

Fulfilling the core market research educational needs of individuals and companies worldwide.

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This **Principles Express<sup>+</sup>** bundle includes three *Principles Express* Courses:

1. **Introduction to Data Analysis,**
2. **Advanced Analytic Techniques,** and
3. **Working with Secondary Data: Syndicated and Big Data.**

In this unique bundle of courses you will learn how to prepare your data for analysis, select the most appropriate statistical methods, and develop an analysis plan to support the business decision that needs to be made. You also will learn about the many secondary data sources now available to you, including the increasing availability of syndicated data and what is popularly referred to as “big data.”

## Learning Objectives

After completing this **Principles Express<sup>+</sup>** course you should be able to:

### **Introduction to Data Analysis**

1. Describe the process of creating an analysis plan, and give examples of alternative analytic purposes (e.g., explanatory versus confirmatory).
2. Describe the key data sources.
3. Name and define the key data types (nominal, ordinal, interval, ratio, etc.).
4. Explain the process of matching analytic techniques to different situations and needs, and give examples.
5. Summarize descriptive and visual approaches used to familiarize oneself with the data and to identify problems with the data.
6. Explain how to assess the impact of missing responses, and select and apply appropriate remedies.
7. State the reasons for and methods of statistically adjusting data; e.g., weighting, variable re- specification, and scale transformation.
8. Assess the characteristics of the distribution of the data and explain the implications of normality, non-normality, skewness, and multimodal data.
9. Illustrate the process for creating and testing hypotheses.
10. Compare and contrast the differences between type I and type II errors, and their potential impact on business decisions.
11. Describe the difference between statistical and business significance in the context of group comparisons, and explain the factors that have an impact on statistical significance.
12. Describe the difference between association and causality, and the potential impact on business decisions and outcomes.
13. Identify the major computer programs in current use in market research for the analysis of data.
14. Explain how to turn findings into market research conclusions, link findings to business decisions, and create actionable recommendations.

### ***Advanced Analytic Techniques***

15. Describe a common framework that distinguishes between multivariate analytic techniques and helps guide the decision of what technique to use when, based on the following factors—dependence, interdependence, number of dependent variables, type of relationship, item being analyzed, nature of metric, and the nature of the business question being addressed.
16. Compare and contrast the different patterns that express the relationship between two variables (e.g., nonlinear, linear, curvilinear, s-shaped, etc.).
17. Distinguish between interpolation and extrapolation.
18. Describe what Factor Analysis is, what it does, what type of input data is generally acceptable, and common applications in market research.
19. Describe the concept of Segmentation Analysis, what it does, what type of input data is generally acceptable, various techniques on how one may cluster data (e.g., K-Means, RFM, Pareto, etc.) and common segmentation applications in market research.
20. Describe what Perceptual Mapping (including the use of Multidimensional Scaling) is and common applications in market research.
21. Describe the different techniques used to measure association (i.e., Correlation, Simple Regression, and Multiple Regression), what they do, what type of input data is generally acceptable, and common applications in market research.
22. Describe Conjoint Analysis and Choice Modeling, what they do, what type of input data is generally acceptable, and common applications in market research.
23. Describe more advanced measures of association (e.g., Logistical Regression and Structural Equation Modeling), what they do, what type of input data is generally acceptable, and common applications in market research.
24. Describe what Discriminant Analysis is, what it does, what type of input data is generally acceptable, and common applications in market research.
25. Identify the most popular machine learning techniques and describe how researchers can use them to generate insight.
26. Describe what neural network analysis is, what it does, what type of input data is generally acceptable. Describe common applications in market research.
27. Describe the concept of Marketing Mix Modeling, what it does, what type of input data is generally acceptable, techniques that are used (e.g., multiple regression, Bayesian regression, etc.) and common applications in market research.
28. Describe Time Series Analysis, what it does, what type of input data is generally acceptable, what techniques are used, and common applications in market research.
29. Describe the difference between statistical significance and business significance.

### ***Working with Secondary Data: Syndicated and Big Data***

30. Discuss how the integration of technology into our daily lives is creating new opportunities for market researchers.
31. Define secondary data as distinct from primary data.
32. Describe the various types of data sources available to researchers including syndicated data, transaction data, social media data, and Internet of Things data, emphasizing the strengths and weaknesses of each.
33. Describe the various components of the “big data” ecosystem, reinforcing that all data sources—primary and secondary—have compromises and the researcher’s responsibility to select the “best available data” given the business issue being studied.
34. Identify some of the typical barriers a researcher encounters in gaining access and using secondary data.
35. Discuss the related concepts of data governance, data curation, and data provenance and their importance in assessing the quality of secondary data.

36. Discuss the value and the challenges that can be realized by linking primary and secondary data, including the role of data brokers.
37. Discuss the ways in which traditional analytic techniques can be applied to secondary data.
38. Describe what is meant by machine learning and its relevance when working with large secondary datasets.
39. Discuss the challenges and emerging solutions that researchers face when dealing with unstructured data—text, photographs, video, etc.
40. Discuss the challenges the researcher faces when using secondary data in a global context.
41. Describe the ethical issues, especially related to privacy and confidentiality, when using secondary data.

**Enroll Anytime. Register Now!**

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