysis tools used within your own business;
- ▶ Attain superior results by implementing data analysis procedures, which improve the achievement of your company's objectives.

"I contacted The KPI Institute for an in-house training with my team. We found both the material and the way of explaining concepts by doing examples invaluable. I would also say that this is a great value for money if you want to build the competency within your organization."

Fahad A. AlFaadel, Saudi Food and Drug Authority, Saudi Arabia

Course Overview



The Certified Data Analysis Professional is a first level, hands-on training course aimed at equipping you with the necessary concepts and tools needed to perform basic statistical and analytics reporting activities, in order to generate value out of the existing data.

The course will provide you with the knowledge required for understanding distinct methods used in the interpretation of statistical data. Also, by attending this certification program, you will be able to understand the basic methodology used in statistical interpretation of quantitative data and become proficient in using key Microsoft Excel features, histograms and Pareto Charts.

The course presents an overview of the basic data analysis concepts, such as data accuracy, preparation and comparability. Furthermore, the course provides both a general understanding upon basic analysis tools, such as mean, median and mode, as well as advanced operations, such as hypothesis testing or tentative sensitivity analysis.

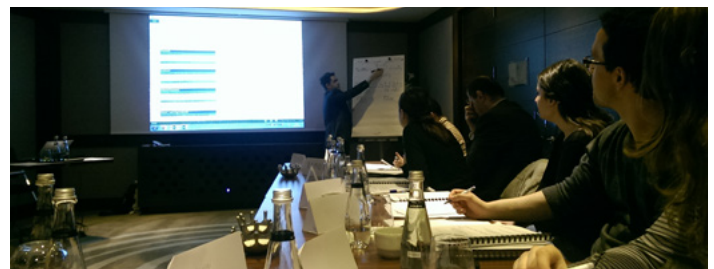
Testimonials

“The content of the program is really to the point and easily customized to the needs of the Oil and Gas Industry.”

Snehal Kaware, Takreer, UAE

“Very interested and pleased with the course. I would recommend to senior colleagues.”

Will Barr, GLL, UK



Participants profile

- ▶ The course is designed for anyone who has basic mathematical training and basic competences in using Microsoft Excel. Statistical knowledge, intermediate or advanced knowledge of Excel, practical experience with data analysis and related duties are not necessary, but may contribute to a better understanding and more in-depth coverage of the course content. Diversity of participants' background may help in a thorough coverage of the entire syllabus.
- ▶ The course is addressed to managers, HR Representatives, analysts, auditors or logistics and acquisitions experts, as well as to professionals from other business areas, who deal with data analysis.
- ▶ The course may also be a starting point for those interested in pursuing career opportunities in data analysis, data modelling and related activities (e.g. campaign management, data mining, statistics, risk management, reporting, data processing for survey analysis etc.)

Benefits

- ▶ Improve the organization's decision making process by gaining knowledge on data analysis and interpretation;
- ▶ Obtain the most relevant data you need by setting up a customized data analysis process;
- ▶ Achieve the management's buy-in, by understanding the utility of implementing customized data analysis methodology in daily business activities;
- ▶ Provide a logical framework for understanding data analysis instruments;
- ▶ Obtain premium recognition as a Certified Data Analysis Professional, by completing a unique learning program.

Learning objectives

- ▶ Develop a hands-on, practical overview of data analysis and connected topics;
- ▶ Integrate statistical concepts and analysis tools that are widely used in corporate analytics environments;
- ▶ Analyze examples of practical applications for statistical methods used in solving real-life business issues;
- ▶ Acquire mastery of basic MS Excel and statistical techniques through practical examples;
- ▶ Solve complex problems, using intermediate and advanced Excel techniques.

☰ Agenda

Day 1 - Understanding Data Analysis

9:00 - 17:00

Course Context

- ▶ Introduction of the participants;
- ▶ Expectations setting;
- ▶ Learning objectives formulation;
- ▶ Course agenda presentation.

Data Analysis – The Basics

- ▶ Definitions and utility of data analysis;
- ▶ Data analysis process;
- ▶ Realignment based on analysis;
- ▶ Governance of data analysis.

Data Quality

- ▶ Data accuracy;
- ▶ Logical inconsistencies;
- ▶ Data sampling errors;
- ▶ Data comparability;
- ▶ Data completeness;
- ▶ Economic/business interpretation of qualitative data;

Activity: Highlight the practical implications of data quality.

Organizing, Synthesizing and Aggregating Data

- ▶ Data structure;
- ▶ Challenges in aggregating data;
- ▶ Data preparation;
- ▶ Expert judgement;
- ▶ Meta-analysis and evaluation synthesis;
- ▶ Normalization of data;

Activity: Practice challenging situations in aggregating and preparing data.

Day 2 - Data Analysis

9:00 - 17:00

Statistical Analysis Tools

- ▶ Statistical tools: mean, median and mode;
 - ▶ Trend analysis: variance and standard deviation;
 - ▶ Hypothesis testing;
 - ▶ Statistical process control;
- Activity: Use different analysis techniques on the same data.*

Data Visualization and Pattern Detection

- ▶ Single, two and multi-dimensional data visualization;
- ▶ Level, trend, seasonality and noise in time series data;
- ▶ Autocorrelation;

Activity: Analyze specific data in a telecom company.

Data Comparison

- ▶ Analysis using histograms and Pareto Charts;
- ▶ Cumulative percentage analysis;
- ▶ Rules for interpreting data and formulating conclusions;

Activity: Practice data analysis using histograms and Pareto charts.

Univariate and Multivariate Analysis

- ▶ Differences and complementarities in single and multivariate analyses;
- ▶ Techniques used in analyzing single variables;
- ▶ Techniques for analyzing relationships between variables (correlation analysis);
- ▶ Parametric vs. non-parametric techniques used for analysis;

Activity: Practice the usage of uni/multivariate analysis and parametric/non-parametric analysis.

Regression Analysis

- ▶ Linear and logistic regression;
- ▶ Assumptions and basic models;
- ▶ Diagnostic measures and uses;
- ▶ Nonlinear models using categorical data and other topics of interest;

Activity: Conduct a linear regression.

Day 3 - Advanced Data Analysis

9:00 - 16:45

Probability and Confidence

- ▶ Expected values and hypothesis testing;
 - ▶ Contingency tables – ANOVA;
- Activity: Design contingency tables.*

From Exploratory to Predictive Modelling

- ▶ Expected values;
 - ▶ Confidence limits;
 - ▶ Risk and uncertainty;
 - ▶ Type 1 and type 2 errors;
 - ▶ Tentative sensitivity analysis;
- Activity: Practice modelling in action.*

Data Dimensionality

- ▶ Compensation for small sample sizes;
 - ▶ Big Data;
- Activity: Design key software tools.*

Review and Certification Exam

- ▶ Course review;
- ▶ Certification Exam.



Learning experience

Pre-course

This part of the learning experience is meant to ensure a smooth transition to the face to face training. Participants are required to take the following steps:

- ▶ **Needs assessment** – complete a questionnaire to determine a tailored and relevant learning experience;
- ▶ **Pre-course evaluation quiz** – take a short quiz to establish your current level of knowledge;
- ▶ **Guidance and schedule** – analyze a document presenting guidelines on how to maximize your learning experience;
- ▶ **Forum introduction** – share an introduction message to present yourself to the other course participants;
- ▶ **Expectations** – share your expectations regarding the training course;
- ▶ **Pre-requisite reading** – go through a series of documents to better understand the core course content.

Core course

The Certified Data Analysis Professional training course provides an interactive practice-based learning environment in which participants focus on:

- ▶ Establishing customized models for data analysis based on your organization's requirements;
- ▶ Gaining knowledge on basic (and advanced) data analysis concepts and statistical instruments;
- ▶ Applying the knowledge gained in practical exercises, aimed at strengthening the learning process.

After-course

The learning process is not finalized when the core course ends. In order to benefit from a complete learning experience, participants are also required to take the following steps:

- ▶ **Forum discussions** – initiate a discussion on the forum and contribute in a discussion opened by another participant;
- ▶ **Action plan** – create a plan for the actions and initiatives you intend to implement after the training course;
- ▶ **In-house presentation** – create and submit a short PowerPoint presentation to share the knowledge acquired within the training course with your colleagues;
- ▶ **Additional reading** - go through a series of resources to expand your content related knowledge;
- ▶ **Learning journal:** reflect upon your 3 stages learning experience and complete a journal.



Educational Resources

The Data Analysis Infographic

Catalogues: Statistical coefficients formulas catalogue; Best practices in clustering data.

Fact sheets: Differences between descriptive and inferential statistical methods; Glossary of terms.

Other Resources: Consists of articles, whitepapers or case studies relevant for data analysis.



Evaluation

The certification process is finalized only when you complete all 3 stages of the learning experience. Nonetheless, you will receive a:

- ▶ **Certificate of Attendance:** after participating in the 3 days on-site training course;
- ▶ **Data Analysis Certification Diploma:** after you have successfully completed all 3 stages of the learning experience.

We strongly recommend that you obtain the Certified Data Analysis Professional title, as this endorses your skills and knowledge related to this field.



Inclusions

Course materials that consist in:

- ▶ Course slides;
- ▶ Course notes.



Premium Subscription on smartKPIs.com available for 6 months, providing access to 500 fully documented KPIs and over 20.000 KPIs enlisted;

One research report from the Top 25 KPIs series;

Free access to all webinars from 2014 to 2015 Performance Management series.

"(...) the feedback from the participants was gratifying and positive, and we are glad that we took the time and effort to develop such a program to meet the need of our staff for extending their knowledge in the area of KPI and all related."

Hanan Ahmed, Abdelmajeed, Supreme Council of Health, Qatar

→ In-house Training Course

Organize this training course in-house

If you have a group of five or more to train you can save time and money by running this training course in-house. Use the contact details provided below to request a customized offer from one of our training solution specialists.

► Embedded learning

Our aim is to do more than just deliver the course – we want to ensure that your people gain long-term benefits from their training and perform better in their jobs so that you see the return in your investment of your people.

► Increased relevance

You can enhance the effectiveness of your training program by incorporating a real live audit with the assistance of the facilitator – making the course more relevant to you and your business.

► Exclusivity

Each in-house training session is exclusive to your organization – you can introduce company sensitive or market competitive information into sessions, without commercial compromise.

► Cost savings

There are clear cost savings to be made – you save on travel, accommodation expenses and employee's time.

► Flexibility

The KPI Institute in-house training is flexible, adaptable and effective, ensuring that you get the best possible learning experience.

🗣️ Testimonials

“Particularly adept at building and sharing knowledge... creativity, research and exemplary stakeholder management skills were essential to success.”

Gavin Haberfield, Department of Treasury and Finance, Australia

“This is one of the best programs regarding performance management, I have ever attended. I highly recommend this training for any manager who wants to manage his/her business in the right way.”

Perviz Aslani, EMBAWOOD, Azerbaijan

“A powerful insight into your hidden potential that can drive you to a high level of excellence.”

Alassane B. Ndiaye, Qalinca, Belgium

“I would rate the training 10 out of 10 and highly recommend it to others. The facilitator managed to get excellent group interaction right from the beginning, the course was interesting, informative and very well presented.”

Mohamed Salah El-Dein, Salehiya Medical, Saudi Arabia

📖 Training Courses Catalogue 2016

The KPI Institute offers a broad set of training courses customized to specific functional areas, industries or topics related to performance management.

Each of these courses is developed based on The KPI Institute's research and aims to provide practical solutions for improving business performance.



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Registration

3 ways to register:



Online



Direct contact

Call us and we will assist you through the registration process.

European office

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M: +60 11 3303 2135

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Registration form

Use one of the following options:

- ▶ Complete this form and fax it to your nearest office:

European office:
+40 2 6441 4360

Middle East office:
+971 4 332 8810

Southeast Asia office:
+61 3 8395 6544

Australian Headquarters:
+61 3 8395 6544

- ▶ Email us with your registration details

Expression of Interest

*Please fill out all the fields below

Title

First name

Last name

Telephone

Email

Training course

Date of training course

Job title

Department

Organization

Organization size

Industry

Address

City

State / Province

Country

Postal Code

How did you hear about us?

Registration cancellation procedure

Any withdrawals have to be announced at least two weeks before the beginning of the course, through fax or e-mail. In this situation, the attendance fee will be refunded, less \$400 retained for administrative expenditure.

The attendance fee will not be refunded if the withdrawal from the course takes place less than 2 weeks before its start date. If you find yourself in the impossibility to attend the course after the registration process is already completed you may delegate another person to attend the course in your place without any further fees charged. If you have confirmed and made the attendance fee payment but you didn't attend the course, the course attendance fee will not be refunded.

If you attend the course only partially (one day or a limited number of sessions), you will not benefit from any attendance fee reduction or refund.