

## STATISTICAL ANALYSIS SPSS

You're an expert at studying people's attitudes, opinions, and experiences. We're the experts at supporting you, offering an array of solutions and services to meet the highest standards of professional survey researchers. ICT Consults has been a leader in meeting the needs of survey researchers using SPSS solutions for many years, and we're dedicated to continuing to do so. We fully understand that different types of survey research and different types of organizations require different solutions. That's why we offer you a full range of options, both in the products we offer and in the services we provide. Our products can help you first **collect data** and then perform basic or advanced **data analysis**.

If you are an **academic researcher** who needs to gather data in the social sciences or in other fields, we offer affordable solutions that enable you to obtain the highly reliable results you seek. If you are in **education** at any level, we have products that make it easy and cost effective to measure and track attitudes and opinions, coordinate multiple surveys of different audiences, and share findings with school boards or trustees, government agencies, alumni, and other interested parties

For survey researchers in **government**, we offer a variety of products that meet your needs for rigorous methodology, data quality, security, and usability. If you conduct commercial **market research**, we offer powerful, flexible solutions that enable you to meet your clients' most exacting requirements and differentiate your firm from your competitors

In all our offerings, we use open standards based technologies. Our products can work smoothly with other software tools, and in a wide variety of computing environments. We also have survey and technology experts available to customize our solutions, as needed, to your particular requirements.

### Data Collection

To meet your evolving needs, ICT Consults continually incorporates new features and functionality in solutions that cover the entire survey research process. At the data collection stage of the process, we offer several SPSS tool sets; each designed to meet a particular set of user requirements. For shorter surveys or surveys conducted by individuals, ICT Consults offers solutions that help users create professional surveys and forms quickly and then collect data easily and accurately. These desktop products integrate with SPSS for Windows®, so researchers can analyze data and report findings promptly. For more complex survey needs, ICT Consults offers a separate SPSS set of solutions that support the collection of data on paper, by phone or using mobile devices, and over the Web. This suite of products is fully Web enabled and supports centralized data storage, survey coding, and analysis. It works with the most popular databases and operating systems, and incorporates features that protect respondent privacy, increase response rates, and turn data into actionable information through interactive Web-based reports or presentation slides.

### Turn Data Into Actionable Results

Analysis is about converting and reducing data into meaningful results. ICT Consults SPSS survey and market research solutions are renowned within the industry as the benchmark

for analysis. Choose from the entire spectrum of analysis from top lines and tabulation to advanced discovery and modeling methods to data mining. The process can be automated as part of an integrated solution, so that all you see on your desktop or via your browser are the interactive results.

## Data Management

Before you can discover hidden trends or run predictive modeling on data, you've got to get it ready! Survey data may require manipulation, cleaning & weighting, and coding before analysis so that the results are more significant. From coding of verbatim responses to plugging in missing values, ICT Consults helps you with SPSS tools so as you prepare the data that has got even clearer insight. Our SPSS data preparation & data handling software include:

- **mrStudio**—Superior data management and more built on the Dimensions Technology Platform
- **SPSS Base**—Make better decisions with better analysis
- **SPSS Missing Value Analysis**—Fill in the blanks with missing data
- **Quantum**—Quickly clean, weight & tabulate data
- **Verbastat**—Code open-end responses
- **SPSS Text Analysis for Surveys**—Categorize open-ended survey responses using linguistic technologies and manual techniques

## Tabulation

Tabulation, frequencies and electronic code-books (ECB) is by far the most common analyses for the survey and market research industries. But that doesn't have to mean reams of printed tables! Of course, you can still edit, manipulate and weight the data accordingly, and run it through the tabulation process at record speeds. What *are* new are the options you have for the output, which you can determine based on your information needs. Whatever your tabular needs, we can provide the tools and the right environment. Some of the tabulation solutions include:

- **mrTables** - Web based tabulation or desktop, very user-friendly
- **SPSS Tables** - effectively communicate results (module of SPSS Base)
- **SPSS Exact Tests** - accurate analysis of small datasets (module of SPSS Base)
- **Quantum** - quickly clean, weight & tabulate day
- **Quanvert** - create tables on your desktop from a Quanvert database

## Data Segmentation

In this age of one-click purchasing & permission marketing, many seek the Holy Grail in click stream analysis rather than a traditional segmentation. However, any decent marketer knows the ability to categorize and build actions around consumer motivations is more important than ever. Market & customer segmentations provide invaluable insight for building business, and product segmentation helps businesses build strong brands. As the defector industry standard analytical & segmentation tools, ICT Consults provides you with SPSS solutions that allow you to quickly analyze data so that you can turn the results into a plan of action. Our SPSS data segmentation and analysis software products include:

- **AnswerTree** - decision-tree algorithms
- **SPSS Base** - make better decisions with better analysis
- **SPSS Advanced Models** - analyze complex relationships
- **SPSS Categories** - predict categorical outcomes
- **SPSS Conjoint** - understand customer preferences
- **SPSS Regression Models** - make better predictions
- **SPSS Server** - analyze large, centralized data sources on a server

## Protective Modeling and Forecasting

Make better business decisions by applying the latest and most trusted predictive modeling techniques to your data. Sure, analysis can tell you how things are now and historically even picking out trends over time. But with predictive modeling you take that one step further. Researchers can look into the future by setting some basic assumptions, and then applying predictive modeling analytics to data. The results are a look at how things might be in the future, which can greatly assist with major decision-making. Our SPSS predictive modeling and forecasting software include:

- **AnswerTree** - decision-tree algorithms
- **DecisionTime/WhatIf?** - Create sophisticated forecasts
- **SPSS Categories** - predict categorical outcomes
- **SPSS Conjoint** - understand customer preferences
- **SPSS Regression Models** - make better predictions
- **SPSS Trends** - predict trends

## Data Mining

Perhaps the most sophisticated and all-encompassing application for discovering hidden information, data mining has become a standard for researchers and business executives who need to make important, educated decisions. Used alone on survey data, or mined with enterprise information systems, data mining tools can help uncover principal factors along the road to success.

## Turn Unstructured Text Into Meaningful Data

Verbatim responses, or “open-ends,” can provide great insight into your targets’ thoughts, attitudes and behaviors. What’s more, with the advent of online surveys, responses to open-ended questions appear to be more intimate and lengthy – more information for you to pull out of there. Our SPSS solutions offer both coding and text mining solutions that can help you turn unstructured text into meaningful data that can be useful on its own, but especially when mined with other data sources for maximum insight. Our SPSS products include:

- **SPSS Text Analysis for Surveys:** Enables survey researchers to categorize open-ended survey responses using linguistic technologies and manual techniques
- **Text Mining for Clementine:** Enables data miners to obtain greater value from any text data while using Clementine
- **Verbastat:** Enables researchers to code open-ended survey questions by leading them through a manual process

## Showcase Results Through Effective Reports

Reporting is crucial to the effectiveness of a research project, and to the success of subsequent business activity. If the end-client cannot see what the data is saying, then it doesn't matter that you've used the most sophisticated analytical algorithms. Without well-presented reports online, on paper, or on screen the meaning is lost. With SPSS reporting options, you can make sure that your points are getting across. Reports can be presented in your preferred style, or as dictated by a Client, due to the flexible nature of our solutions and seamless links with a number of publishing tools. Whether results are published online, on screen, on paper or sent via email, you can rely on effective formatting and imaging technologies that will bring your data to life. Interactive results are especially effective, allowing instant gratification when drilling down into results and exploring further relationships. Our SPSS reporting & publishing products out-of-the-box are:

- **InterviewReporter** - real time, online access to Mr. Interview products
- **mrStudio** - automate creation of presentations or reports
- **SmartViewer Web Server** - distribute interactive SPSS reports via the Web
- **SmartViewer for Windows** - quickly distribute SPSS reports
- **mrStream** - bringing MR data to life with broadband technologies
- **mrTranslate** - manage multiple translations of surveys & reports

Predictive analytics connect data to effective action by drawing reliable conclusions about current conditions and future events. ICT Consults has become a leader in SPSS predictive analytics technologies through a combination of commitment to innovation and dedication to customers. Throughout our history, we have taught/trained predictive analytics software that enables our customer's corporations, academic institutions, healthcare providers, and government agencies to better focus their operations in Uganda.

ICT Consults' customers combine predictive analysis with their own organizational business knowledge to gain critical insights into customer acquisition and retention, up selling and cross selling, fraud detection, and patient outcome improvement. Each of these insights relate specifically to people in the form of customers, employees, patients, participants, or citizens. ICT Consults customers gain greater insight into people's actions, attributes, and attitudes as a result of our historical analytic focus on "people data."

For example, ICT Consults predictive analytics help:

- Businesses address customer lifecycle issues, such as attracting new customers, keeping the best ones longer, and improving their interactions with them
- Researchers and analysts uncover relationships and identify trends
- Educators better prepare participants for roles in the commercial, academic, and public sectors
- Government organizations focus on reducing fraud, crime, and non-compliance
- Independent software vendors (ISVs) enhance the value of their solutions by embedding pre-built SPSS predictive analysis components within their applications

ICT Consults is committed to providing solutions to meet your needs.

**Why this course?**

**SPSS** is a user-friendly and powerful application for managing and analyzing the information, specialization in survey data. It is mainly used for research purposes. Any information can be analyzed and interpreted perfectly in a short period of time. It can handle a big surveillance data. It helps for drawing sample and graphical presentation also. Complex data can be analyzed in simple way. This course is designed with the SPSS beginner. Finally, it will help you to be an expert statistical data analyst/researcher.

### Skill Level I: Beginner+

#### Course Contents

##### -Class 1

- Introduction
- Starting SPSS
- Understanding Variables
- Adding Variable labels
- Adding Value labels
- Adding a Variables
- Extracting a Variables
- Saving Data file
- File copy & Past
- Printing output

##### -Class 2

- Matching data files
- Relational database handling
- Sort Cases
- Select Cases
- Changing Variable Type and Format
- Handling Missing Data
- Two Simple Recoding Rules
- Computing New Variables
- Sampling Technique

##### -Class day 3

- Creating Charts
- Editing Charts
- Charts for Categorical Data
- Bar Diagram
- Line Chart
- Area Chart
- Pie-Chart
- Histograms for Scale Variables
- Scatter Diagram

##### -Class day 4:

- Examining Summary Statistics
- Frequency
- Descriptive statistics
- Simple Cross-tabulation
- Counts versus Percentages
- Time Saving Features
- SPSS Syntax
- Correlation
- Regression Analysis

### Skill Level II: Advanced

## Course Contents

### Class day 1:Data Management

- Basic Structure of SPSS Data File
- Creating SPSS data file
- Design a Coding Scheme
- Reading an SPSS Data File
- Reading Data from Spreadsheets
- Reading Data from a Database
- Reading Data from a Text File
- Saving Data file
- File matching
- Relational database handling

### Class day 2:Data Processing

- Adding a Variable
- Extract a Variable
- Adding a Variable Label
- Changing Variable Type and Format
- Adding Value Labels
- Value Attributes
- Modifying Data Values
- Handling Missing Data
- Two Simple Recoding Rules
- Computing New Variables
- Using Results in Other Applications

### Class day 3:Data Analysis

- Examining Summary Statistics
- Descriptive statistics
- Simple Cross-tabulation
- Counts versus Percentages
- Time Saving Features
- SPSS Syntax
- Frequency
- Correlation
- Regression Analysis

### Class day 4:Graphics

- Creating and Editing Charts
- Charts for Categorical Data
- Histograms for Scale Variables
- Scatter Diagram
- Interactive Chart

### Class day 5:Analysis

- Bivariate Analysis
- Multivariate Analysis
- Regression Analysis
- Nonparametric test
- Multiple Responses Analysis
- Analyze Breast Cancer Survival data
- Analyze Employee data

