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Introduction to Data Analysis course will introduce you to the critical concepts common to the analysis of quantitative research data, with special attention to survey data analysis. These concepts will help analysts, buyers of research services, and those designing research. Knowing how best to look at data and derive insights is critical to ensuring that the information has a positive impact on the business.

The analysis of quantitative data is integral to the research process. Information is gathered for a reason, usually to inform a business decision. Consequently, an inappropriate interpretation of the collected data can have disastrous results.

UGA offers introductory and advanced Data Analysis courses.

Because the analysis of quantitative data is a broad topic, there are two University of Georgia online, Principles Express courses devoted to it. **This course is introductory in nature and has greater focus on survey data. Importantly, the concepts introduced in this course are foundational and have application even in situations where more advanced analytic techniques are applied.**

The second is standalone, *Principles Express* course that focuses on more advanced analytic techniques.

Quantitative research requires flexibility.

Ideally, the analytical plan has been developed at an earlier stage—at the same time as the research design—so the basic approach to translating data into actionable insights is established before the data is collected. However, in the consultative role that the researcher must play, it is imperative to be adaptable when the planned analysis doesn't yield helpful findings. In this case, the researcher must be familiar with alternative methods and approaches that may reveal more valuable information.

In the data analysis stage of a project, the researcher reviews the data and pays particular attention to elements that will enable the development of insight about the business decision. This is achieved through the design and application of a meaningful analysis of the data. In order to be relevant, timely, and cost effective the key is to stay focused on the business decision and research questions.

Developing a data analysis plan.

The professional market researcher is not expected to have a complete understanding of all the data analysis techniques. The researcher's key obligation is to manage the use of these techniques to develop and organize an analysis of the data that satisfies the information requirements of the project.

The most appropriate statistical methods should be selected when projecting findings to target populations and determining whether different groups' measurements are significantly different from each other. This course focuses on alternative statistical analysis methods and developing a data analysis plan.

Special Situations

The majority of the material in this course looks at survey data in the context of consumers. However, not all data is survey data and not all projects are with consumers. Therefore the material also covers topics like secondary data, B2B (business-to-business) market research, and healthcare research.

B2B research differs from many consumer-focused projects in the following ways:

- The population sizes are often smaller than for consumer projects.
- Samples are often smaller (because costs can be high, and in some cases because the population is smaller).
- Sampling can be complex, because organizations can vary in size; for example, the largest three or four brands might represent well over half of the market.
- Participants may be representing their views, or they may be reflecting the views of their employing organization.

Healthcare Research can present all of the special considerations of B2B market research, and additionally:

- The cost of data collection can be very high, resulting in smaller samples sizes.
- The purchase process can be a complex mix of government, healthcare professionals (HCP), and funding bodies (such as insurance companies).
- There are additional ethical and safety-related issues involved in healthcare market research.

What Knowledge is assumed by the Course?

You should be familiar with:

1. Sampling and sampling error (which is covered in a separate Course, *Sampling in Market Research*)
2. Types of data variables (which is covered in a separate Course, *Measurement and Questionnaire Design*)
3. Weighting (which is covered in Course, *Sampling in Market Research*)
4. It would be helpful to have some familiarity with secondary data, which is covered in detail in a separate course, *Working with Secondary Data: Syndicated and Big Data*.

Learning Objectives

After completing this course you should be able to:

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.

Enroll Anytime. Register Now!

For more information about the *Introduction to Data Analysis*, contact us at questions@georgiacenter.uga.edu or by telephone at +1-706-542-3537.

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