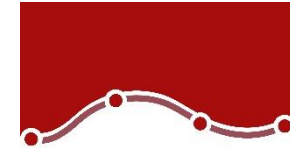




SPSS



**Statistics for
Data Analysis**

WHO WE ARE

SPS is an Italian center of statistical data analysis with more than 20 years of experience.

SPS was born in 1994 as SPSS Italia and it was the only reseller in Italy for SPSS software suite, authorised by SPSS inc.

Today SPS is an IBM Gold Business Partner, Software Support Provider and Expert Level in Data Science & Business Analytics.

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DATASHEET

Statistics Conjoint



Statistics for Data Analysis

Organizations can solve a wide array of business and research problems with the solution Statistics for Data Analysis.

Compared to other statistical software, the solution is easier to use, has a lower total cost of ownership and more comprehensively addresses the entire analytical process, from planning to data collection to analysis, reporting and deployment.

Organizations of all types rely on Statistics for Data Analysis to help increase revenue, outmaneuver competitors, conduct research and make better decisions. With decades of built-in expertise and innovation, it's a leading choice for reliable statistical analysis.

Statistics Base is part of the solution Statistics for Data Analysis, which consists of:

- Software license
- Add-On
- SPS Service Program

This comprehensive, easy-to-use solution includes many different procedures and tests to help users solve complex business and research challenges.

Highlights Statistics for Data Analysis

- Get support through every step of the analytical process.
- Carry out essential analyses from an intuitive graphical interface.
- Select from more than a dozen integrated products to make specialized analyses faster and easier.



Statistics for Data Analysis

The solution analytical capabilities to meet the analysis requirements of any type of organization, from basic tools for solving common problems to advanced analytical techniques that enable all type of organization to address complex challenges.

Statistics for Data Analysis can help you:

- Analyze your data with new and advanced statistics, including a variety of new features within UNIANOVA methods
- Integrate better with third-party applications, including stronger integration with Microsoft Office
- Save time and effort with productivity enhancements:
 - More attractive and modern-looking charts in Chartbuilder
 - New groundbreaking features in Statistics Amos 25
 - Data and syntax editor enhancements
 - Accessibility improvements for the visually impaired
 - Updated merge user interface
 - Simplified toolbars

Statistics for Data Analysis can access quickly, manage and analyze any kind of dataset, including survey data, corporate databases or data downloaded from the web.

In addition, the software can process Unicode data. This eliminates variability in data due to language-specific encoding and enables your organization to view, analyze and share data written in multiple languages.

Business Benefit Statistics for Data Analysis

- Support business decisions with data-based analytics for improved outcomes.
- Be more confident in your results by incorporating data from many different sources, including geospatial information, in your analysis and using proven, tested techniques to perform your analysis.
- Save time and effort with capabilities that enable experienced analysts to develop procedures or dialogs that others can use to speed through repetitive tasks.
- Give results greater impact by using visualization capabilities that clearly show others the significance of your findings.



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Uncover what drives purchasing decisions

In the real world, buyers do not make decisions based on a single attribute, such as price or brand name. Instead, they examine a range of products, all with different combinations of features and attributes, and perform a complex series of trade-offs before reaching a decision.

Conjoint analysis is the research tool used to model the consumer's decision-making process. Using Statistics Conjoint can increase your understanding of consumer preferences, enabling you to more effectively design, price, and market successful products.

Conjoint analysis enables you to measure the value consumers place on individual attributes or features that define products and services. Armed with this knowledge, your company can design products that include the features most important to your target market, set prices based on the value the market assigns to the product's attributes, and focus messages on the points most likely to appeal to target buyers.

Highlights:

- Model consumers' decision-making processes.
- Measure the value consumers place on individual attributes or features.
- Develop market simulation models.
- Predict the response to proposed actions.



Statistics Conjoint

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Even as competitors, products, and pricing change over time in the market, you can continue to use the results from Statistics Conjoint to develop market simulation models that incorporate changes, along with your proposed responses. This enables you to predict the response to your proposed actions before spending valuable resources on product development and marketing programs.

Statistics Conjoint provides answers to critical questions such as:

- Which features or attributes of a product or service drive the purchase decision?
- Which feature combinations will have the most success?
- What market segment is most interested in the product?
- What marketing messages will most appeal to that segment?
- What feature upgrades will most affect consumer preference and increase sales?
- What is the optimal price to charge consumers for a product or service?
- Can the price be increased without a significant loss in sales?
- Are product levels too close together?



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All the tools you need

The three procedures in Statistics Conjoint enable you to plan, implement, and efficiently analyze results from conjoint studies. Following is a summary of these procedures:

- Generate designs easily – Orthoplan produces an orthogonal array of product attribute combinations, which dramatically reduces the number of questions you must ask while ensuring that you have enough information to perform a full analysis.
- Print “cards” to elicit respondents’ preferences – Plancards quickly generates cards that respondents can use to easily sort and rank product attribute combinations.
- Get informative results – The conjoint procedure performs a specially tailored version of regression on your response rankings. You’ll receive results you can act on, such as which product attributes are important and at what levels consumers most prefer them. You can also perform simulations to determine the market share of preference for any combination of attributes.



Statistics Conjoint

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Options consumers prefer: A real-life study

A software company planned to develop training programs that differed from its traditional instructor-led training. Since many options were available, the company decided to perform a conjoint study to evaluate the proposed product.

The company believed six key attributes would influence consumer preference: method of delivery, video content, example types, certification test, method of asking questions remotely, and price. Four of these attributes had two levels, while two others had three. The resulting full factorial design would have had 144 alternative product bundles ($2 \times 2 \times 2 \times 2 \times 3 \times 3$), making for an unfeasibly large study.

Using orthoplan, the research department reduced the number of hypothetical product bundles to 16, while ensuring that the department received all the information needed to perform a complete analysis. A researcher then printed the 16 product bundles using placards and gave them to a sample of target users who ranked them in order of preference.

A researcher analyzed the preference rankings with Statistics Conjoint, and the results are shown in Figure 1. Two attributes stand out as very important – inclusion of video and price – while test and example types are relatively unimportant.

The Utility Estimate and Standard Error columns in Figure 1 show the relative preference for each level of each attribute. Within question, Instant Message is the most preferred attribute level and No Support is the least preferred.



Utilities

		Utility estimate	Standard error
method	Internet	1.180	.169
	Local Machine	-1.180	.169
video	video	2.176	.169
	No video	-2.176	.169
question	Instant message 9-5)	.922	.225
	Email (<1 day wait)	.911	.264
	No support	-1.833	.264
price	\$300	3.392	.225
	\$400	-.192	.264
	\$500	-3.200	.264
test	Test	.227	.169
	No test	-.277	.169
example	Industry specific	.354	.169
	generic	-.354	.169
(Constant)		7.422	.187

Importance values

method	13.700
video	25.268
question	16.001
price	38.281
test	2.641
example	4.108

Figure 1: Easily identify the attributes a group of consumers prefers.



Statistics Conjoint Features

Orthoplan

- Generate orthogonal main effects fractional factorial designs; orthoplan is not limited to two-level factors
- Specify variable list, optional variable labels, a list of values for each variable, and optional value labels
- Specify the desired number of cards for the plan; orthoplan will try to generate a plan in the desired minimum number of runs
- Generate holdout cards to test the fitted conjoint model
- Mix the training and holdout cards or stack the holdout cards after the training cards
- Save the plan file as a system file
- Display output in pivot tables

Plancard

- Use this utility procedure to produce printed cards for a conjoint experiment; the printed cards are used as stimuli to be sorted, ranked, or rated by the subjects
- Specify the variables to be used as factors and the order in which their labels are to appear in the output
- Choose a format
 - Listing-file format: Differentiate holdout cards from experimental cards, and then list simulation cards
 - Card format: Holdout cards are not differentiated and simulation cards are not produced
- Write the cards to an external file or the listing file
- Specify optional title and footer
- Specify pagination so that each new card in single-card format begins on a new page
- Display output in pivot tables.

Conjoint

- Perform an ordinary least-squares analysis of preference or rating data with this procedure
- Work with the plan file generated by plancards, or a plan file input by the user using a data list
- Work with individual level rank or rating data
- Provide individual level and aggregate results
- Treat the factors in any of a number of ways; conjoint indicates reversals
 - Discrete: Factor levels are categorical
 - Linear: Scores or ranks are linearly related to the factor
 - Ideal: A quadratic relationship is expected between the scores or ranks and the factor; this method assumes that there is an ideal level for the factor, and that distance from the ideal point in either direction is associated with decreasing preference
 - Antideal: A quadratic relationship is expected between the scores or ranks and the factor; this method assumes that there is a worst level for the factor, and that distance from this point in either direction is associated with increasing preference
- Work with experimental cards that have one of three scenarios
 - Training
 - Holdout
 - Simulation
- Select from three conjoint simulation methods
 - Max utility
 - Bradley-Terry-Luce (BTL)
 - Logit



- Print controls
 - Print only the results of the experimental (training and holdout) data analysis
 - Print only the results of the conjoint simulation
 - Print results of both the experimental data analysis and the conjoint simulation
- Write utilities to an external file
- Show print results with:
 - Attribute importance
 - Utility (part-worth) and standard error
 - Graphical indication of most to least preferred levels of each attribute
 - Counts of reversals and reversal summary
 - Pearson R for training and holdout data
 - Kendall's Tau for training and holdout data
 - Simulation results and simulation summary
- Display output in pivot tables



Statistics for Data Analysis solution

Add more analytical power, as you need it, with optional modules and stand-alone software from the Statistics for Data Analysis family.

Statistics Base

Statistics Base includes the core capabilities to take the analytical process from start to finish. It is easy to use and includes a broad range of procedures and techniques to increase revenue, outperform competitors, conduct research and make better decisions.

Statistics Advanced

Statistics Advanced includes these powerful multivariate techniques: generalized linear models (GENLIN), generalized estimating equations (GEE), mixed level models, general linear mixed models (GLMM), variance component estimation, MANOVA, Kaplan-Meier estimation, Cox regression, hiloglinear, loglinear and survival analysis.

Statistics Bootstrapping

Statistics Bootstrapping enables researchers and analysts to use bootstrapping techniques on a number of tests contained in Statistics for Data Analysis modules. This provides an efficient way to ensure that your models are stable and reliable. With Statistics Bootstrapping, you can reliably estimate the standard errors and confidence intervals of a population parameter like a mean, median, proportion, odds ratio, correlation coefficient, regression coefficient and numerous.

Statistics Categories

Unleash the full potential of your categorical data through perceptual maps with optimal scaling and dimension reduction techniques. This add-on module provides you with everything you need to analyze and interpret multivariate data and their relationships more completely.

Statistics Complex Samples

Incorporate complex sample designs into data analysis for more accurate analysis of complex sample data. Statistics Complex Samples, with specialized planning tools and statistics, reduces the risk of reaching incorrect or misleading inferences for stratified, clustered or multistage sampling.

Statistics Conjoint

Statistics Conjoint helps market researchers develop successful products. By performing conjoint analysis, you learn what product attributes are important in the consumer's mind and what the most preferred attribute levels are, and can perform pricing studies and brand equity studies.

Statistics Tables

Use Statistics Tables to present survey, customer satisfaction, polling and compliance reporting results. Features such as a table builder preview, included inferential statistics and data management capabilities make it easy to clearly communicate your results.



Statistics Preparation

With Statistics Preparation, you gain several procedures that facilitate the data preparation process. This add-on module enables you to easily identify suspicious and invalid cases, variables and data values; view patterns of missing data; summarize variable distributions to get your data ready for analysis; and more accurately work with algorithms designed for nominal attributes.

Statistics Decision Trees

Create highly visual classification and decision trees directly within Statistics for Data Analysis for segmentation, stratification, prediction, data reduction and variable screening, interaction identification, category merging and discretizing continuous variables. Highly visual trees enable you to present results in an intuitive manner.

Statistics Direct Marketing

Statistics Direct Marketing helps marketers perform various kinds of analyses easily and confidently, without requiring a detailed understanding of statistics. They can conduct recency, frequency and monetary value (RFM) analysis, cluster analysis, and prospect profiling. They can also improve marketing campaigns through postal code analysis, propensity scoring, and control package testing. And they can easily score new customer data and access pre-built models.

Statistics Exact Tests

Statistics Exact Tests always provides you with correct p values, regardless of your data structure, even if you have a

small number of cases, have subset your data into fine breakdowns or have variables where 80 percent or more of the responses are in one category.

Statistics Forecasting

Improve forecasting with complete time-series analyses, including multiple curve-fitting, smoothing models, methods for estimating autoregressive functions and temporal causal modeling. Use the Expert Modeler to automatically determine

which ARIMA (autoregressive integrated moving average) process or exponential smoothing model best fits your time-series and independent variables, eliminating selection through trial and error.

Statistics Missing Values

If values are missing from your data, this module may find some relationships between the missing values and other variables. In addition, the missing values module can estimate what the value would be if data weren't missing.

Statistics Neural Networks

Use the Statistics Neural Networks module to model complex relationships between inputs and outputs or to discover patterns in your data. Choose from algorithms that can be used for classification (categorical outcomes) and prediction (numerical outcomes). The two available algorithms are Multilayer Perceptron and Radial Basis Function.



Statistics Regression

Predict behavior or events when your data go beyond the assumptions of linear regression techniques. Perform multinomial or binary logistic regression and nonlinear regression, weighted least squares, two-stage least squares and probit analysis.

Complementary product

Use these products with Statistics for Data Analysis to enhance your analytical results.

Statistics Amos

Support your research and theories by extending standard multivariate analysis methods when using this stand-alone software package for structural equation modeling (SEM). Build attitudinal and behavioral models that more realistically reflect complex relationships, because any numeric variable, whether observed or latent, can be used to predict any other numeric variable. The latest release includes a new nongraphical method of model specification that improves accessibility for users who need scripting capabilities and enables large, complicated models to be run more quickly.