

IBM SPSS Statistics product catalog

Decisions — better outcomes through predictive analytics

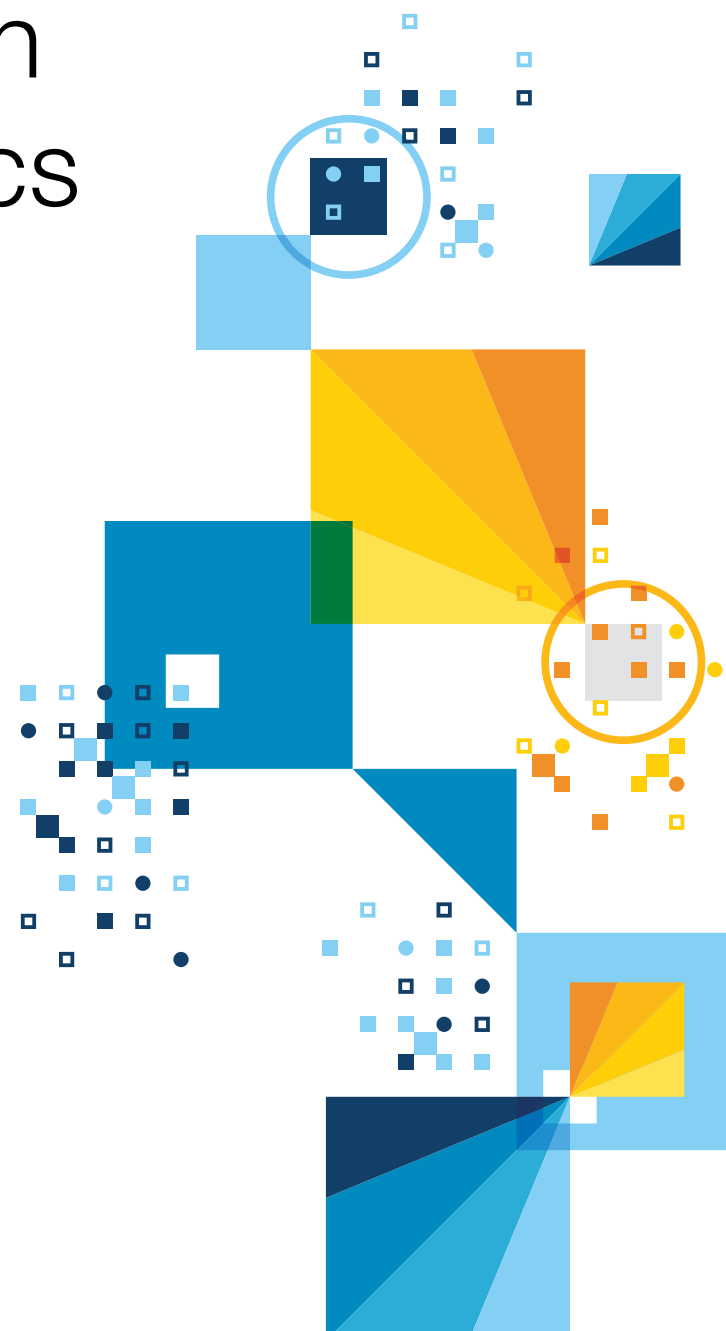


Table of contents

Who uses IBM SPSS analytics?	3
Introduction to predictive analytics	4
Follow the path to improved outcomes through predictive analytics	
Which SPSS product is right for you?	5
Solve your business and research problems using the right products	

Predictive and advanced analytics

Introducing IBM SPSS Statistics Subscription	6
Learn about SPSS Statistics Subscription, a new self-service analytics offering that provides more options	
Get more value with every release	7
What's new in version 25	
IBM SPSS Statistics	8
Improve productivity significantly, achieving superior results for business goals	
IBM SPSS Statistics Standard*	10
Discover an alternative to risky spreadsheets	
IBM SPSS Statistics Professional	12
See relationships in your data more clearly	
IBM SPSS Statistics Premium	14
An all-in-one edition designed for enterprise businesses with multiple advanced analytics requirements	
IBM SPSS Statistics Server	16
Analyze big data and data in dispersed organizations	
IBM SPSS Statistics Base	17
An ideal choice for data analysis	
IBM SPSS Advanced Statistics	20
Use powerful techniques to analyze complex data	
IBM SPSS Amos	22
Help get your research noticed—take your analysis to the next level	
IBM SPSS Bootstrapping	24
Help ensure the stability of your models	
IBM SPSS Catagories	26
Predict outcomes and reveal relationships through perceptual maps of categorical data	

IBM SPSS Complex Samples	28
More correctly and easily compute statistics for complex samples	
IBM SPSS Conjoint	30
Discover what drives your customers' purchase decisions	
IBM SPSS Custom Tables	32
Analyze data more easily and communicate results more effectively	
IBM SPSS Data Preparation	34
Improve data preparation for more accurate results	
IBM SPSS Decision Trees	36
Create classification trees for better identification of groups and relationships	
IBM SPSS Direct Marketing	38
More easily identify the right contacts and improve campaign ROI	
IBM SPSS Exact Tests	39
Reach more accurate conclusions with small samples or rare occurrences	
IBM SPSS Forecasting	40
Build expert time-series forecasts—in a flash	
IBM SPSS Missing Values	42
Build better models when you fill in the blanks	
IBM SPSS Neural Networks	44
Discover complex relationships in your data more easily	
IBM SPSS Regression	45
Make better predictions using regression procedures	

Social, survey and reporting

IBM SPSS Text Analytics for Surveys	47
More easily make your survey text responses usable in quantitative analysis	

Who uses IBM SPSS Statistics?

Businesses use analytics for:

- Sales and marketing forecasting and budgeting
- Database and direct marketing
- Product attribute testing
- New product development
- Financial account balancing
- Risk and credit management
- Customer and employee satisfaction surveys
- Planning for facility and staffing resources
- Market basket analysis
- Operational excellence

Colleges and universities use analytics for:

- Teaching and student assessment
- Administration
- Enrollment management
- Alumni development
- Research

Schools and school districts use analytics for:

- Student assessment
- Program assessment
- Community and staff surveys
- Planning and budgeting
- Facility maintenance scheduling

Government agencies use analytics for:

- Human capital management
- Program evaluation
- Community and employee surveys
- Fighting crime and protecting public safety
- Promoting public health
- Preventing fraud, waste and abuse
- Environmental impact studies

Medical and healthcare organizations use analytics for:

- Evidence-based medicine
- Treatment outcome analysis
- Behavioral and biomedical research
- Outcome management

Follow the path to improved outcomes through predictive analytics



CAPTURE information, PREDICT outcomes and ACT on insights

To get the answers you need for successful decision making, it's important to follow all the steps in the data analysis process—and using the right data analysis tools along the way can help you arrive at those decisions faster and more accurately.

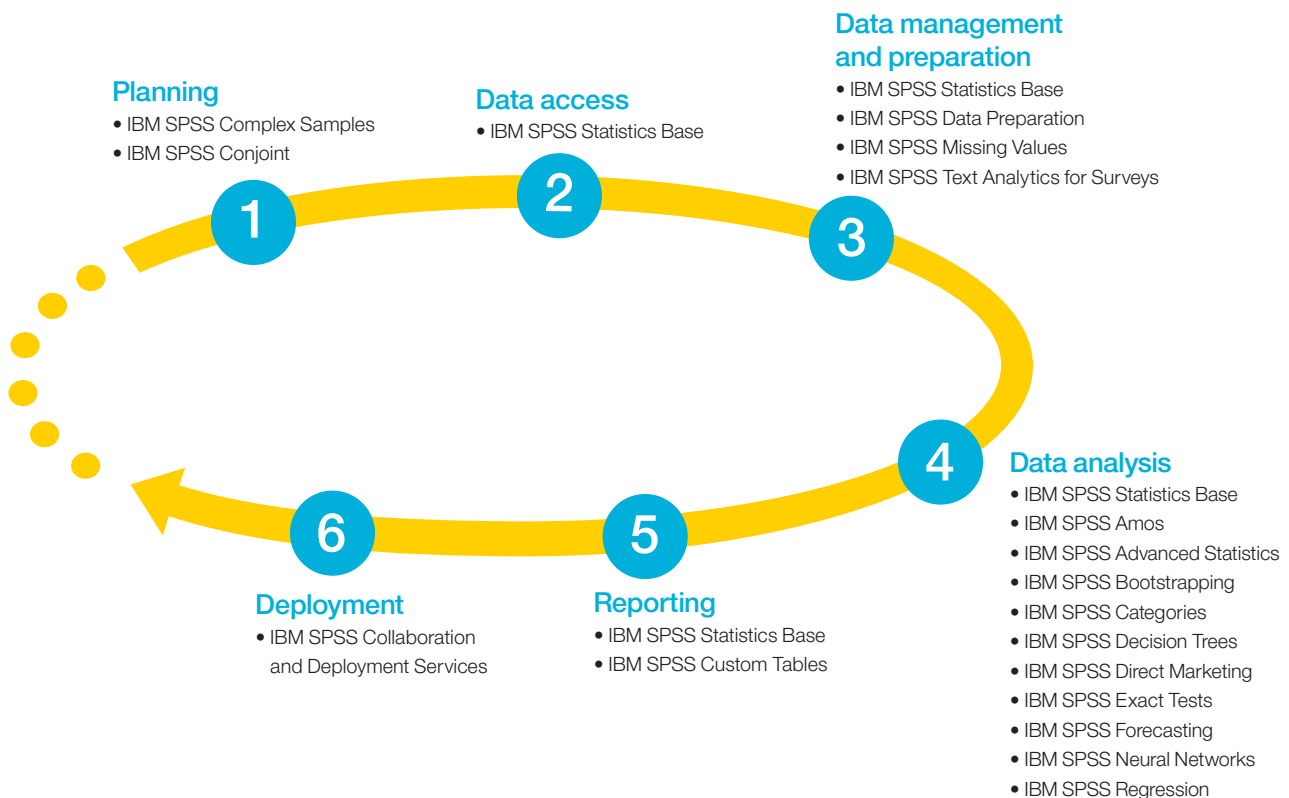
The process starts with **planning**. Beginning with the end result in mind, the first steps are to set objectives, identify data sources and carefully craft the process. The next step is **data access**, where data is brought in from available sources, using open database connectivity (ODBC) or direct file input. After that comes **data management and data preparation**, during which data is reviewed for suspicious, invalid or missing cases; variables; and data values. In the next step, **data analysis**, the data is examined, tested, explored and transformed. Patterns are identified, hypotheses are tested and information is extracted. Next comes **reporting**, where data is summarized, put in tables and charts, and made ready for consumption. The last step is **deployment**. Data, reports and procedures

are distributed to users globally, with interaction and access managed centrally. At this point, the process starts all over again to make sure you maintain your competitive advantage.

When your organization follows this analytical path, you can benefit in a number of ways. You can gain a better understanding of your current situation, consider the most appropriate options, predict what is likely to happen next and take actions to improve outcomes.

Potential benefits to your business include the ability to acquire, grow and retain customers; reduce costs; minimize risk and fraud; and improve efficiency.

IBM® SPSS® predictive analytics products are offered in an easy-to-integrate, open technology platform. So take a look at how you can turn your organization's data into a strategic asset that can give your business a competitive advantage.



Solve your business and research problems using the right products



Need help deciding which SPSS products you need for specific applications? Listed by product and function, this diagram guides you to the right products—so you can get the results you need more efficiently.

	SPSS Statistics Base	SPSS Conjoint	SPSS Missing Values	SPSS Regression	SPSS Advanced Statistics	SPSS Amos	SPSS Categories	SPSS Exact Tests	SPSS Complex Samples	SPSS Forecasting	SPSS Custom Tables	SPSS Decision Trees	SPSS Text Analytics for Surveys	SPSS Data Preparation	SPSS Bootstrapping	SPSS Direct Marketing	SPSS Neural Networks
Surveys, marketplace research and direct marketing																	
Customer satisfaction surveys	■		■	■	■	■	■	■	■		■	■	■	■	■		■
Product attribute testing	■	■		■			■						■	■	■		
Pricing and promotion analysis	■	■		■	■		■					■	■	■	■	■	■
Marketplace segmentation studies	■			■	■		■	■				■	■	■	■	■	■
Demographic studies and opinion polling	■			■	■	■	■		■		■		■	■	■	■	■
Database marketing and direct marketing	■		■	■	■		■	■	■			■	■	■	■	■	■
Academic																	
Teaching	■			■	■								■	■	■		■
Administration	■			■	■					■	■	■	■	■	■		■
Administrative research and human resources or resource planning																	
Program effectiveness	■		■	■	■							■	■	■	■		
Employee attitude and satisfaction surveys	■		■	■	■	■	■		■		■	■	■	■	■		■
Applicant selection and testing	■	■	■	■	■	■		■				■	■	■	■		■
Compensation and employment analysis	■		■	■	■					■			■	■	■		■
Medical, scientific and social science research																	
Treatment outcome analysis	■			■	■	■		■	■				■	■	■		■
Behavioral and biomedical research	■		■	■	■	■		■	■	■	■		■	■	■		■
Environmental impact studies	■			■	■			■		■			■	■	■		
Criminal justice studies	■		■	■	■	■	■	■	■	■	■		■	■	■		■
Outcomes management	■			■	■	■					■		■	■	■		■
Project management	■										■		■	■			
Research and development engineering	■		■	■	■								■	■	■		■
Planning and forecasting																	
Sales and marketing forecasting and budgeting	■		■	■						■				■	■		■
Resource requirements and forecasting	■		■	■						■			■	■	■		■
New product forecasting	■	■											■		■		
Quality improvement																	
Productivity and service quality	■			■				■		■	■			■	■		■
Manufacturing and productivity analysis	■			■				■		■	■			■	■		■
Reporting and ad hoc decision making																	
Fraud detection and noncompliance	■			■	■						■			■	■		■
Risk management and credit management	■			■	■						■		■	■	■		■
Reports to or from governmental agencies	■								■		■		■	■	■		
Industry trend analysis	■		■	■	■					■			■	■	■		
Property and tax assessment	■		■	■							■			■	■		■

Introducing IBM SPSS Statistics Subscription



IBM is providing businesses with more self-service analytics options that allow for advanced statistical capabilities and faster decision making. IBM SPSS Statistics Subscription delivers the power of SPSS Statistics predictive analytics capabilities with a flexible subscription payment option, including an easier purchasing, management and licensing experience.

With the introduction of SPSS Statistics Subscription, organizations, groups and individuals can take advantage of predictive analytics capabilities to deliver the maximum amount of value to the user. The simplicity of SPSS Statistics resonates throughout the customer experience—making it easier to do everything from downloading to updating your software.

Additional features of SPSS Statistics Subscription include:

- Three add-ons that extend the capabilities of the license to meet the needs of users at all skill levels
- A monthly payment option that offers the flexibility to use SPSS Statistics when needed
- Highly secured and easily scalable software with a simplified renewal process.

SPSS Subscription Base

Base Edition provides a wide variety of analytics capabilities. Access descriptive statistics, linear regression, and presentation quality graphing and reporting. You can access multiple data formats without any size constraints. Advanced data preparation capabilities enable you to eliminate labor-intensive manual checks. You can leverage bivariate statistics procedures, factor and cluster analysis, as well as bootstrapping. Additionally, you can extend your capabilities with R and Python.

Custom Tables and Advanced Statistics Add-on

The Custom Tables and Advanced Statistics Add-on provides easy-to-use drag-and-drop interactive tables exportable to Microsoft and PDF formats. You can access a variety of additional techniques, such as: non-linear, logistic, 2-stage least squares regression, generalized linear modeling and survival analysis.

Complex Sampling and Testing Add-on

The Complex Sampling and Testing Add-on provides functionality for small sample sizes, missing data and complex sampling. You can access regression with optimal scaling, including lasso and elastic net. Additional features include: categorical principal components analysis, multidimensional scaling and unfolding, and multiple correspondence analysis.

Forecasting and Decision Trees Add-on

The Forecasting and Decision Trees Add-on provides ARIMA and exponential smoothing forecasting capabilities. Classification and decision trees based on four established tree-growing algorithms are also available. You can also create neural network predictive models as well as RFM analysis to test marketing campaigns.



Convert from your IBM SPSS Statistics free trial to a subscription without making a single phone call.



Download the software, manage users and get upgrades—all on a single website—no license keys needed.



Access exclusive subscription features over time—because the software is always up to date.

Everything you need to manage your subscription resides on a single web page.

Get more value with every release of IBM SPSS Statistics software

We continually update our IBM SPSS Statistics product family to offer the power, versatility and ease of use you need to address some of your toughest analytical challenges. With each release, we add new procedures, features and platform support to help you work faster and more effectively.

If you're using an earlier version of IBM SPSS Statistics software, you'll gain all of these productivity-boosting features—and many more.



Watch the video.



Download a complimentary trial.



Visit the community.

What's new in version 25

IBM SPSS Statistics 25 continues to increase accessibility to advanced analytics through improved tools, integration, output and ease-of-use features. This release focuses on increasing the analytic capabilities of the software through:

- New and advanced Statistics
- Stronger integration with third-party applications
- Enhanced productivity

The latest features and functionality will be available in both IBM SPSS Statistics Subscription and in the perpetual license versions of IBM SPSS Statistics 25: Standard, Professional and Premium.

- Analyze your data with new and advanced statistics:
 - The Advanced Statistics module offers a variety of new features within GENLINMIXED and GLM/UNIANOVA methods
 - Employ Bayesian statistics, a method of statistical inference.
- Integrate better with third-party applications:
 - Stronger integration with Microsoft Office
- Save time and effort with productivity enhancements:
 - Chartbuilder enhancements for building more attractive and modern-looking charts
 - New groundbreaking features with SPSS Amos V25
 - Data and syntax editor enhancements
 - Accessibility improvements for the visually impaired
 - Updated merge user interface
 - Simplified toolbars

IBM SPSS Statistics

Improve productivity significantly, achieving superior results for business goals

With IBM SPSS Statistics software, you can:

- More easily access, manage and analyze virtually any kind of data set
- Gain reliable results with a broad range of tests and procedures
- Report results in easy-to-understand formats
- Leverage open source scripting languages such as R and Python to further extend your capabilities

Whether you are a beginner or an experienced analyst or statistician, IBM SPSS Statistics software puts the power of advanced statistical analysis in your hands.

Solves business and research problems

IBM SPSS Statistics software offers superior capabilities, flexibility and usability that are not available in traditional statistical software.

Organizations around the world rely on it to:

- Identify which customers are likely to respond to specific promotional offers
- Forecast future trends to better plan organizational strategies, logistics and manufacturing processes
- Detect fraud and minimize business risk
- Report test and program results to the government and other regulatory agencies
- Identify groups, discover relationships between groups and predict future events

Improves the analytical process

IBM SPSS Statistics software addresses the analytical process from planning and data preparation to analysis, reporting and deployment. It enables you to get a quick look at your data, formulate hypotheses for additional testing and then carry out a number of statistical and analytic procedures to help clarify relationships between variables, create clusters, identify trends and make predictions.

Quickly access and analyze massive data sets

IBM SPSS Statistics software makes it easy for you to quickly access, manage and analyze virtually any kind of data set, including survey data, corporate databases or data downloaded from the web. It can also process Unicode data, enabling your organization to view, analyze and share data written in multiple languages.

Prepare your data in a flash

With IBM SPSS Statistics software, you can prepare data for analysis more quickly and more easily. You can virtually eliminate the time-consuming task of labeling your data by creating your labels once and applying them to your entire data set. Make sure your data is clear and organized properly for analysis by automatically identifying duplicate cases.

In addition, Visual Binning allows you to more easily create bands (such as breaking income into bins of 10,000 or ages into demographic groups). A histogram then enables you to interactively create cut points and automatically create data value labels for them.

Powerful statistics for better analysis

IBM SPSS Statistics software includes an extensive variety of procedures for descriptive analysis, numerical prediction, group identification and forecasting that help you quickly generate more accurate results for specific data types. And through the IBM SPSS Statistics Programmability Extension, users can create procedures in third-party programming languages, such as Python, Microsoft .NET and Java, as well as access and use the many statistical procedures written in R.

Easy, flexible reporting options

IBM SPSS Statistics software makes it easier to integrate your output into your reports by enabling you to automatically export results into Microsoft Word, PowerPoint and Excel (including Excel 2010) and as an Adobe PDF. In addition, through the Custom Dialog Builder, you can create procedures and make them available to others, making it easier to ensure that all analyses are performed correctly.

Specifications: System requirements

IBM SPSS Statistics 25 for Windows

- Operating system: Microsoft Windows 10 (Home, Professional, 64-bit), Windows Server 2012 (Standard or R2 Standard, Foundation, Essentials or R2 Essentials, Datacenter or R2 Datacenter), Windows Server 2008 (Web or R2 Web) Enterprise or R2 Enterprise, Datacenter or R2 Datacenter), Windows 8 (Enterprise, Professional, Standard 32-bit or 64-bit), Windows 7 (32-bit or 64-bit), Windows 8.1 (Enterprise, Professional, Standard 32-bit or 64-bit)
- Hardware
 - Intel or AMD x86 processor running at 2 GHz or higher
 - Memory: 4 GB of RAM or more is required, 8 GB of RAM or more is recommended for 64-bit client platforms

- Minimum free drive space: 2 GB of available hard-disk space. If you install more than one help language, each additional language requires 60–70 MB of free disk space
- 1024x768 or higher-resolution monitor
- For connecting with IBM SPSS Statistics Server technology, a network adapter running the TCP/IP network protocol

IBM SPSS Statistics 25 for Mac

- Operating system
 - Apple Mac OS X 10.11 (El Capitan)
- Hardware
 - Intel processor (32-bit and 64-bit)
 - Memory: 14 GB of RAM or more is required, 8 GB of RAM or more is recommended for 64-bit client platforms

- Minimum free drive space: 2 GB of available hard-disk space. If you install more than one help language, each additional language requires 60–70 MB of free disk space
- 1024x768 or higher-resolution monitor

IBM SPSS Statistics 25 for Linux

- Operating system: Ubuntu 14.04 LTS, Red Hat Enterprise Linux (Client 6, Client 7), Debian (6.0, 7.0)
- Installing help in all languages requires 1.1 GB of free disk space

For comprehensive, detailed compatibility reports, please visit the [IBM software compatibility reports tool](#).

Florida Department of Juvenile Justice brings crime to the lowest level in years by predicting more effective ways to treat young offenders

The Florida Department of Juvenile Justice (DJJ) is shaping better outcomes for young people. Powerful analytics solutions from IBM—part of the IBM Watson™ Foundations family—are helping the agency dig deeper into big data on young offenders, predict the likely outcomes of different rehabilitation methods, and work more effectively with social services to get children on the right track and out of the justice system. This helps DJJ make better decisions about how to deliver social services, address problems sooner and help children turn their lives around. The results speak for themselves: arrests have fallen by 23 percent since 2010–2011, putting the juvenile arrest rate at its lowest level since 1994.

“With tools like IBM SPSS Modeler and IBM SPSS Statistics Base, we can extract relevant data and run complex analyses, which play a crucial role in helping us to design and assess the success of different programs and to demonstrate these results to stakeholders,” says Mark Greenwald, the director of research and planning at DJJ.

To make smart decisions about the correct treatment and rehabilitation path for each young person, it is important for DJJ to build an accurate profile of a child’s individual level of risk by reviewing key predictors, such as past offense history, homelife environment, gang affiliation and peer associations. Accurate risk assessment represents just one step on the pathway to reducing juvenile delinquency. An even more important task is to ensure that the right intervention and rehabilitation methods are applied at the right time to improve outcomes for young people and lower their likelihood of committing an offense.

The DJJ and the state of Florida believe that if youth are rehabilitated with effective prevention, intervention and treatment services early in life, they will not enter the adult corrections system. Former Secretary Wansley Walters of DJJ concludes: “With IBM software and services, we believe we are building a smarter technology infrastructure that sharpens our experience as subject matter experts. The result is that young people become—and stay—law-abiding citizens.”



A redesigned landing page makes it easier to find the SPSS Statistics features you need quickly



Use conditional formatting to highlight cell background and text within tables based on the cell value.

		Reason for Stay			
		Special Event	Vacation	Conference	Business
		Count	Count	Count	Count
Why did you choose this hotel?	Services Offered	24	23	3	27
	Proximity	14	62	25	44
	Price	8	43	21	41
	Decision made by another	6	15	5	16
	Other	5	2	0	6

Draw attention to specific results by applying attributes such as color to individual table cells or rows.



View interactive SPSS Statistics reports via your web browser from smartphones and tablets, including Apple iPhone, iPad and iPod; Microsoft Windows; and Google Android devices.

IBM SPSS Statistics Standard

Discover an alternative to risky spreadsheets

SPSS Statistics Standard software enables on-the-go decision making and improves simulation modeling

IBM SPSS Statistics Standard software includes enhancements that enable mobile users to view results on their smart devices. This release also provides more simulation modeling techniques as well as enhancements to improve overall performance. The latest version of SPSS Statistics Standard brings you:

- Easily consumable analytical output: View and interact with SPSS Statistics output on multiple types of smart devices and platforms and create presentation-ready reports.
- More powerful simulation modeling: Improve model accuracy with enhanced Monte Carlo simulation, which includes new features such as heat maps, automatic linear modeling and simulating strings.
- Specialized techniques to improve overall performance: Obtain more accurate results faster and increase productivity and effectiveness.

The IBM SPSS Statistics Standard edition includes the following key capabilities:

Linear models offer a variety of regression and advanced statistical procedures designed to fit the inherent characteristics of data describing complex relationships.

- SPSS Statistics Standard software includes GLMM for use with hierarchical data.
- This software has general linear models (GLM) and mixed models procedures.
- It includes generalized linear models (GENLIN), including widely used statistical models such as linear regression for normally distributed responses, logistic models for binary data and loglinear models for count data. GENLIN also offers many useful statistical models through its very general model formulation.
- Generalized estimating equations (GEE) procedures extend GENLIN models to accommodate correlated longitudinal data and clustered data.



Watch the video.



Download the solution brief.



Buy now.

Nonlinear models provide the ability to apply more sophisticated models to data.

- Multinomial logistic regression (MLR) predicts categorical outcomes with more than two categories.
- Binary logistic regression classifies data into two groups.
- Nonlinear regression (NLR) and constrained nonlinear regression (CNLR) estimate parameters of nonlinear models.
- Probit analysis evaluates the value of stimuli using a logit or probit transformation of the proportion responding.

Simulation capabilities help analysts automatically model many possible outcomes when inputs are uncertain, improving risk analysis and decision making.

- Monte Carlo simulation techniques enable you to create simulated data sets based on existing data or known parameters when the existing data is inadequate.
- Nonnumeric variables such as “male” and “female” can be simulated without recoding them as numeric variables.
- Existing predictive models and data can be used as the starting points for your simulation, including models exported from ALM and IBM SPSS Modeler software.
- Associations between categorical inputs are automatically determined and used when generating data for the inputs.
- Results are calculated over and over, using a different set of random values to produce distributions of possible outcome values and enabling users to select the best one.
- The advanced techniques within SPSS Statistics software can be used to analyze simulation results and create charts and graphs to convey outcomes and recommended actions to decision makers.

IBM SPSS Statistics Professional

See relationships in your data more clearly

Tools to address the challenges of the analytic lifecycle

IBM SPSS Statistics Professional Edition software goes beyond the core statistical capabilities offered in SPSS Standard Edition software to address issues of data quality, data complexity, automation and forecasting. It is designed for users who perform many types of in-depth and nonstandard analyses and who need to save time by automating data preparation tasks.

IBM SPSS Statistics Professional Edition software includes the following key capabilities:

- **Linear models** offer a variety of regression and advanced statistical procedures designed to fit the inherent characteristics of data describing complex relationships.
- **Nonlinear models** provide the ability to apply more sophisticated models to data.
- **Simulation capabilities** help analysts automatically model many possible outcomes when inputs are uncertain, improving risk analysis and decision making.
- **Customized tables** enable users to more easily understand their data and quickly summarize results in different styles for different audiences.

In depth and nonstandard analysis

Data preparation streamlines the data preparation stage of the analytical process.

- SPSS Statistics Professional software identifies suspicious or invalid cases, variables and data values.
- The software lets you view patterns of missing data and summarize variable distributions.
- Optimal binning finds the best possible outcome for algorithms designed for nominal attributes.
- The automated data preparation (ADP) tool detects and corrects quality errors and imputes missing values in one efficient step.
- Recommendations and visualizations help you determine which data to use.



Buy now.

Data validity and missing values increase the chance of receiving statistically significant results.

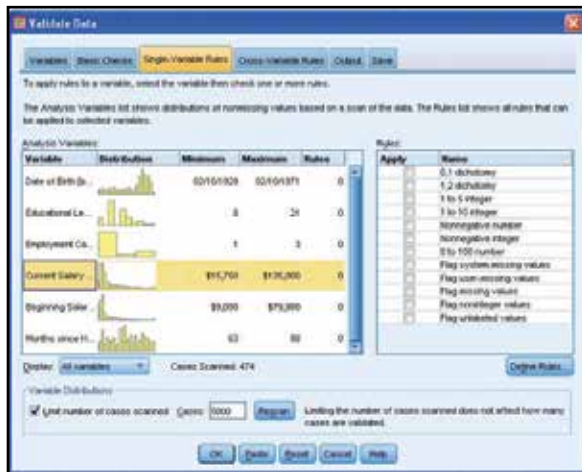
- SPSS Statistics Professional software examines data from several angles using one of six diagnostic reports and then estimates summary statistics and imputes missing values.
- It diagnoses serious missing data imputation problems.
- The software replaces missing values with estimates.
- It displays a snapshot for each type of missing value and any extreme values for each case.
- Hidden bias is removed by replacing missing values with estimates to include all groups—even those with poor responsiveness.

Decision trees make it easier to identify groups, discover relationships between groups and predict future events.

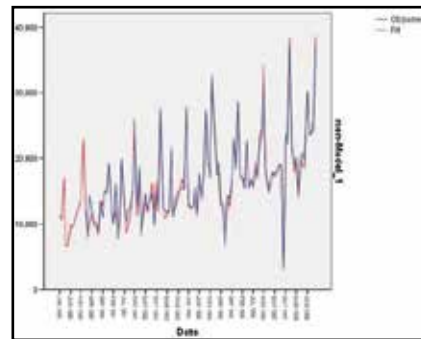
- SPSS Statistics Professional software visually determines how your model flows so you can find specific subgroups and relationships.
- The software creates classification trees directly within IBM SPSS Statistics software so you can use results to segment and group cases directly within the data.
- It includes four established tree-growing algorithms:
 - CHAID: A fast, statistical, multiway tree algorithm that explores data quickly and efficiently and builds segments and profiles with respect to the desired outcome
 - Exhaustive CHAID: A modification of CHAID that examines all possible splits for each predictor
 - Classification and Regression Trees (C&RT): A complete binary tree algorithm that partitions data and produces accurate, homogeneous subsets
 - QUEST: A statistical algorithm that selects variables without bias and builds accurate binary trees quickly and efficiently
- Selection or classification and prediction rules are generated in IBM SPSS Statistics syntax, SQL statements or simple text (through syntax).

Forecasting features enable you to analyze historical data and predict trends faster.

- SPSS Statistics Professional software enables you to deliver information in ways that your organization's decision makers can understand and use.
- It automatically determines the best-fitting ARIMA or exponential smoothing model to analyze your historical data.
- Hundreds of time series can be modeled at once rather than one variable at a time.
- Models are saved to a central file so forecasts can be updated when data changes without having to reset parameters or reestimate models.
- Scripts can be written to update models with new data automatically.



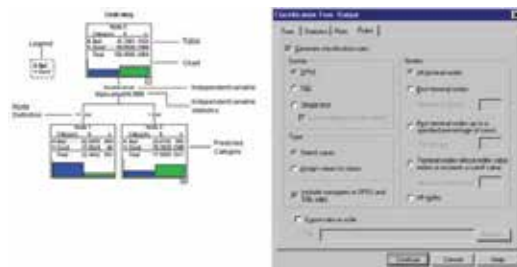
Validate data without manual checks to perform faster, more accurate data validation.



Models and procedures can help you get the most from your time-series analysis.



Quickly diagnose missing data imputation problems using diagnostic reports.



IBM SPSS Decision Trees software helps you better identify groups, discover relationships between them and predict future events.

IBM SPSS Statistics Premium

An all-in-one edition designed for enterprise businesses with multiple advanced analytics requirements

IBM SPSS Statistics Premium Edition software helps data analysts, planners, forecasters, survey researchers, program evaluators and database marketers—among others—more easily accomplish tasks at virtually every phase of the analytical process. It includes a broad array of integrated SPSS Statistics capabilities and related products for specialized analytical tasks across the enterprise. The software can improve productivity significantly and help achieve superior results for specific projects and business goals.

IBM SPSS Statistics Premium Edition software includes the following capabilities:

- **Linear models** offer a variety of regression and advanced statistical procedures designed to fit the inherent characteristics of data describing complex relationships.
- **Nonlinear models** provide the ability to apply more sophisticated models to data.
- **Simulation capabilities** help analysts automatically model many possible outcomes when inputs are uncertain, improving risk analysis and decision making.
- **Customized tables** enable users to more easily understand their data and quickly summarize results in different styles for different audiences.
- **Data preparation** streamlines the data preparation stage of the analytical process.
- **Data validity and missing values** increase the chance of receiving statistically significant results.
- **Categorical and numeric data** can be used to predict outcomes and reveal relationships graphically.
- **Decision trees** make it easier to identify groups, discover relationships between groups and predict future events.
- **Forecasting** features enable you to analyze historical data and predict trends faster.



Buy now.

Advanced analytics requirements

Structural equation modeling tools let you build structural equation models with more accuracy than standard multivariate statistics models using intuitive drag-and-drop functionality. SPSS Statistics Premium software tests hypotheses and confirms relationships among observed and latent variables—moving beyond regression to gain additional insight.

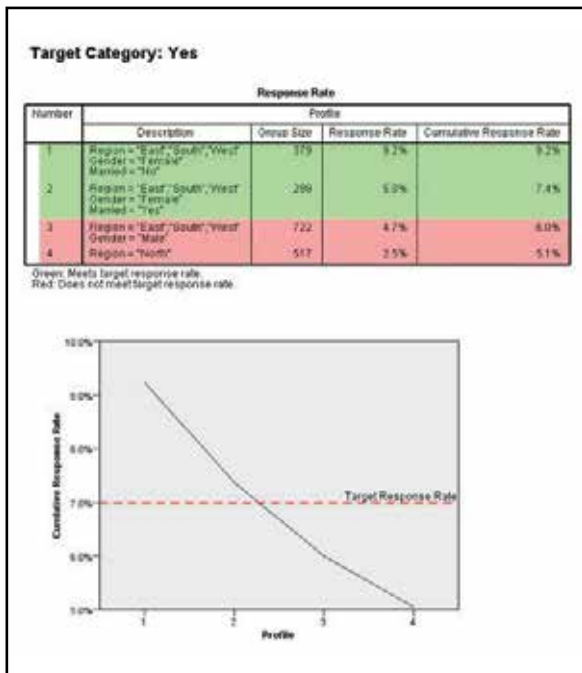
- It lets you build models that more realistically reflect complex relationships because any numeric variable, whether observed (such as nonexperimental data from a survey) or latent (such as satisfaction and loyalty), can be used to predict any other numeric variable.
- The software's visual framework compares, confirms and refines models.
- Multivariate analysis encompasses and extends standard methods—including regression, factor analysis, correlation and analysis of variance.
- This product includes three data imputation methods: regression, stochastic regression and Bayesian.

Bootstrapping makes it simple to test the stability and reliability of models so they produce accurate, reliable results.

- Statistics Premium software estimates the sampling distribution of an estimator by resampling with replacement from the original sample.
- It estimates the standard errors and confidence intervals of a population parameter such as the mean, median, proportion, odds ratio, correlation coefficient and regression coefficient.
- The software lets you create thousands of alternate versions of your data sets for more accurate analysis.

Advanced sampling assessment and testing helps make more statistically valid inferences by incorporating the sample design into survey analysis.

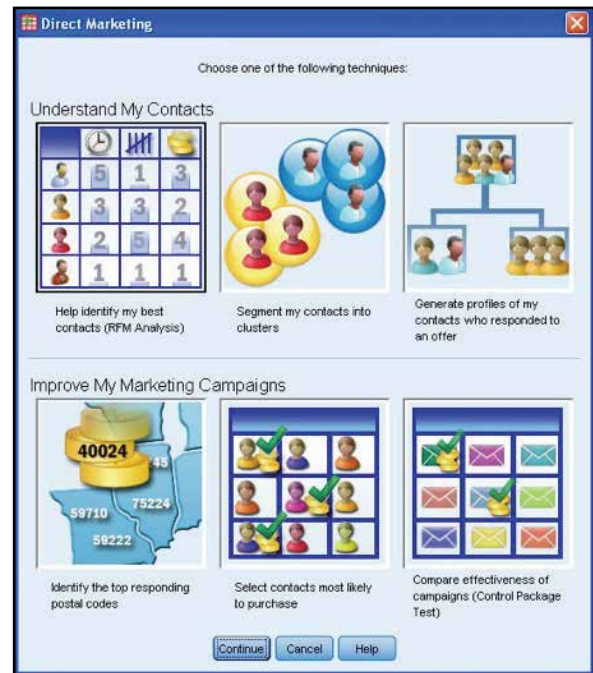
- SPSS Statistics Premium software provides the specialized planning tools and statistics needed to work with complex sample designs, such as stratified, clustered or multistage sampling.
- It helps you achieve better results because it incorporates the sample design into survey analysis.
- Users can more accurately work with numerical and categorical outcomes in complex sample designs using algorithms for analysis and prediction, including predicting time to an event.
- Wizards make it easy to create plans, analyze data and interpret results.



Improve target response rate quickly and effectively.

Direct marketing and product decision-making tools help marketers identify the right customers more easily and improve campaign results.

- SPSS Statistics Premium software segments customers or contacts by creating clusters of those who are like each other and distinctly different from others.
- The software profiles customers or contacts with shared characteristics to improve the targeting of marketing offers and campaigns.
- It develops propensity scores to identify those who are most likely to purchase.
- Test package performance can be compared to control packages.
- Responses to campaigns are identified by postal code.
- Campaign response data integrates with Salesforce.com to track leads and report on sales pipelines.



More easily identify the right customers and improve campaign results.

IBM SPSS Statistics Server

Analyze big data and data in dispersed organizations



With IBM SPSS Statistics Server technology, you can:

- Analyze massive data files faster
- Support distributed offices in performing analytics efficiently
- Improve analyst productivity



Download the solution brief.

IBM SPSS Statistics Server technology offers all the features of IBM SPSS Statistics software but with faster performance because the processing is centralized on the server machine. This eliminates the need to transfer data over the network, which can save time, improve productivity and enhance security. Analysts can work in their application of choice without the disruption of waiting for a long-running job to complete and can initiate multiple jobs at the same time.

Faster performance

IBM SPSS Statistics Server technology offers faster performance across your enterprise when working with large data sets having multiple predictors. There is no limit on the number of CPUs or cores that an analytical procedure can use and no limit on the number of threads that can be used for multithreaded procedures. Operations such as sorts and aggregates can be pushed back to the database, where they can be performed faster. Temporary files created by analytical procedures can be striped over multiple disks, which also helps speed analytical processing. And with this latest release, creating pivot tables in the output is now two to three times faster than before. In addition, you can now run IBM SPSS Statistics Server technology on your IBM System z machines using a Linux operating system for more powerful, enterprisewide analysis.

“We’ve done a huge amount of work to make sense of the data we’ve generated. It’s a gold mine, and it’s given us fantastic insights into our business.”

— John Walsh, energy and carbon manager, Tesco Ireland

Better security and standardization

Because data is stored in a central location, standard processes can be enforced to help ensure that all analysts are using the latest versions of a syntax or data file. Network administrators can use a single administrative utility for working with IBM SPSS Statistics Server, IBM SPSS Modeler Server and IBM SPSS Collaboration and Deployment Services technology. Centralization can also enhance security, helping you better protect sensitive data and intellectual property.

Architected for scalability

When integrated with IBM SPSS Collaboration and Deployment Services software, SPSS Statistics Server technology can be clustered to provide network load balancing and failover protection. This helps ensure that it can seamlessly scale from addressing the analytic needs of a single department to addressing those of hundreds and even thousands of users across the enterprise.

When you combine the strength of world-class analytical tools and techniques with the flexibility and speed of server functionality, you have a powerful solution for supporting better decision making throughout your enterprise.

Specifications: System requirements

Operating system

- Microsoft Windows Server 2008 or 2003 (32-bit or 64-bit), Oracle Solaris, IBM AIX® (IBM PowerPC®) software, IBM System z hardware running Linux 64-bit only, HP-UX, Red Hat Enterprise Linux Advanced Platform, SUSE Linux Enterprise or IBM InfoSphere® Classic Federation Server for z/OS® technology

Hardware

- Minimum CPU: Two CPUs recommended, running 1 GHz or higher
- Memory: 4 GB RAM per expected concurrent user
- Minimum free drive space: 500 MB for installation with additional space required to run the program (for temporary files)
- Other: A network adapter running the TCP/IP protocol

Available on the following platforms: Windows, Oracle Solaris, Linux, IBM AIX, HP-UX, IBM System z Running Linux

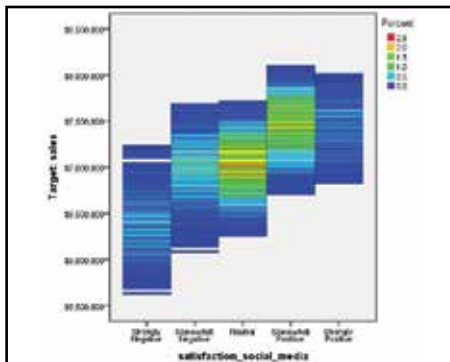
IBM SPSS Statistics Base

An ideal choice for data analysis

With IBM SPSS Statistics Base software, you can:

- Quickly access and manage data
- Get a “first look” through descriptive statistics
- Perform fundamental tests to classify data, uncover relationships and make predictions

You can take the analytical process from start to finish with IBM SPSS Statistics Base software. In addition to the data preparation, data management, output management and charting features now available in all IBM SPSS Statistics modules, IBM SPSS Statistics Base software offers one of the most frequently used procedures for statistical analysis—the fundamental toolset that virtually every analyst should have.



A company generates heat maps to determine whether customer satisfaction levels extracted from social media data have an effect on its monthly sales target of USD7 million. When the satisfaction level is “neutral,” the monthly sales numbers are spread roughly evenly around the sales target. However, when the social media satisfaction level is “somewhat positive,” the sales distribution shifts so that the bulk of the distribution (for that satisfaction level) exceeds the target. This suggests that customer satisfaction levels as measured by social media data are an integral part of achieving a sales target.

These procedures will enable you to get a quick look at your data, formulate hypotheses for additional testing and then carry out a number of procedures to help clarify relationships between variables, create clusters, identify trends and make predictions.

SPSS Statistics Base software even offers Monte Carlo simulation techniques to build better models and assess risk when inputs are uncertain.

Get a quick data “snapshot”

You can quickly understand the basic structure of your data through the foundational statistics in IBM SPSS Statistics Base. These include cross-tabulations, frequencies, descriptives, descriptive ratio statistics, ANOVA and ANCOVA, correlation, and the procedures for comparing means and exploring data.



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

Make better decisions using Monte Carlo simulation

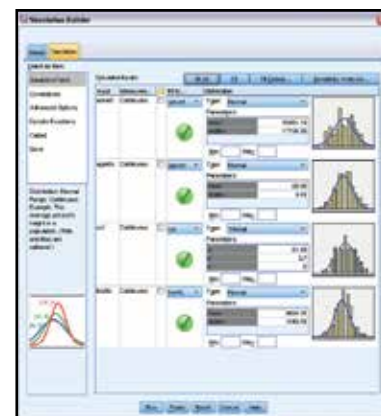
SPSS Statistics software combines the power of predictive analytics with the what-if capabilities of Monte Carlo simulation to help you assess risk and deal with uncertainty in predictive models.

- Assess what-if scenarios
- Simulate data according to user-specified parameters and then use that simulated data as input to predict an outcome
- Adjust the parameters used to simulate the data and compare outcomes

Start with your existing models and data

With SPSS Statistics software, you don't need to specify your entire model. You can use your existing predictive models and data as the starting points for your simulation. The predictive models can be built in SPSS Statistics or SPSS Modeler software and can be used to specify the strength of the inputs. SPSS Statistics software can use existing similar data you have to fit the distribution of the inputs and the correction of the inputs automatically.

You can also modify the parameters used to simulate the data and compare outcomes. For example, you may want to simulate various advertising budget amounts to find out how that affects total sales. Depending on the outcome of the simulation, you might decide to spend more on advertising to meet your total sales goal.



When the existing data is inadequate, create simulated data sets based on existing data, known parameters or both.

Person	Sex	Age	Height	Weight	Hair	Eyes	Complexion	Religion	Marital Status	Occupation	Income	Education
1	Female	23.00	158.00	55.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
2	Female	25.00	160.00	58.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
3	Female	27.00	162.00	60.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
4	Female	29.00	164.00	62.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
5	Female	31.00	166.00	64.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
6	Female	33.00	168.00	66.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
7	Female	35.00	170.00	68.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
8	Female	37.00	172.00	70.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
9	Female	39.00	174.00	72.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
10	Female	41.00	176.00	74.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
11	Female	43.00	178.00	76.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
12	Female	45.00	180.00	78.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
13	Female	47.00	182.00	80.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
14	Female	49.00	184.00	82.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
15	Female	51.00	186.00	84.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
16	Female	53.00	188.00	86.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
17	Female	55.00	190.00	88.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
18	Female	57.00	192.00	90.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
19	Female	59.00	194.00	92.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
20	Female	61.00	196.00	94.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
21	Female	63.00	198.00	96.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
22	Female	65.00	200.00	98.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School
23	Female	67.00	202.00	100.00	Black	Blue	Fair	Protestant	Married	Teacher	15000	High School

The data editor makes it easier to manage data from IBM SPSS Statistics files as well as text files and data from other applications and databases.

With SPSS Statistics 22 software, you can take your SPSS Statistics charts and tables wherever you go and make decisions virtually anytime, anywhere. The latest release enables you to view output on the following platforms and devices without the need for a dedicated smart reader or other application:

- Windows, Mac and Linux desktop environments
- Apple iPod, iPhone and iPad
- Google Android phones and tablets (versions 2.1 and above)
- Windows 8 devices

Even if you use one or more of the other modules in the IBM SPSS Statistics family for specific kinds of analysis, IBM SPSS Statistics Base software will continue to form the basis of many deployments because it contains statistical tests and procedures that are fundamental to many analyses.

Map relationships in your data

IBM SPSS Statistics Base software also includes a number of procedures to help you identify groups and predict outcomes. These procedures include:

- Factor analysis
- K-means cluster analysis
- Hierarchical cluster analysis
- Two-step cluster analysis
- Discriminant analysis
- Linear regression
- Ordinal regression (also called PLUM)
- Nearest neighbor analysis

IBM SPSS Statistics Extensions for R, Python and SPSS Syntax

provide powerful features for users by offering a constant stream of new content without requiring a separate purchase or a new product installation. Extensions are easy and fun to try. Just navigate to the new Extensions menu to download and build one.



Descriptive statistics

- Cross-tabulations
- Frequencies, descriptives, explore, descriptive ratio statistics

Bivariate statistics

- Means, t tests, ANOVA, correlation (bivariate, partial, distances) and nonparametric tests

Prediction for numerical outcomes and identifying groups

- Factor analysis
- K-means cluster analysis
- Hierarchical cluster analysis
- Two-step cluster analysis
- Discriminant
- Linear regression
- Ordinal regression—PLUM
- Multithreaded algorithms: SORT, correlation, partial correlation, linear regression, factor analysis
- Nearest neighbor analysis, which can be used for prediction or for classification
- Nonparametric tests provide multiple comparisons and perform efficiently on large data sets
- Monte Carlo simulation
- Data editor
 - Configure attributes so that some can be hidden
 - Spell check value labels and variable labels
 - Sort by variable name, type, format and more
 - Use find and replace functionality
- Easily eliminate duplicate records with the Identify Duplicate Cases tool
- Make sense and keep track of your data files by adding notes to them with the Data File Comments command
- Create read-only data sets
- More accurately describe your data using longer variable names (up to 64 bytes)
- Create value labels up to 120 characters
- Clone or duplicate data sets
- Apply an extended Variable Properties command to customize properties for individual users
- Longer text strings (up to 32,000 bytes)
- Define Variables Properties tool
- Right-click on the variable to choose its descriptive statistics
- Copy Data Properties tool
- Data Restructure wizard
- Aggregate data to external or to the active data file
- Automatically convert string variables to numeric with autorecode
 - Spell-checking of long text strings
- Date and Time wizard:
 - Easily work with data containing time and dates in IBM SPSS Statistics software
 - Create a time or date variable from a string containing a date variable
 - Create a time or date variable from variables that include individual date units, such as month or year
 - Calculate times and dates
 - Separate a date unit from a time or date variable

- Apply splitters in the data editor for easier viewing of wide or long data files
- Create your own dictionary information for variables by using custom attributes
- Customize the viewing of extremely wide files with variable sets
- Use syntax to change string length and basic data type
- Set a permanent default working directory

Transformations

- More easily find and replace text strings in your data using the find and replace function
- Recode string or numeric value
- Recode values into consecutive integers
- Create conditional transformations using DO IF, ELSE IF, ELSE and END IF statements
- Use programming structures, such as do repeat-end repeat, loop-end loop and vectors
- Compute variables using arithmetic, cross-case, date and time, logical, missing-value, random-number, statistical, or string functions
- Create variables that contain the values of existing variables from preceding or subsequent cases
- Count occurrences of values across variables
- Make transformations permanent or temporary
- Execute transformations immediately, batched or on demand

Reporting

- Reports
 - Online analytical processing (OLAP) cubes
 - Case summaries
 - Report summaries

Graphs

- Categorical charts
 - 3-D bar: Simple, cluster and stacked
 - Bar: Simple, cluster, stacked, dropped shadow and 3-D
 - Line: Simple, multiple and drop-line
 - Area: Simple and stacked
 - Pie: Simple, exploding and 3-D effect
 - High-low: High-low-close, difference area and range bar
 - Box plot: Simple and clustered
 - Error bar: Simple and clustered
 - Error bars: Add to bar, line and area charts; confidence level; S.D.; or S.E.
 - Dual-Y axes and overlay subgroups, display spikes to line
- Scatterplots
 - Simple, grouped, scatterplot matrix and 3-D
 - Fit lines: Linear, quadratic or cubic regression; Lowess smoother; confidence interval control for total or bivariate statistics
 - Bin points by color or marker size to prevent overlap

- Density charts
 - Population pyramids: Mirrored axis to compare distributions, with or without normal curve
 - Dot charts: Stacked dots show distribution; symmetric, stacked and linear
 - Histograms: With or without normal curve; custom binning options
- Quality control charts
 - Pareto, X-bar, range, Sigma, individual chart or moving range chart
 - Rule-checking performed on primary and secondary charts
 - Automatic flagging of points that violate Shewhart rules, the ability to turn off rules and the ability to suppress charts
- Diagnostic and exploratory charts
 - Case plots and time-series plots
 - Probability plots
 - Autocorrelation and partial autocorrelation function plots
 - Cross-correlation function plots
 - Receiver-operating characteristics
- Multiple use charts
 - 2-D line charts (with two-scale axes)
 - Charts for multiple response sets
- Custom charts
 - Graphics Production Language (GPL), a custom chart creation language, enables advanced users to attain a broader range of chart and option possibilities than the interface supports to create mixed charts and more
- Layout options
 - Paneled charts: Create a table of subcharts, one panel per level or condition; multiple row and columns
 - 3-D effects: Rotate, modify depth and display backplanes
- Chart templates
 - Save selected characteristics of a chart and apply them to others automatically
 - Apply the following attributes at creation or edit time: Layout, titles, footnotes and annotations; chart element styles; data element styles; axis scale range; axis scale settings; fit and reference lines; and scatterplot point binning
 - Tree-view layout and finer control of template bundles

System requirements

- Please see p. 8 for complete system requirements

IBM SPSS Advanced Statistics

Use powerful techniques to analyze complex data

Created to provide you with more statistical power, IBM SPSS Advanced Statistics software enables you to reach more accurate conclusions. Consider what it would be like to harness sophisticated univariate and multivariate analytical techniques and unleash them on your data.

You can reach more dependable conclusions with procedures designed to fit the inherent characteristics of data describing complex relationships. IBM SPSS Advanced Statistics software provides a powerful set of sophisticated techniques designed to help you solve real-world problems, such as:

- **Medical research:** Analyze patient survival rates
- **Manufacturing:** Assess production processes
- **Pharmaceutical compliance:** Report test results to the U.S. Food and Drug Administration (FDA)
- **Marketplace research:** Determine product interest levels

It's time to step up your analysis when you require multiple outcomes or want to measure outcomes over time, analyze data with hierarchical structure or estimate length of time until an event.



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

With IBM SPSS Advanced Statistics software, you can:

- Move beyond basic analysis
- Build flexible models using a wealth of model-building options
- Achieve more accurate predictive models using a wide range of modeling techniques

Break through the barrier between general analysis and advanced modeling, and begin reaping the rewards today.

Specifications: Key features

GLMM

Extends the linear model so that the target is linearly related to the factors and covariates through a specified link function, the target can have a nonnormal distribution, and the observations can be correlated. GLMM covers a wide variety of models, from simple linear regression to complex multilevel models for nonnormal longitudinal data.

- Specify the subject structure for repeated measurements and how the errors of the repeated measurements are correlated
- Choose among the eight covariance types
- Specify the target, optional offset and optional analysis (regression) weight
- Choose among the following probability distributions: binomial, gamma, inverse Gaussian, multinomial, negative binomial, normal, Poisson
- Choose among the following link functions: identity, complementary log-log, log-link, log complement, logit, negative log-log, power, probit

GENLIN and GEE

GENLIN and GEE procedures provide a unifying framework for a wide variety of model types. Together, they enable you to predict more types of outcomes, including:

- Ordinal outcomes such as customer satisfaction
- Outcomes that are a combination of discrete and continuous outcomes, such as claim amount, with a Tweedie distribution
- Provide a common framework for the following outcomes: continuous outcomes, count data, event or trial data, claim data, ordinal outcomes, combination of discrete and continuous outcomes, and correlated responses within subjects

MIXED

Expands the general linear model used in the GLM procedure so that data can exhibit correlation and nonconstant variability

- Fit the following types of models:
 - Fixed effects ANOVA model, randomized complete blocks design, split-plot design, purely random effects model, random coefficient model, multilevel analysis, unconditional linear growth model, linear growth model with person-level covariate, repeated measures analysis, and repeated measures analysis with time-dependent covariate
- Use one of six covariance structures offered
- Select from 11 nonspatial covariance types

GLM

Describe the relationship between a dependent variable and a set of independent variables

- Select univariate and multivariate lack-of-fit tests
- Regression model
- Fixed effect ANOVA, ANCOVA, MANOVA and MANCOVA
- Random or mixed ANOVA and ANCOVA
- Repeated measures: Univariate or multivariate
- Doubly multivariate design

VARCOMP

Variance component estimation (VARCOMP)

- Estimation methods: ANOVA MINQUE, maximum likelihood and restricted maximum likelihood
- Type I and Type III sums of squares for the ANOVA method
- Choices of zero-weight or uniform-weight methods
- Choices of ML and REML calculation methods
- Save variance components estimates and

covariance matrices

LOGLINEAR and HILOGLINEAR

For a full description, visit ibm.com/software/products/en/spss-advanced-stats

GENLOG

Fit log-linear and logit models to count data by means of a GLM approach

- Model fit, using ML estimation under Poisson log-linear model and multinomial log-linear models
- Accommodate structural zeros
- Generalized log-odds ratio facility tests that specific generalized log-odds ratios are equal to zero and can print confidence intervals
- Diagnostic plots: Scatterplots and normal probability plots of residuals

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

Comprehensive tools for today's analyst

IBM SPSS Advanced Statistics software addresses the wide range of statistical needs of today's analyst. With its wealth of features and capabilities, you may never be limited to basic analytical techniques again.

GLM multivariate: Gain more flexibility to describe the relationship between a dependent variable and a set of independent variables.

Linear mixed models (Mixed): Use the Mixed procedure to model means, variances and covariances when working with nested-structure data or repeated measures data, including when there are different numbers of repeated measurements, different intervals for different cases or both.

Survival analysis: Analyze event history and duration data to better understand events. IBM SPSS Advanced Statistics software includes state-of-the-art survival procedures such as Kaplan-Meier and Cox Regression.

VARCOMP: Choose from a number of methods to estimate the variance component for each random effect in a mixed model.

Log-linear analysis: Fit log-linear and logit models to count data so you can more easily model and predict your outcomes.

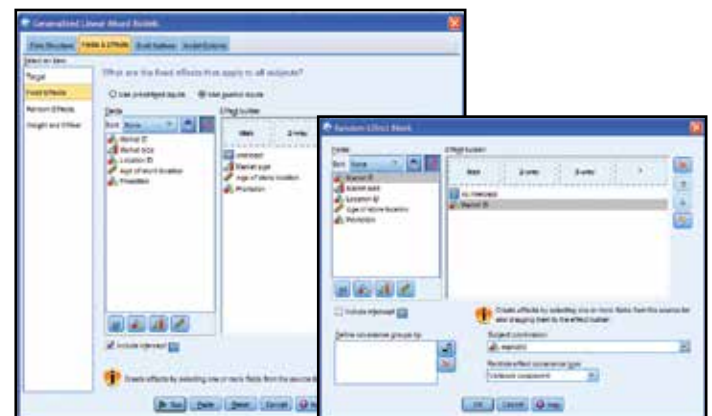
- GLMM: Allows more accurate models when predicting nonlinear outcomes (for example, what product a customer is likely to buy) by taking into account hierarchical data structures (customer nested with an organization)
- Interactive and improved visualizations enable a more intuitive explanation of model predictors and outcomes

2. Achieve more accurate models



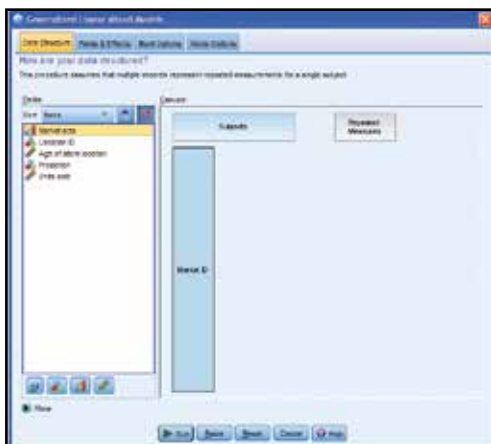
Next, they specify units sold as the target variable.

3. Identify random effects



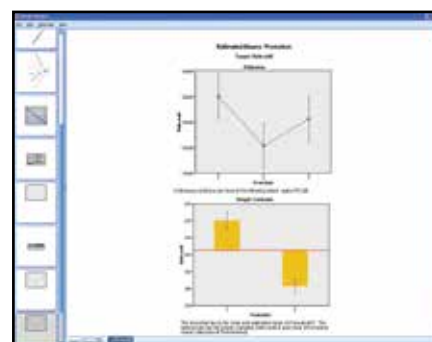
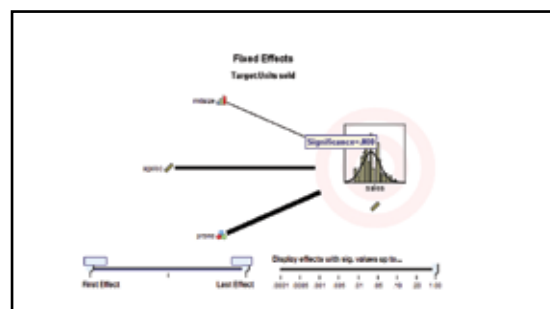
Marketplace size, age of store location and promotion are selected as the fixed effects. MarketID is chosen as the random effect.

1. Structure your data



A marketing group tests three campaigns to determine which promotion has the greatest effect on sales. First, the marketing group specifies the structure of the data with MarketID as the "subjects."

4. Analyze results using various methods



Output shows that promotion is significantly related to units sold. Specifically, promotion 1 has a higher number of units sold than promotion 3, and promotion 2 has a lower number of units sold than promotion 3.

IBM SPSS Amos

Help get your research noticed—take your analysis to the next level

With IBM SPSS Amos software, you can:

- More easily perform structural equation modeling (SEM)
- More quickly create models to test hypotheses and confirm relationships among observed and latent variables
- Move beyond regression to gain additional insight

When you conduct research, you're probably already using factor and regression analyses in your work. But what's the next step in creating more precise models and confidence in your research?

SEM can take your research to the next level

Structural equation modeling (sometimes called path analysis) can help you gain additional insight into causal models and explore the interaction effects and pathways between variables. SEM lets you more rigorously test whether your data supports your hypothesis. You create more precise models—setting your research apart and increasing your chances of being published.

IBM SPSS Amos software makes structural equation modeling easier

IBM SPSS Amos software builds models that more realistically reflect complex relationships because numeric variables, whether observed (such as nonexperimental data from a survey) or latent (such as satisfaction and loyalty) can be used to predict other numeric variables. Its rich, visual framework lets you more easily compare, confirm and refine models.

Quickly build graphical models using IBM SPSS Amos software's simple drag-and-drop drawing tools. With the latest release, nonprogrammers can easily specify a model without drawing a path diagram by entering the model into a spreadsheet-like table that can be modified. Models that used to take days to create are just minutes away from completion.



Download the data sheet and full specifications.



Download a complimentary trial.



Play a quick demo.



Buy now.

And after the model is finished, simply click your mouse and assess your model's fit. Then make any modifications and print a presentation-quality graphic of your final model.

Obtain Bayesian estimates of model parameters and other quantities

Bayesian analysis enables you to apply your subject-area expertise or business insight to improve estimates by specifying an informative prior distribution. Markov Chain Monte Carlo (MCMC) is the underlying computational method for Bayesian estimation. The MCMC algorithm is fast, and the MCMC tuning parameter can be adjusted automatically.

Perform estimation with ordered categorical and censored data

Create a model based on nonnumerical data without having to assign numerical scores to the data. Or work with censored data without having to make assumptions other than the assumption of normality. You can also impute numerical values for ordered-categorical and censored data. The resulting data set can be used as input to programs that require complete numerical data.

Impute missing values or latent variable scores

Choose from three data imputation methods: regression, stochastic regression or Bayesian. Use regression imputation to create a single completed data set. Use stochastic regression imputation or Bayesian imputation to create multiple imputed data sets. You can also impute missing values or latent variable scores.

Specifications: Key features

Modeling capabilities

- Create structural equation models with observed and latent variables
- Specify each individual candidate model as a set of equality constraints on model parameters
- Analyze data from several populations at once
- Save time by combining factor and regression models into a single model and then fit them simultaneously

Bayesian estimation

- Fit models with ordered-categorical and censored data
- MCMC simulation

Computationally intensive modeling

- Evaluate parameter estimates with normal or nonnormal data using powerful bootstrapping options

Analytical capabilities and statistical functions

- Determine probable values for missing or partially missing data values in a latent variable model
- Use full information maximum likelihood estimation in missing data situations for more efficient and less biased estimates
- Use a variety of estimation methods, including maximum likelihood, unweighted least squares, generalized least squares, Browne's asymptotically distribution-free criterion and scale-free least squares
- Evaluate models using more than two dozen fit statistics, including Chi-square; Akaike Information Criterion (AIC); Bayes and Bozdogan information criteria; Browne-Cudeck (BCC); ECVI, RMSEA and PLOSE criteria; root mean square residual; Hoelter's critical n; and Bentler-Bonett and Tucker-Lewis indices
- Bootstrapping of user-defined functions of the model parameters, using the new User-Defined Estimands shortcut in the Start menu [new feature]

Data imputation

- Impute numerical values for ordered-categorical and censored data
- Impute missing values and latent variable scores
- Choose from three different methods: Regression, stochastic regression and Bayesian

System requirements

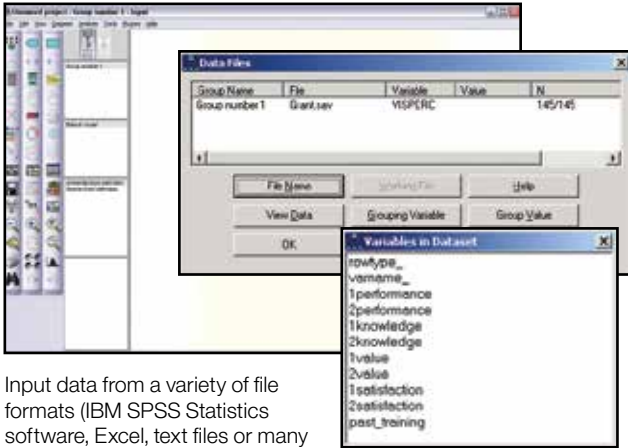
- Operating system: Microsoft Windows XP or Windows Vista
- Memory: 256 MB RAM minimum
- Minimum free drive space: 125 MB
- Web browser: Internet Explorer 6

Available on the following platform: Windows

IBM SPSS Amos software makes structural equation modeling easy and accessible

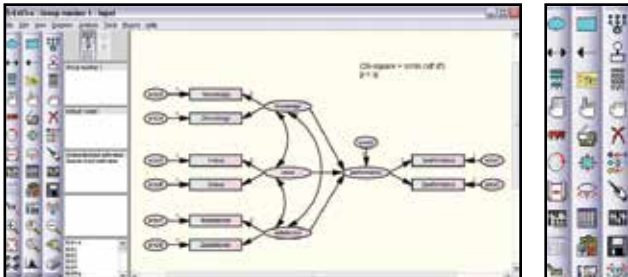
Structural equation modeling's approach to multivariate analysis encompasses and extends standard methods—including regression, factor analysis, correlation and analysis of variance. IBM SPSS Amos software makes SEM easy. It's an ideal modeling tool for a variety of purposes, including marketplace research, business planning and academic program evaluation.

1. Select a data file



Input data from a variety of file formats (IBM SPSS Statistics software, Excel, text files or many others). Select grouping variables and group values. SPSS Amos software also accepts data in a matrix format if you've computed a correlation or covariance matrix.

2. Specify your model

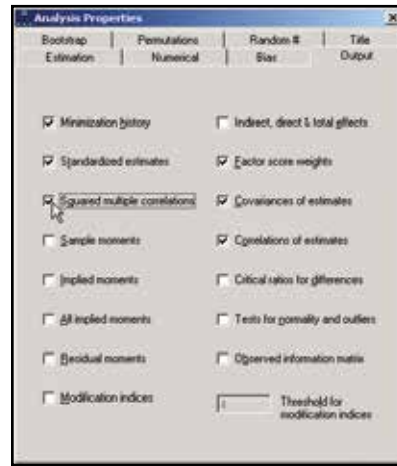


Use drag-and-drop drawing tools to quickly specify your path diagram model. Click on objects in the path diagram to edit values, such as variable names and parameter values. Or simply drag variable names from the variable list to the object in the path diagram to specify variables in your model.



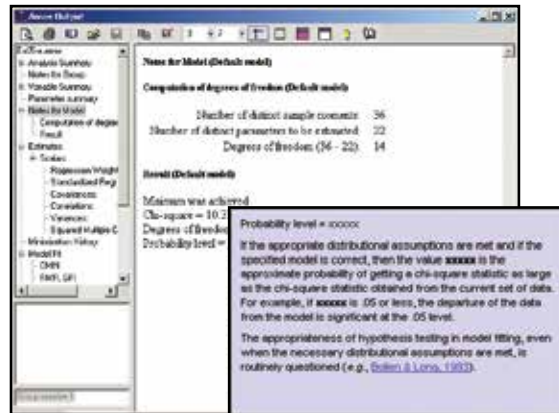
One of the benefits of Amos is that it helps document clearly the process used for the multivariate analysis, which helps academics doing research get published because the evidence for their conclusions is readily available to include.

3. Select analysis properties



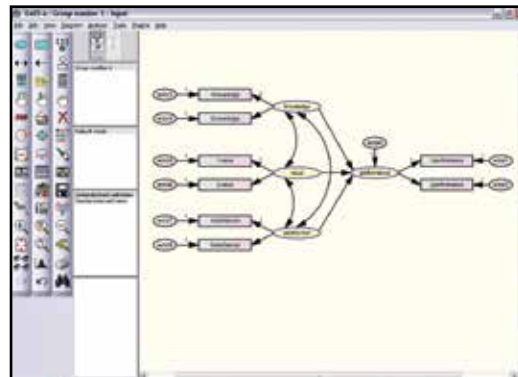
Select the analysis properties you wish to examine, such as standardized estimates of parameters or squared multiple correlations. Constrain parameters for more precise models by directly specifying path coefficients.

4. View output



SPSS Amos output provides standardized or nonstandardized estimates of covariances and regression weights as well as a variety of model fit measures. Hot links in the help system link to explanations of the analysis in plain English.

5. Assess your model's fit



Make modifications to your model and print publication-quality output.

IBM SPSS Bootstrapping

Help ensure the stability of your models

The models your organization creates drive important decisions. They may be used to shape public policy, to prevent the spread of disease or to determine a multimillion dollar investment. It's important that your models are stable so that they will produce accurate, reliable results. Bootstrapping is a useful technique for testing model stability, and IBM SPSS Bootstrapping software is designed to make it easy to do.

This module of IBM SPSS Statistics software provides an efficient way to help ensure that your models are stable and reliable. It estimates the sampling distribution of an estimator by resampling with replacement from the original sample. With IBM SPSS Bootstrapping software, you can reliably estimate the standard errors and confidence intervals of a population parameter such as a mean, median, proportion, odds ratio, correlation coefficient, regression coefficient or numerous others.

Reliable models for critical projects

When you require the most reliable model be created to predict an outcome or map a sample to a population, simply running the model once on the sample data on hand may not be the best approach because results are dependent on your sample data. Resampling with replacement will provide you with more accurate estimates of the reliability of your data.

To identify precisely how suitable your model is, you will want to bootstrap the model to assess its stability.

A comprehensive view of your data

Computing a statistic on a large number of alternate data sets helps you determine the variability of that statistic. Through resampling, IBM SPSS Bootstrapping software can create thousands of alternate versions of your data set, providing a more accurate view of what is likely to exist in the population. (Its default setting is 1,000 samples, but this setting can be modified upward or downward.) IBM SPSS Bootstrapping software also helps you eliminate the outliers and anomalies that can degrade the accuracy or applicability of your analysis. As a result, you have a clearer view of your data for creating the model you are working with.



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

With IBM SPSS Bootstrapping software, you can:

- Quickly estimate the sampling distribution of an estimator
- Virtually eliminate outliers and anomalies that degrade accuracy
- Bootstrap many analytical procedures

IBM SPSS Bootstrapping software is available for installation as client-only software, but for greater performance and scalability, a server-based version is also available.



Through the IBM SPSS Bootstrapping dialog box, you can more easily control the numbers of bootstrap samples, set a random number seed, specify confidence intervals, and indicate whether a simple or stratified method is appropriate.

Specifications

Key features

IBM SPSS Bootstrapping software provides the ability to bootstrap a number of analytical procedures found throughout the IBM SPSS Statistics product family, including:

Descriptive procedures

IBM SPSS Statistics Base software:

- Descriptives
- Frequencies
- Examine
- Means
- Crosstabs

- t tests
- Correlations or nonparametric correlations
- Partial correlations

Modeling procedures

IBM SPSS Statistics Base software:

- One-way
- UNIANOVA
- PLUM
- Discriminant

IBM SPSS Advanced Statistics software:

- GLMM
- GENLIN
- Linear mixed models
- Cox regression

IBM SPSS Regression software:

- Regression
- Nominal regression
- Logistic regression

Available on the following platforms: Windows, Mac, Linux

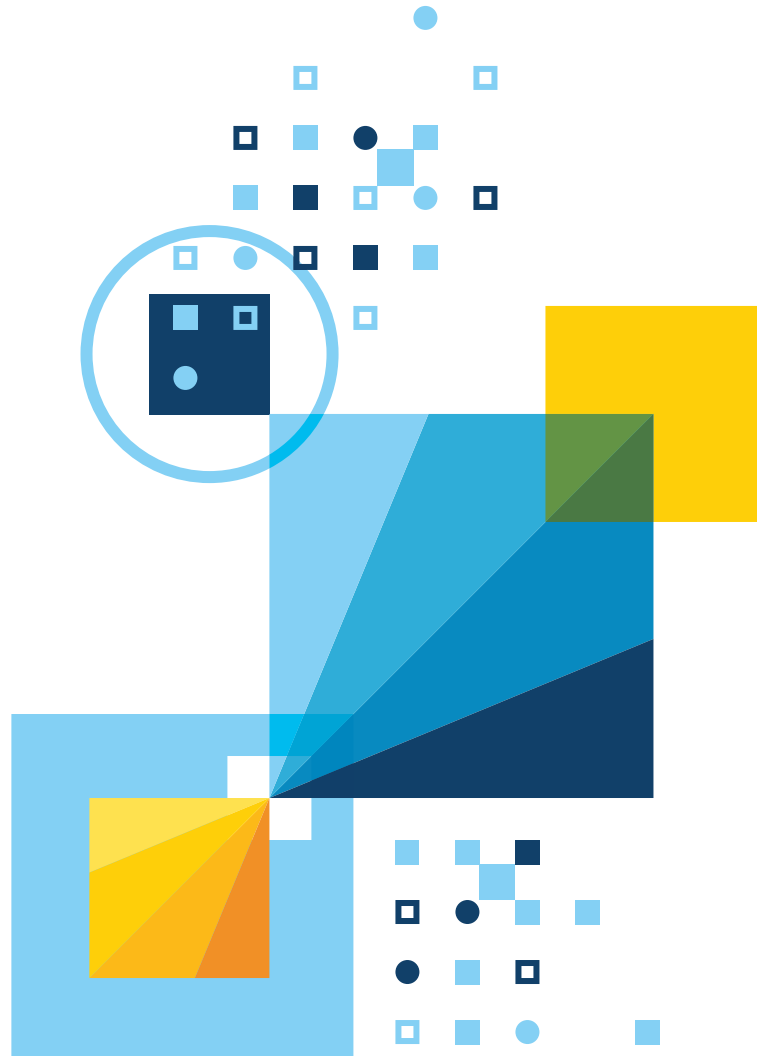
What if ...

... you could easily identify the best customers for a marketing campaign?

Today's marketers understand the value of leveraging their data to gain insight into customer behavior and preferences. But that value is only delivered when the insight (and in the case of predictive analysis, the foresight based on customer propensities and predicted behavior) is turned into action at the point of customer contact.

IBM SPSS predictive analytics software lets you embed improved decision making and automation into customer relationship management (CRM) and other customer-facing systems based on data insights.

Find out how IBM SPSS predictive analytics software can turn data into actions.



IBM SPSS Categories

Predict outcomes and reveal relationships through perceptual maps of categorical data

With IBM SPSS Categories software, you can:

- Visualize and explore complex categorical and numeric data as well as high-dimensional data
- Understand information in large two-way and multiway tables
- Use biplots, triplots and perceptual maps to uncover relationships in your data

With the sophisticated features of IBM SPSS Categories software in your toolbox, you are no longer hampered by categorical or highly dimensional data. These techniques help ensure that you have the tools you need to more easily analyze and interpret your multivariate data and its relationships more completely. For example, use IBM SPSS Categories software to understand which characteristics consumers relate most closely to your product or brand or to determine customer perception of your products compared to other products you or your competitors offer.

IBM SPSS Categories software uses categorical regression procedures to predict the values of a nominal, ordinal or numerical outcome variable from a combination of numeric and ordered or unordered categorical predictor variables. You can use regression with optimal scaling to describe, for example, how job satisfaction can be predicted from job category, geographic region and the amount of work-related travel.

Optimal scaling techniques quantify the variables in such a way that the Multiple R is maximized. Optimal scaling may be applied to numeric variables when the residuals are nonnormal or when the predictor variables are not linearly related with the outcome variable. Three new regularization methods—Ridge regression, the Lasso and the Elastic Net—can improve prediction accuracy by stabilizing the parameter estimates. Automatic variable selection makes it possible to analyze high-volume data sets—more variables than objects. And by using the numeric scaling level, you can do regularization in regression by using the Lasso or the Elastic Net for your numeric data as well.



Play a quick demo.



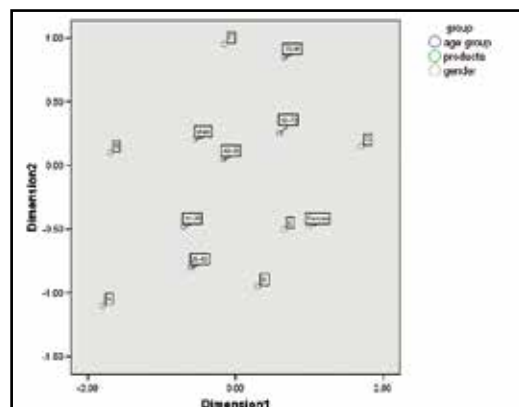
Download the data sheet and full specifications.



Buy now.

Present your results clearly using perceptual maps

Use dimension reduction techniques to go beyond unwieldy tables to clearly see relationships in your data using revealing perceptual maps and biplots. Summary charts display similar variables or categories, providing you with insight into relationships among more than two variables.



The data comes from a 2x5x6 table containing information on two genders, five age groups and six products. This plot shows the results of a two-dimensional multiple correspondence analysis of the table. Notice that products such as “A” and “B” are chosen at younger ages and by males, while products such as “G” and “C” are preferred at older ages.

Specifications: Key features

PREFSCAL

- Multidimensional unfolding analysis
- Read one or more rectangular matrices of proximities
- Read weights, initial configurations and fixed coordinates

PROXSCAL

- Statistics: Iteration history, stress measures, stress decomposition, coordinates of the common space and object distances within the final configuration
- Plots: Stress plots, common space scatterplots, individual space weight scatterplots and individual space scatterplots

CATPCA

- Statistics: Frequencies, missing values, optimal scaling level, mode, variance accounted for by centroid coordinates, vector coordinates, total per variable and per dimension, component loadings for vector quantified variables, category quantifications and coordinates, and iteration history
- Plots: Joint category plots, transformation plots, residual plots, projected centroid plots, object plots, biplots, triplots and component loadings plots

CORRESPONDENCE

- Statistics: Correspondence measures; row and column profiles; singular values; row and column scores; and inertia, mass
- Plots: Transformation plots, row point plots, column point plots and biplots

CATREG

- Statistics: Frequencies, regression coefficients, ANOVA table, iteration history and category quantifications
- Plots: Correlations between untransformed formed predictors, correlations between transformed predictors, residual plots and transformation plots
- Three regularization methods: Ridge regression, the Lasso and the Elastic Net

Unleash the full potential of your data through optimal scaling and dimension reduction techniques

Correspondence analysis (CORRESPONDENCE): Describe the relationships between two nominal variables in a low-dimensional space while simultaneously describing the relationships between categories for each variable.

Categorical regression (CATREG): Predict the values of a categorical dependent variable from a combination of categorical independent variables. Optimal scaling techniques quantify the variables in such a way that the Multiple R is maximized. Regularization methods improve prediction accuracy by stabilizing the parameter estimates.

Multiple correspondence analysis (MULTIPLE CORRESPONDENCE): Analyze a categorical multivariate data matrix for two or more nominal variables.

CATPCA: Use alternating least squares to generalize principal components analysis to accommodate variables of mixed measurement levels. Specify a transformation type of nominal, ordinal or numeric on a variable-by-variable basis.

Nonlinear canonical correlation (OVERALS): Use alternating least squares to generalize canonical correlation analysis. It allows more than one set of variables to be compared to one another on the same graph.

Proximity scaling (PROXSCAL): Takes a matrix of similarity and dissimilarity distances between observations in a high-dimensional space and assigns them to a position in a low-dimensional space so you can gain spatial understanding of how objects relate.

Preference scaling (PREFSCAL): Set up the preference scaling procedure (PREFSCAL) in syntax to perform multidimensional unfolding on two sets of objects to find a map that represents the relationships between these two sets of objects as distances between two sets of points.

1. Analyze differences between categories

		Smoking None	Smoking Light	Smoking Medium	Smoking Heavy	No Alcohol	Alcohol
Staff Group	Senior Managers	4	2	3	2	0	11
	Junior Managers	4	3	7	4	1	17
	Senior Employees	25	10	12	4	5	46
	Junior Employees	18	24	33	13	10	78
	Secretaries	10	6	7	2	7	18
	National Average	42	28	20	8		

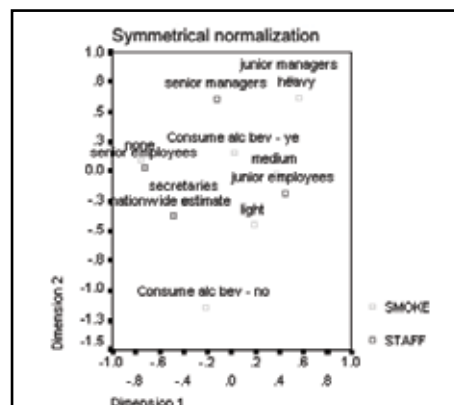
Use correspondence analysis to more easily display and analyze differences between categories. In this example, researchers present and analyze the two-dimension table relating staff group to smoking category in a particular workplace.

2. Incorporate supplementary information

		Alcohol		Total
		Consume alc bev - no	Consume alc bev - yes	
STAFF	senior managers		11	11
	junior managers	1	17	18
	senior employees	5	46	51
	junior employees	10	78	88
	secretaries	7	18	25
Total		23	170	193

Easily incorporate supplementary information on additional variables in IBM SPSS Categories software. Here, additional information on alcohol consumption by staff group is known. These additional columns can be projected into the staff group by smoking category space.

3. Uncover associations and relationships



Using symmetrical normalization to produce a biplot, the researchers conclude that a strong association does not exist in the sample between non-drinking and nonsmoking, and there is a suggested association between drinking and level of smoking with relatively more drinkers in the high-smoking group.

Specifications: Key features

- Improve prediction accuracy by stabilizing the parameter estimates
- Analyze high-volume data (more variables than objects)
- Obtain automatic variable selection from the predictor set
- Write regularized models and coefficients to a new data set for later use
- Two model selection and predictive accuracy assessment methods: the .632 bootstrap and cross-validation (CV)
 - Find the model that is optimal for prediction with the .632 or .632+ bootstrap and CV options
 - Obtain nonparametric estimates of the standard errors of the coefficients with the bootstrap
- Systematic multiple starts

MULTIPLE CORRESPONDENCE

- Statistics: Model summary; history statistics, descriptive statistics; discrimination measures; category quantifications; inertia of the categories; contribution of the categories to the inertia of the dimensions and contribution of the dimensions to the inertia of the categories; and iteration history
- Plots: Object points, category points (centroid coordinates), discrimination measures and transformation (optimal category quantifications against category indicators)

OVERALS

- Statistics: Frequencies, centroids, iteration history, object scores, category quantifications, weights, component loadings, and single and multiple fit
- Plots: Object scores plots and category coordinates plots

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

IBM SPSS Complex Samples

More correctly and easily compute statistics for complex samples

If you're working with complex sample designs, such as stratified, clustered or multistage sampling, you need specialized statistical techniques to account for the sample design and its associated standard error.

IBM SPSS Complex Samples software has virtually everything you need to more correctly and easily compute statistics and their standard errors from complex sample designs.

You can apply it to:

- **Survey research:** Obtain descriptive and inferential statistics for survey data
- **Market research:** Analyze customer satisfaction data
- **Health research:** Analyze large public-use data sets on public health topics such as health and nutrition or alcohol use and traffic fatalities
- **Social science:** Conduct secondary research on public survey data sets
- **Public opinion research:** Characterize attitudes on policy issues

In addition to giving you the ability to assess your design's impact, this module can also produce a more accurate picture of your data because subpopulation assessments consider other subpopulations.



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

With IBM SPSS Complex Samples software, you can:

- Get a more accurate picture of your data when working with large-scale surveys
 - Achieve more statistically valid inferences for populations
 - Reach correct point estimates for statistics such as totals, means and ratios and obtain standard errors of these statistics
 - Predict numerical and categorical outcomes from nonsimple random samples
 - Take up to three stages into account when analyzing data from a multistage design
-

IBM SPSS Complex Samples software helps agencies drive better outcomes for public policy

Analyzing data for government agencies poses special challenges. For some projects, enough data exists so that obtaining a random sample for analysis is relatively straightforward. For other projects, however, if an analyst drew a simple random sample, there would probably be too few cases in some of the categories because some conditions are relatively rare. Therefore, an analyst must oversample certain groups in which there are relatively few cases.

For example, if an analyst for a city public health department wanted to evaluate the effectiveness of several substance abuse programs, there might not be enough cases in each age group, in each geographic area, for each treatment option being studied—resulting in some subgroups being oversampled. The procedures in IBM SPSS Complex Samples software enable analysts to apply scientific sample designs in the sample selection process to reduce the risk of a distorted view of the population.

In addition, analysts can document how a sample was selected so that subsequent evaluations can replicate the sample design—and obtain results that can be used to reliably identify trends and make predictions about future developments. This helps agencies not only evaluate the effectiveness of their programs but also anticipate and plan for future needs.

Incorporate complex sample designs into your data analysis

IBM SPSS Complex Samples software makes understanding and working with your complex sample survey results easier. It is one of the most comprehensive software programs available.

IBM SPSS Complex Samples software offers virtually everything you need to produce more accurate results:

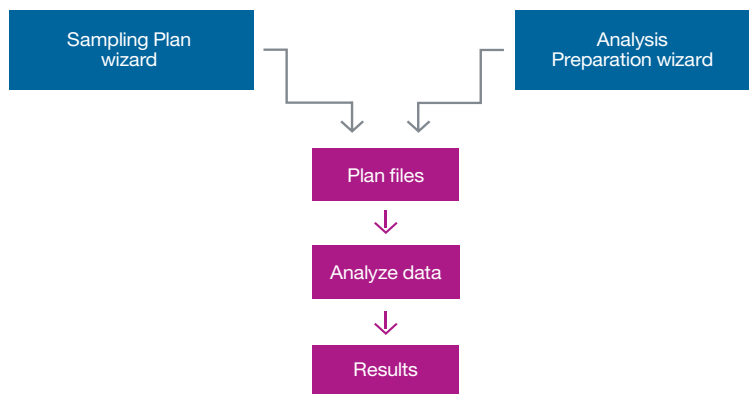
- **Logistic regression:** Predict categorical outcomes (for example, who is most likely to buy your product) while taking the sample design into account to more accurately identify groups
- **Ordinal regression:** Predict ordinal outcomes such as customer satisfaction (low, medium or high)
- **General linear models:** Predict numerical outcomes while taking the sample design into account
- **Cox regression:** Predict time to an event for samples drawn by complex sampling methods
- **Intuitive Sampling wizard:** Guides you step by step through the process of designing and drawing a sample
- **Easy-to-use Analysis Preparation wizard:** Helps prepare public-use data sets for analysis, such as the National Health Inventory Survey data from the Centers for Disease Control and Prevention (CDC)
- **Easier collaboration with colleagues:** More easily share sampling and analysis plans

- **More accurate analyses:** Enables you to take up to three stages into account when analyzing data from a multistage design
- **A more precise picture of your data:** Unlike traditional statistics, subpopulation assessments consider other subpopulations

Use the following types of sample design information with IBM SPSS Complex Samples software:

- **Stratified sampling:** Increase the precision of your sample or help ensure a representative sample from key groups by choosing to sample within subgroups of the survey population. For example, subgroups might be a specific number of males or females or contain people in certain job categories, people of a certain age group and so on.
- **Clustered sampling:** Select clusters, which are groups of sampling units, for your survey. Clusters can include schools, hospitals or geographic areas with sampling units that might be students, patients or citizens. Clustering often helps make surveys more cost-effective.
- **Multistage sampling:** Select an initial or first-stage sample based on groups of elements in the population; then create a second-stage sample by drawing a subsample from each selected unit in the first-stage sample. By repeating this option, you can select a higher-stage sample. For example, in a face-to-face survey, you might sample individuals within households and city blocks.

Accurate analysis of survey data



The accurate analysis of survey data is easier in IBM SPSS Complex Samples software. Start with one of the wizards (which one depends on your data source), and then use the interactive interface to create plans, analyze data and interpret results.

In particular, use the wizards to specify a sampling scheme (when collecting data) or to explain how a sample was drawn (when working with public-use data).

Each plan acts as a template and allows you to save the decisions made when creating it. This helps save time and improve accuracy for yourself and others who may want to use your plans with the data to replicate results or pick up where you left off.

Then use the procedures that have been specifically developed for use with complex samples to predict numerical, ordinal and categorical outcomes or time to a specific event.

Specifications: Key features

Complex Samples Plan (CSPLAN): Provides a common place to specify the sampling frame to create a complex sample design or analysis design used by procedures in IBM SPSS Complex Samples software.

Complex Samples Selection (CSSELECT): Selects complex, probability-based samples from a population. It chooses units according to a sample design created through the CSPLAN procedure.

Complex Samples Descriptives (CSD DESCRIPTIVES): Estimates means, sums and ratios and computes their standard errors, design effects, confidence intervals and hypothesis tests.

Complex Samples Tabulate (CSTABULATE): Displays one-way frequency tables or two-way cross-tabulations and associated standard errors, design effects, confidence intervals and hypothesis tests.

Complex Samples General Linear Model (CSGLM): Enables you to build linear regression, analysis of variance (ANOVA) and analysis of covariance (ANCOVA) models.

Complex Samples Ordinal (CSORDINAL): Performs regression analysis on a binary or ordinal polytomous dependent variable using the selected cumulative link function.

Complex Samples Logistic Regression (CSLOGISTIC): Performs binary logistic regression analysis as well as multi-nomial logistic regression analysis.

Complex Samples Cox Regression (CSCOXREG): Applies Cox proportional hazards regression to analysis of survival times—that is, the length of time before the occurrence of an event.

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

IBM SPSS Conjoint

Discover what drives your customers' purchase decisions

Thoroughly understand customer preferences, trade-offs and price sensitivity with IBM SPSS Conjoint software. Using conjoint analysis, you can uncover more information about how customers compare products in the marketplace and measure how individual product attributes affect consumer behavior. Armed with this knowledge, you can design, price and market products and services tailored to your customers' needs. IBM SPSS Conjoint software outputs its results to pivot tables, which can:

- Provide better, more professional-looking and more presentable charts
- Offer more formatting options than text output
- Be exported to Microsoft Word, Excel or PowerPoint
- Be used by the SPSS Output Management System

IBM SPSS Conjoint software helps uncover 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 marketplace segment is most interested in the product?
- What marketing messages will most appeal to that segment?
- What is the optimal price to charge customers for a product or service?
- Who are the closest competitors in the marketplace?



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

With IBM SPSS Conjoint software, you can:

- Identify product features that are important to new customers
 - Discover which product attributes are most important to current customers
 - Determine the influence product attributes have on customer preferences
-

Learning healthy habits

Gachon University Gil Hospital uses high-performance data analytics to support clinical research and treatment decisions

Founded in Incheon in 1958 as an obstetrics and gynecology clinic, Gachon University Gil Hospital has become one of Korea's premier healthcare institutions. Equipped with more than 1,200 beds in 30 medical departments, six specialized medical centers and two research institutes, the hospital employs 1,800 healthcare providers.

To strengthen its competitive advantage and accelerate its full transformation from a diagnostic-driven and treatment-driven medical model to a research-driven model, Gil Hospital needed to improve its research and information systems infrastructure. Accordingly, the institution plans to increase the proportion of doctors engaged in research to 30 percent and to increase revenue derived from research-driven activity to 15 percent of the hospital's total income.

To provide its academic clinicians the capability to conduct leading-edge medical research, Gil Hospital created a high-speed Critical Research Data Warehouse (CRDW) that provides near-real-time OLAP capability, enabling medical researchers to perform advanced statistical analysis and predictive modeling on patient, clinical and medical research data.

The system features data processing times that are 30 to 100 times faster than the previous solution; reduces the time required to process queries by more than 99 percent, from hours to seconds; is projected to increase the hospital's research activity to more than 1,000 projects by 2015; and supports clinical decision making to help improve care and health outcomes.

Find out how your product ranks with IBM SPSS Conjoint software

- IBM SPSS Conjoint software offers the procedures you need to plan, implement and analyze efficient conjoint surveys. With these techniques, you can discover how respondents rank their preferences and product attributes.
- **Orthoplan:** Produces an orthogonal array of product attribute combinations, dramatically reducing the number of questions you must ask while helping ensure that you get enough information to perform a comprehensive analysis.

1. Save time and money with Orthoplan



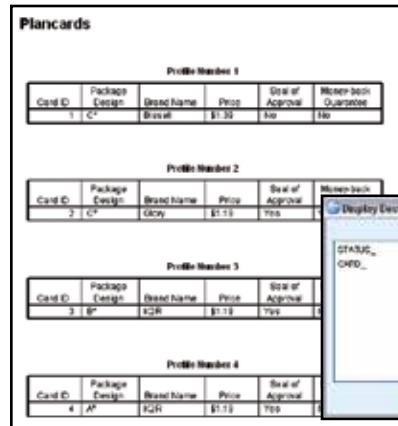
IBM SPSS Conjoint takes you step by step through the process of setting up a product comparison.



Establish the parameters of your study with the Orthoplan design generator. Orthoplan gives you an orthogonal array of alternative potential products that combine different product features at specified levels. This can save you time and money by presenting a fraction of all possible alternatives

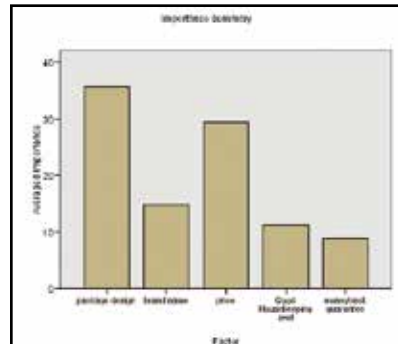
- **Plan cards:** Print “cards” to elicit respondents’ preferences. Quickly generate cards that respondents can sort to rank alternative products.
- **Conjoint procedure:** Get results you can act on, such as which product attributes are important and at what levels they are most preferred. Plus, perform simulations that will tell you expected market shares for alternative products.
- Add IBM SPSS Conjoint to your competitive research and develop products and services that are more successful.

2. Rank respondents’ preferences



IBM SPSS Conjoint software quickly guides you through creating “plan cards” that respondents sort to rank their preferences of alternative products.

3. Generate charts



After you gather and input the data using your plan cards, IBM SPSS Conjoint software performs an ordinary least squares analysis of preference or rating data. It then generates charts to simulate expected market shares. For instance, in this chart you can quickly see that subjects strongly consider package design and price as the most important.

Specifications: Key features

Orthoplan: Generates orthogonal main effects fractional factorial designs

- Specify the desired number of cards for the plan
- Generate holdout cards to test the fitted conjoint model
- Orthoplan can mix the training and holdout cards or can stack the holdout cards after the training cards
- Plan cards: A utility procedure used 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
 - Card format

- Conjoint: Performs an ordinary least squares analysis of preference or rating data
- Work with the plan file generated by plan cards or a plan file input
- Work with individual level rank or rating data
- Provide individual level and aggregate results
- Treat the factors in a number of ways; conjoint indicates reversals
- Experimental cards have one of three scenarios: Training, holdout and simulation
- Three conjoint simulation methods: Max utility; Bradley-Terry-Luce (BTL); and logit

- Print results
 - Attribute importance
 - Utility (part worth) and standard error
 - Graphical indication of most-preferred 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, holdout data simulation results and simulation summary

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

IBM SPSS Custom Tables

Analyze data more easily and communicate results more effectively

IBM SPSS Custom Tables software enables you to display your analyses as presentation-quality, production-ready tables. It offers the tools you need to more easily create and work with tabular reports.

One of the most popular modules in the IBM SPSS Statistics family, IBM SPSS Custom Tables software offers many valuable capabilities:

- Create new fields directly in output tables to perform calculations (for example, sum, difference, percentage difference) on output categories
- See the results of significance tests directly in output tables
- **Preview tables as you build them:** Take out the guesswork by previewing your table as you select variables and table options with a simple drag-and-drop interface
- **Control your table output:** Choose from a variety of formats to represent multiway information in a two-way table and generate the view you want
- **Customize your table structure:** Exclude specific categories, display missing value cells and add subtotals to your table
- **Use in-depth analyses:** Run Chi-square, column proportions and column means tests, and add more insight to your tables by identifying differences, changes or trends in your data
- **Automate frequent reports:** Run large production jobs and complex table structures with ease to automatically build similar tables with new data

Build tables interactively

Generate the table you envision using the graphical user interface (GUI). You can more easily work with output and present survey results by using nesting, stacking and multiple response categories, and handle missing values and change labels and formats—you can even include missing values in your results.



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

With IBM SPSS Custom Tables software, you can:

- More quickly create tables with a drag-and-drop interface
- Preview tables as you create them to make it easier to get it right the first time
- Customize tables to make them easier for your audience to understand

IBM SPSS Custom Tables was updated with a number of enhancements in version 24, including the following:

- The ability to select from more than 160 summary statistics, including newly added confidence intervals and standard errors
- Effective base for weighted sample results
- A new ability to include significant test results in the main table
- The ability to display significance value for significance tests
- An additional false discovery correction method for multiple comparisons

Specifications: Key features

Graphical user interface

- Simple drag-and-drop table builder interface allows you to preview tables as you select variables and options
- Single, unified table builder instead of multiple menu choices and dialog boxes for different table types

Control contents

- Create tables with up to three display dimensions: Rows (stub), columns (banner) and layers
- Nest variables to any level in all dimensions
- Cross-tabulate multiple independent variables in the same table
- Display frequencies for multiple variables side by side with tables of frequencies
- Display all categories when multiple variables are included in a table even if a variable has a category without responses

- Display multiple statistics in rows, columns or layers
- Place totals in any row, column or layer
- Create subtotals for subsets of categories of a categorical variable
- Perform calculations (for example, sum, difference, percentage difference) on output categories, and display the results in new fields created directly in custom tables output – No limit on the number of calculated fields
- Show significance test results directly in custom tables output instead of in a separate table
 - No need to combine findings in a Word document
 - Complies with American Psychological Association (APA) guidelines
- Control category display order and the ability to selectively show or hide categories

Statistics

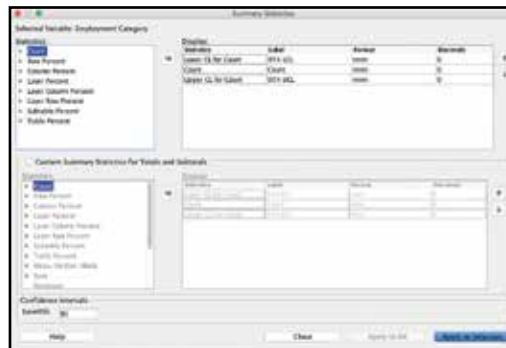
- Select from more than 160 summary statistics
- Calculate statistics for each cell, subgroup or table
- Calculate percentages at any or all levels for nested variables
- Calculate counts and percentages for multiple-response variables based on the number of responses or the number of cases
- Select percentage bases for missing values to include or exclude missing responses

Create presentation-quality tables from IBM SPSS Statistics data—in a snap

Work with IBM SPSS Statistics Base software seamlessly and easily

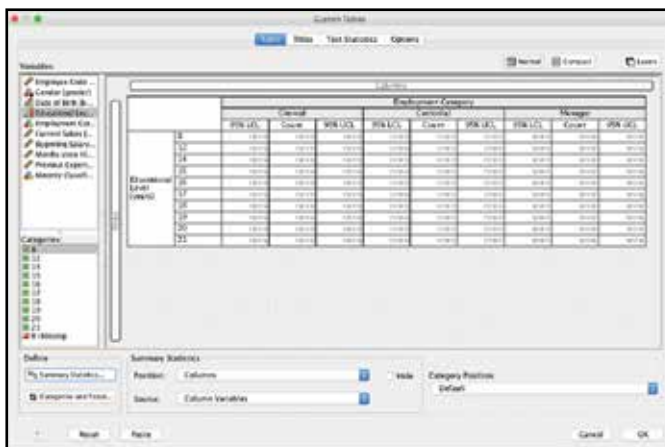


Drag and drop your variables on the table preview builder, and see what your table looks like as you create it.

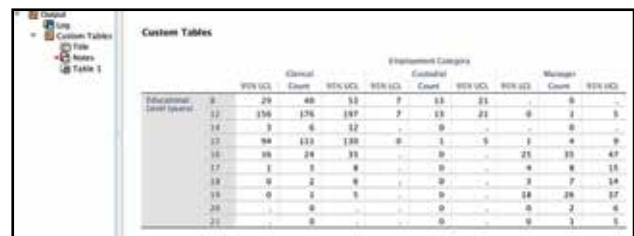


Customize your table to show the information you need. Add summary statistics, inferential statistics and subtotals to make it easier to understand results.

Create your table and easily export your results



Add additional variables by dragging and placing them where you want.



After all your variables are in place, click the “OK” button to create your final table. Apply the optional TableLooks for a more polished appearance.

Specifications: Key features

Formatting controls

- Sort categories by any summary statistic in the table
- Hide the categories that make up subtotals—remove a category from the table without removing it from the subtotal calculation
- Directly edit any table element, including formatting and labels
- Sort tables by cell contents in ascending or descending order
- Automatically display labels instead of coded values
- Specify minimum and maximum width of table columns (overrides TableLooks)
- Show a name, label or both for each table variable
- Display missing data as blank, zero, “.” or any other user-defined term
- Add titles and captions

- Output as IBM SPSS Statistics pivot tables
- Specify corner labels
- Customize labels for statistics
- Display the entire label for variables, values and statistics
- Choose from a variety of numerical formats
- Apply preformatted TableLooks
- Define the set of variables that are related to multiple response data and save it with your data definition for sub-sequent analysis
- Use both long-string and short-string elementary variables
- Define an unlimited number of sets or variables that can exist in a set
- Tests of significance:
 - Chi-square
 - Column means
 - Column proportions

- Exclude categories from significance tests
- Significance tests for multiple response variables
- Syntax and printing formats
- Simpler, easy-to-understand syntax
- Syntax converter (for upgrade users)
- Specify page layout: Top, bottom, left and right margins and page length
- Use the global break command to produce a table for each value of a variable when the variable is used in a series of tables

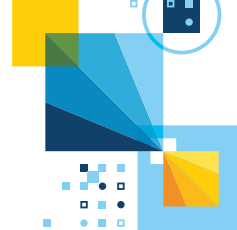
System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

IBM SPSS Data Preparation

Improve data preparation for more accurate results



With IBM SPSS Data Preparation software, you can:

- Streamline the data preparation process
- Eliminate labor-intensive manual checks
- Reach more accurate conclusions



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

IBM SPSS Data Preparation software enables you to easily identify suspicious and invalid cases, variables, and data values; view patterns of missing data; and summarize variable distributions. You can streamline the data preparation process so that you can get ready for analysis faster and reach more accurate conclusions.

Prepare data in a single step—automatically

Manual data preparation is a complex and time-consuming process. When you need results quickly, the ADP procedure helps you detect and correct quality errors and impute missing values in one efficient step. The ADP feature provides an easy-to-understand report with comprehensive recommendations and visualizations to help you determine the right data to use in your analysis.

Additional options for data preparation

Perform automatic data checks and help eliminate time-consuming, tedious, manual checks by using the validate data procedure. This procedure enables you to apply rules to perform data checks based on each variable's measure level (whether categorical or continuous). Then, determine data validity and remove or correct suspicious cases at your discretion prior to analysis.

Quickly find multivariate outliers

Easily detect multivariate outliers so you can further examine them and determine whether they should be included in your analyses. The anomaly detection procedure searches for unusual cases based on deviation, enabling you to flag outliers by creating a new variable.

Bin or set cut points for scale variables

With the optimal binning procedure, you can more accurately use algorithms designed for nominal attributes (such as Naive Bayes and logit models). Optimal binning enables you to bin—or set cut points for—scale variables. Select from three types of optimal binning for preprocessing data prior to model building:

- Unsupervised: Create bins with equal counts
- Supervised: Take the target variable into account to determine cut points. This method is more accurate than unsupervised; however, it is also more computationally intensive.
- Hybrid approach: Combines the unsupervised and supervised approaches. This method is particularly useful if you have a large amount of distinct values.

Specifications

Key features

Automated data preparation

- Recommends steps to speed up model building and improve predictive power
- Determine objective, prepare dates and times for modeling, exclude low-quality input fields, prepare fields to improve data quality, rescale fields, continuous input and target fields, transform fields, perform feature selection and construction, name fields and apply transformations to data

Validate data

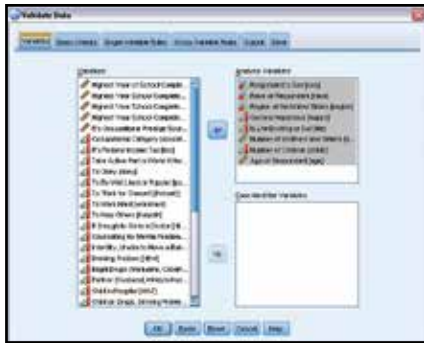
Validate data in the working data file

- Basic checks:
 - Maximum percent of missing values, single category cases and cases with a count of one
 - Minimum coefficient of variation
 - Minimum standard deviation
 - Flag incomplete IDs, duplicate IDs and empty cases
- Standard rules: Describe the data, view single variable rules and apply them to analysis variables
 - Description of data
 - Distribution: Shows a thumbnail-size bar chart for categorical variables or histogram for scale variables
 - Minimum and maximum data values shown
 - Single-variable rules:
 - Apply rules to identify missing or invalid values
 - User-defined
- Custom rules: Define cross-variable rule expressions in which respondents' answers violate logic
- Output: Reports for invalid data
 - Casewise report, specify by case
 - Specify the minimum number of violations needed for a case
 - Specify the maximum number of cases in the report

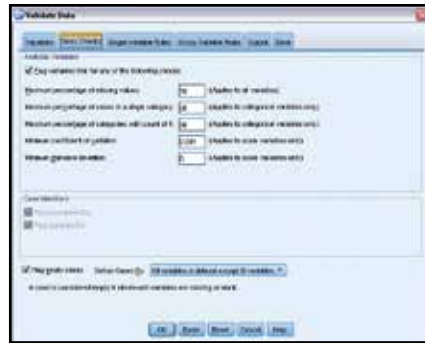
– Standard validation rules reports

- Summarize violations by analysis variable and rule
- Display descriptive statistics
- Save: Save variables that record rule violations and use them to clean data and filter out bad cases
 - Summary variables:
 - Empty case indicator
 - Duplicate ID indicator
 - Incomplete ID indicator
 - Validation rule violation
 - Indicator variables that record all validation rule violations

Identify suspicious or invalid cases, variables and data values more easily with IBM SPSS Data Preparation software



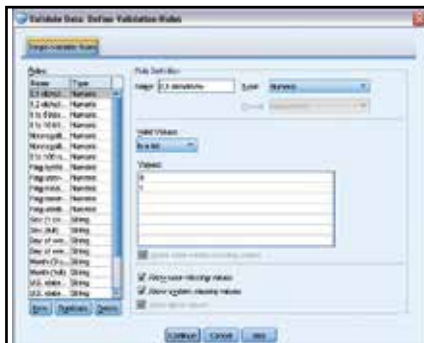
Variables tab: The Validate Data dialog is used to validate your data. The Variables tab shows variables in your file. Start by selecting the variables you are interested in and moving them to the Analysis Variables list.



Basic checks: You can specify basic checks to apply to variables and cases in your file. For example, you can obtain reports that identify variables with a high percentage of missing values or empty cases.



Standard rules: Apply rules to individual variables that identify invalid values, such as values outside a valid range or missing values.



Define standard rules: The Validate Data dialog lets you create your own rules or apply predefined rules.



Define custom rules: Create cross-variable rules in which respondents' answers violate logic (such as "pregnant males").



Recommendations: Automated data preparation delivers recommendations and allows users to drill in and examine the recommendations.

Specifications

Identify unusual cases

Anomaly detection searches for unusual cases based on deviations from peer group and reasons for deviations

- VARIABLES subcommand: Specify categorical, continuous and ID variables and list variables that are excluded from the analysis
- HANDLEMISSING subcommand: Specify the methods of handling missing values in this procedure
- The CRITERIA subcommand specifies the following settings:
 - Number of peer groups
 - Adjustment weight on the measurement level
 - Number of reasons in the anomaly list
 - Percentage and number of cases considered as anomalies and included in the anomaly list
 - Cut point of the anomaly index to determine whether a case is considered as an anomaly
- Save additional variables to the working data file including:
 - Anomaly index
 - Peer group ID, size and size in percentage
 - Variable, variable impact measure, variable value and norm value associated with a reason
- OUTFILE subcommand: Write a model to a file name as XML

PRINT subcommand prints:

- Case-processing summary
- Anomaly index list, anomaly peer ID list and anomaly reason list
- The Continuous Variable Norms table for continuous variable and the Categorical Variable Norms table for categorical variable
- Anomaly index summary
- Reason Summary table

Optimal binning

Preprocess data with optimal binning. Categorizes one or more continuous variables by distributing the values of each into bins

- Select from the following methods:
 - Unsupervised binning via the equal frequency algorithm: It uses the equal frequency algorithm to discretize the binning input variables. Guide variable not required.
 - Supervised binning via the MDLP (Minimum Description Length Principle) algorithm: Discretizes binning input variables using the MDLP algorithm without any preprocessing. Ideal for small data sets. Guide variable required.
 - Hybrid MDLP binning: Involves preprocessing via the equal frequency algorithm followed by the MDLP algorithm. Ideal for large data sets. Guide variable required.

Specify the following criteria:

- How to define the minimum and maximum cut point for each binning input variable and the lower limit of an interval
- Whether to force-merge sparsely populated bins
- Whether missing values uses listwise or pairwise deletion
- Save new variables with binned values and syntax to an IBM SPSS Statistics syntax file
- PRINT subcommand prints:
 - The binning input variables' cut point sets
 - Descriptive information for all binning input variables
 - Model entropy for binned variables

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

IBM SPSS Decision Trees

Create classification trees for better identification of groups and relationships

IBM SPSS Decision Trees software creates classification and decision trees to identify groups, discover relationships and predict future events. By creating visual trees, you are able to present results in an intuitive manner—so you can more clearly explain results to nontechnical audiences.

Why IBM SPSS Decision Trees software should be added to your desktop:

- Identify groups, segments and patterns in a highly visual manner with classification trees
- Choose from CHAID, Exhaustive CHAID, C&RT and QUEST to find the best fit for your data
- Present results in an intuitive manner—perfect for nontechnical audiences
- Save information from trees as new variables in data (information such as terminal node number, predicted value and predicted probabilities)



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

With IBM SPSS Decision Trees software, you can:

- Create classification trees using your choice of algorithms
 - Identify patterns, segments and groups in your data
 - Choose from four established tree-growing algorithms
-

Harnessing statistics to combat crime

Portland Police Bureau brings high-priority offenders to justice with predictive analytics

Manually prioritizing domestic violence cases used to eat up valuable hours at the Portland Police Bureau's Domestic Violence Reduction Unit (DVRU) each day. Sergeant Greg Stewart explains: "We used to rely on individual officers' intuition and experience—but that was very time-consuming and the results were open to interpretation. We wanted to find a data-driven, repeatable method that would help us prioritize the most important cases quickly and without bias—and focus on catching the most dangerous offenders."

With this in mind, the DVRU, in partnership with Portland State University (PSU), developed a sophisticated statistical model based on IBM SPSS Statistics software—a solution from the IBM Watson Foundations portfolio. The model automatically assesses risk factors that make a suspect most likely to commit offenses in the future, enabling officers to focus on bringing the most dangerous offenders to justice.

Now, every morning, new cases are automatically assessed by the IBM SPSS Statistics model. Each suspect is given a score, and suspects are grouped into categories, depending on their predicted risk. From there, all "priority one" cases are assigned for investigation immediately.

"Our team was reduced from nine officers to seven—yet analytics allowed us to assign twice as many cases as before."

—Sergeant Greg Stewart, Domestic Violence Reduction Unit at the Portland Police Bureau.

Since employing IBM predictive analytics to prioritize high-risk cases, the DVRU has been able to save dozens of hours—giving officers up to 25 percent more time working out in the community, investigating and pursuing suspects. What's more, the DVRU even saw a 21 percent increase in the number of cases that ended in an arrest.

Uncover patterns in your data with powerful tree-growing algorithms

The four algorithms in this module differ from more traditional statistics, such as logistic regression, because these algorithms produce trees that enable you to explore your results and visually determine how your model flows. IBM SPSS Decision Trees software makes it easier to identify specific subgroups and relationships in your data than if more traditional statistics were used. It breaks your data into branches and nodes so you can more easily see where a group splits and terminates.

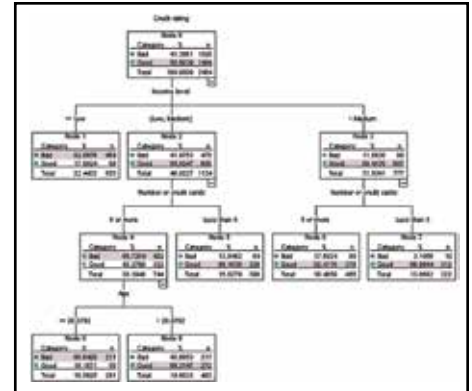
IBM SPSS Decision Trees software includes four established tree-growing algorithms. Find the best fit for your data by trying different algorithms, or let IBM SPSS Decision Trees software suggest the most appropriate algorithm.

- **CHAID:** A statistical multiway tree algorithm that explores data quickly and builds segments and profiles with respect to the desired outcome
- **Exhaustive CHAID:** A modification of CHAID that examines all possible splits for each predictor (independent) variable
- **C&RT:** A comprehensive binary tree algorithm that partitions data and produces more accurate homogeneous subsets
- **QUEST:** A statistical algorithm that selects variables without bias and builds more accurate binary trees more quickly and efficiently

After you have produced your classification trees, you can dig deeper into your data and gain more insight by identifying a particular subset of the data via the tree and then run further analysis on this group.

Segment and group cases directly within the data

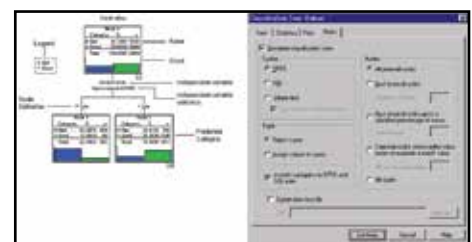
As you are creating classification trees, you can use the results to segment and group cases directly within your data. Additionally, you can generate selection or classification and prediction rules in the form of IBM SPSS Statistics syntax, SQL statements or simple text. Display these rules in the viewer and save them to an external file for later use to make predictions about individual and new cases.



Use the highly visual trees to discover relationships that are currently hidden in your data. IBM SPSS Decision Trees diagrams, tables and graphs are easy to interpret.



The decision tree procedure creates a tree-based classification model. It classifies cases into groups or predicts values of a dependent (target) variable based on values of independent (predictor) variables. The procedure provides validation tools for exploratory and confirmatory classification analyses.



The Decision Tree module provides a variety of options for saving classification rules.



Directly select cases or assign predictions in IBM SPSS Statistics Base software from the model results, or export rules for later use.

Specifications

Key features

- Create tree-based classification models for:
 - Segmentation
 - Stratification
 - Prediction
 - Data reduction and variable screening
 - Interaction identification
 - Category merging and discretizing continuous variables
- Classify cases into groups or predict values of a dependent (target) variable based on values of independent (predictor) variables
- Validation tools for exploratory and confirmatory classification analysis
- View nodes using one of several methods: Show bar charts of your target variables, tables or both in each node
- Collapse and expand branches without deleting the model
- Generate syntax automatically from the user interface (UI)
- Rerun tree building using syntax in production mode
- Score data based on results, or use results in further analysis using other IBM SPSS Statistics procedures

Algorithms

- Four powerful tree-modeling algorithms:
 - CHAID by Kass (1980)
 - Exhaustive CHAID by Biggs, de Ville and Suen (1991)
 - C&RT by Breiman, Friedman, Olshen and Stone (1984)
 - QUEST by Loh and Shih (1997)

Evaluation

- Evaluation graphs enable visual representation of gains summary tables
- Misclassification functionality
- Gains chart: Identify segments by highest (and lowest) contribution

Deployment

- Export output objects to any of IBM SPSS Statistics software's available output formats
- Generate rules that define selected segments in SQL to score databases or IBM SPSS Statistics syntax to score IBM SPSS Statistics files
- Export XML models to score new cases

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

IBM SPSS Direct Marketing

More easily identify the right contacts and improve campaign ROI

Maximizing your marketing programs in terms of efficiency and impact is critical in today's marketplace. Doing so by uncovering patterns in your customer data, however, can be a tedious process requiring highly specialized skills.

All-in-one marketing analysis

With IBM SPSS Direct Marketing software, you can analyze the success of your marketing tactics on your own. The intuitive user interface guides you through the whole process so that you can classify customers in a few easy steps, and the new Scoring wizard makes it easier to build models to score your data. After you run an analysis, the easy-to-understand, color-coded output is ready for export into Microsoft Excel.

Easily uncover customer groups

IBM SPSS Direct Marketing software helps you analyze customer data in multiple ways so you can choose the approach that best meets your objectives. For example, classifying contacts based on similar demographic or behavioral characteristics can guide your acquisition strategies. Understanding which groups have the greatest likelihood to respond to a campaign can help increase your ROI. And performing recency-frequency-monetary value (RFM) analysis can give you insight into the lifetime value of your customers or donors.

With IBM SPSS Direct Marketing software, you get the features you need to:

- **Classify customers and prospects based on identifying characteristics:** These include age, marital status, job function and where they live. Segment prospects or customers into clusters, which are groups that share similar qualities and differ from others.
- **Compare campaign performance:** Test existing campaigns against new campaigns, collect your data and run a control package test. Use color coding to quickly determine which test package would outperform your control package.
- **Create responder profiles:** Generate profiles of those who responded to test campaigns. Use the prospect profiling tool to pinpoint specific characteristics in the data, such as age, marital status and job functions.



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

With IBM SPSS Direct Marketing software, you can:

- Analyze response rates to marketing campaigns
 - Classify contacts according to common characteristics
 - Test and target specific customer or donor clusters
 - Connect to Salesforce.com to extract data, collect details and perform analyses
-
- **Generate propensity-to-purchase scores:** Target customers most likely to respond to campaigns or offers, and generate XML files to score other data. This helps eliminate less active or unlikely customers from your list.
 - **Analyze responses by postal code:** Identify postal codes with high rates of response to your marketing campaigns. Even find the best location for adding an agency or a brick-and-mortar store.
 - **Refine individual customer lists:** Use the improved scoring interface to write RFM scores, prospect profiles and response rates back to existing or new data sets. Quickly build targeted lists and adapt marketing strategies for each customer group.

IBM SPSS Direct Marketing software helps you better understand your customer groups, identify the most active customers for your organization and maximize your ROI. Whether you're launching or testing campaigns, looking to increase cross-sell and up-sell revenue, or planning to open a store, use IBM SPSS Direct Marketing software to develop and execute more successful marketing programs.

Specifications: Key features

Analytical capabilities

- Compute RFM scores from a data set in which each row contains the aggregated data for one customer or the data for one transaction
- Accept recency data in the form of a transaction date or the time interval since the transaction
- Generate scores indicating which contacts are most likely to respond to similar campaigns
- Create training and testing groups for diagnostic purposes
- Recode the response field to represent positive or negative responses
- Cluster analysis works with continuous and categorical fields
- Contact profiling works with nominal, ordinal, string or numeric fields

Data output

- Illustrate in an average monetary value chart how recency, frequency and spending are related in the sample
- Display counts and percentages of positive and negative responses for each group and identify which are significant
- Examine descriptions of each profile group, response rates and cumulative response rates using the contact profiles feature
- Export all analytics to Excel
- Leverage improved, descriptive text to help explain—in everyday language—the output that results from executed procedures

User options

- Write the computed scores (and ID variables, where necessary) to the active data set, a new data set or a file
- Append the RFM results directly to your data or a new data file to quickly identify and build lists of high-value customers
- Create descriptive profiles that indicate who responded to which previous campaigns

Zip code response

- Create a new data set that contains response rates by postal code
- Choose general response rates based on N characters, three digits, five digits or the complete value of a postal code

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

IBM SPSS Exact Tests

Reach more accurate conclusions with small samples or rare occurrences

With IBM SPSS Exact Tests software, you can:

- Use smaller sample sizes and be confident of your results
- Analyze rare occurrences in large data sets with more than 30 exact tests

IBM SPSS Exact Tests software is the add-on module to turn to when you'd like to analyze rare occurrences in large databases or work more accurately with small samples. With more than 30 exact tests, you'll be able to analyze your data where traditional tests fail because you can use smaller sample sizes and be confident of your results. And now IBM SPSS Exact Tests software operates on Mac and Linux platforms as well as on Windows.

IBM SPSS Exact Tests software has the tests and statistics you need, including:

- Exact p values
- Monte Carlo p values
- Pearson Chi-square test
- Linear-by-linear association test
- Contingency coefficient
- Uncertainty coefficient — symmetric or asymmetric
- Wilcoxon signed-rank test
- Cochran's Q test
- Binomial test

IBM SPSS Exact Tests software helps ensure that you have the right statistical test for your data. Because it is part of the IBM SPSS Statistics product line, you can count on comprehensive solutions for your modeling and data analysis needs.



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

IBM SPSS Exact Tests software is crucial to your research if you are:

- Operating with a small number of cases
- Working with variables that have a high percentage of responses in one category
- Subsetting your data into fine breakdowns
- Searching for rare occurrences in large data sets



In this example, even though there are only 10 cases, IBM SPSS Exact Tests software helps you determine that a significant relationship exists.

Case Processing Summary						
	Cases					
	Valid	Missing	Total	N	Percent	
Would you recommend this paper? (Which section do you enjoy the most?)	10	100.0%	0	0%	10	100.0%

Would you recommend the paper? (Which section do you enjoy the most?) Crosstabulation						
Count		Which section do you enjoy the most?				Total
		Business	Science	News	Sports	
Would you recommend the paper?	Likely	2	3	2	3	8
	Somewhat Likely	1	3	1	1	4
	Not Likely	0	2	0	0	2
Total		3	4	3	2	10

Analyze small data sets and get more precise results.

Specifications

Tests and statistics

Pearson Chi-square test, Likelihood ratio and Fisher's Exact

- Exact one-tailed, two-tailed p values for 2x2 table
- Exact two-tailed p values for general RxC table
- Monte Carlo (MC) two-tailed p values and general RxC table

Linear-by-linear association

- Exact one-tailed and two-tailed p values and exact point probability
- MC one-tailed and two-tailed p values and CIs

Contingency coefficient, Phi, Cramer's V, Goodman and Kruskal Tau, uncertainty coefficient—symmetric or asymmetric, Kappa, Gamma, Kendall's Tau-b and Tau-c, Somers' D—symmetric and asymmetric, Pearson's R and Spearman correlation

- Exact two-tailed p values
- MC two-tailed p values and CIs

McNemar

- Exact one-tailed and two-tailed p values and point probability

Sign and Wilcoxon signed-rank

- Exact one-tailed and two-tailed p values and point probability
- MC one-tailed and two-tailed p values and CIs

Marginal homogeneity

- Asymptotic, exact, MC one-tailed and two-tailed p values and point probability

Two-sample Kolmogorov-Smirnov

- Exact two-tailed p values and point probability
- MC two-tailed p values and CIs

Mann-Whitney U or Wilcoxon Rank-sum W

- Exact two-tailed p values, exact one-tailed p values and point probability
- MC one-tailed and two-tailed p values and CIs

Wald-Wolfowitz Runs

- Exact one-tailed p value and point probability
- MC one-tailed p value and CIs

Jonckheere-Terpstra

- Asymptotic, exact, MC one-tailed and two-tailed p values and point probability

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

IBM SPSS Forecasting

Build expert time-series forecasts—in a flash

With IBM SPSS Forecasting software, you can:

- Support time-series analysis
 - Find an ideal model for your data using the expert modeler
 - Apply saved models to what-if scenarios to optimize your decisions
-

Time-series analysis is one of the most powerful procedures you can use to analyze historical information, build models, predict trends and forecast future events. IBM SPSS Forecasting software is an ideal way to quickly create powerful forecasts with confidence. With better forecasts, long-term goals can be set – with insight on how to achieve them – based on your organization's past performance and knowledge of your industry.

Unlike spreadsheet programs, IBM SPSS Forecasting software has the advanced statistical techniques you need to work with time-series data. But you don't need to be an expert statistician to use it. Regardless of your level of experience, you can analyze historical data and predict trends faster and deliver information in ways that your organization's decision makers can understand and use.

IBM SPSS Forecasting software can help you find answers to tough questions:

- If I increase my advertising budget, how will it affect sales by product or region?
- How will increasing assembly line capacity affect production?
- Will a change in fees affect the number of new customers we gain?
- How will tuition increases affect enrollment?



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

If you're new to building models from time-series data, IBM SPSS Forecasting software can help you by:

- Generating reliable models, even if you're not sure how to choose exponential smoothing parameters or ARIMA orders or how to achieve stationarity
- Automatically testing your data for seasonality, intermittency and missing values and selecting appropriate models
- Detecting outliers and preventing them from influencing parameter estimates
- Generating graphs showing confidence intervals and the model's goodness of fit

If you're experienced at forecasting, IBM SPSS Forecasting software allows you to:

- Control virtually every parameter when building your data model
- Use IBM SPSS Forecasting software's expert modeler recommendations as a starting point or to check your work

Use IBM SPSS Forecasting software to:

- Develop reliable forecasts quickly, regardless of the size of the data set or number of variables
- Update and manage forecasting models efficiently
- Reduce forecasting errors by automating appropriate model selection and parameters
- Gain more control over choices affecting models, parameters and output
- Deliver high-resolution graphs and communicate results effectively

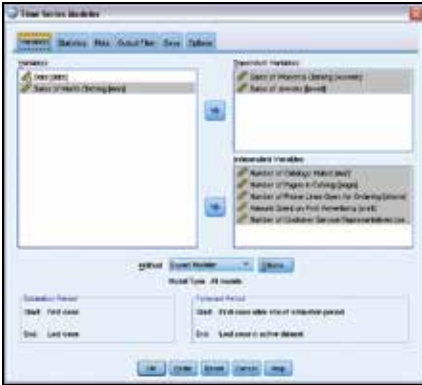
Specifications: Key features

TSMODEL

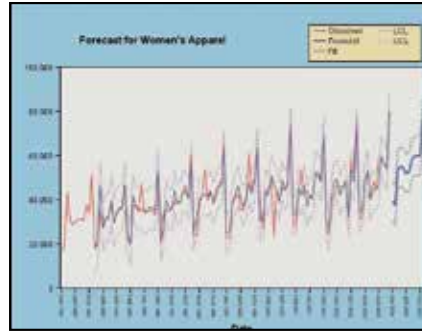
- Model a set of time-series variables by using the expert modeler or specifying the structure of an ARIMA or exponential smoothing model
- Allow expert modeler to select ideal predictor variables and models
 - Limit search space to only ARIMA or only exponential smoothing models
 - Treat independent variables as events

- Specify custom ARIMA models
 - Produces maximum likelihood estimates for seasonal and nonseasonal univariate models
 - General or constrained models specified by autoregressive or moving average order, order of differencing, seasonal autoregressive or moving average order, and seasonal differencing
 - Two dependent variable transformations: Square root and natural log
 - Automatically detect or specify outliers: Additive, level shift, innovational, transient, seasonal additive, local trend and additive patch
 - Specify seasonal and nonseasonal numerator, denominator and difference transfer function orders and transformations for each independent variable

- Specify custom exponential smoothing models
 - Four nonseasonal model types: Simple, Holt's linear trend, Brown's linear trend and damped trend
 - Three seasonal model types: Simple seasonal, Winters' additive and Winters' multiplicative
 - Two dependent variable transformations: Square root and natural log
- Display forecasts, fit measures, Ljung-Box statistic, parameter estimates and outliers by model
- Generate tables and plots to compare statistics across models



This screen capture of the time-series modeler shows how it provides you with the ability to model multiple series simultaneously. Because the module presents results in an organized fashion, you can concentrate on the models that need closer examination.



This screen capture displaying a forecast for women's apparel shows how you can automatically determine which model best fits your time-series and independent variables.

Specifications: Key features

- Eight goodness-of-fit measures available: stationary R2, R2, root mean square error, mean absolute percentage error, mean absolute error, maximum absolute percentage error, maximum absolute error and normalized Bayesian Information Criterion (BIC)
- Tables and plots of residual autocorrelation function (ACF) and partial autocorrelation function (PACF)
- Plot observed values, forecasts, fit value, confidence intervals for forecasts and confidence intervals for fit values for each series
- Filter output to fixed number or percentage of best-fitting or worst-fitting models
- Save predicted values, lower confidence limits, upper confidence limits and noise residuals for each series back to the data set
- Specify forecast period, treatment of user-missing values and confidence intervals
- Export models to an XML file for later use by TSAPPLY

TSAPPLY

- Apply saved models to new or updated data
- Simultaneously apply models from multiple XML files created with TSMODEL
- Reestimate model parameters and goodness-of-fit measures from the data or load from the saved model file
- Selectively choose saved models to apply
- Override the periodicity (seasonality) of the active data set
- Same output, fit measure, statistics and options as TSMODEL
- Export reestimated models to an XML file

SEASON

- Estimates multiplicative or additive seasonal factors for periodic time series
- Multiplicative or additive model
 - Moving averages, ratios, seasonal and seasonal adjustment factors, seasonally adjusted series, smoothed trend-cycle components, and irregular components

SPECTRA

- Decomposes a time series into its harmonic components, a set of regular periodic functions at different wavelengths or periods
- Produces or plots univariate or bivariate periodogram and spectral density estimate
 - Bivariate spectral analysis
 - Smooth periodogram values with weighted moving averages
 - Spectral data windows available for smoothing: Tukey-Hamming, Tukey, Parzen, Bartlett, equal weight, no smoothing and user-specified weights
 - High-resolution charts available: Periodogram, spectral and cospectral density estimate, squared coherency, quadrature spectrum estimate, phase spectrum, cross-amplitude and gain

System requirements

Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux



IBM SPSS Missing Values

Build better models when you fill in the blanks

When you ignore or exclude missing data, you risk obtaining biased or insignificant results. Use IBM SPSS Missing Values software to impute your missing data and draw more valid conclusions.

IBM SPSS Missing Values software is a critical tool for practically anyone concerned about data validity. You can more easily examine your data to uncover missing data patterns and then estimate summary statistics and impute missing values through statistical algorithms.

For example, you can improve survey questions that you've identified as possibly confusing based on observed missing data patterns. You can even determine whether missing values for one variable are related to missing values of another with the percent mismatch of patterns table.

You might find that respondents who skip a question on income might also bypass a question about education level. Use this information to enhance the quality of your surveys in the future.



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

With IBM SPSS Missing Values software, you can:

- Overcome missing data issues
- Use multiple imputation to replace missing data
- Build models taking missing data into account

Reach more valid conclusions

Replace missing values with estimates, and increase the chance of receiving statistically significant results. Remove hidden bias from your data by replacing missing values with estimates to include all groups in your analysis—even those with poor responsiveness.

Specifications: Key features

Analyze patterns

- Display missing data and extreme cases for all cases and all variables using the data patterns table
 - Display system-missing and three types of user-defined missing values
 - Sort in ascending or descending order
 - Display actual values for specified variables
- Display patterns of missing values for all cases that have at least one missing value using the missing patterns table – Group similar missing value patterns together
 - Sort by missing patterns and variables
 - Display actual values for specified variables
- Determine differences between missing and nonmissing groups for a related variable with the separate variance t test table
 - t test, degrees of freedom, mean, p value and count
- Show differences between present and missing data for categorical variables using the distribution of categorical variables table
 - Produce cross-tabs showing product and missing data for each category of one variable by the other variables
- Assess how much missing data for one variable relates to the missing data of another variable using the percent mismatch of patterns table
 - Sort matrices by missing value patterns or variables
- Identify all unique patterns with the tabulated patterns table, which summarizes each missing data pattern and displays the count for each pattern plus means and frequencies for each variable
 - Display count and averages for each missing value pattern using the summary of missing value patterns table

Multiple imputation

- Specify which variables to impute and specify constraints on the imputed values, such as minimum and maximum values. You can also specify which variables are used as predictors when imputing missing values of other variables.
- Impute values for categorical and continuous variables.
- Logistic regression is used for categorical variables and linear regression for continuous variables. Predictive mean matching is an option for continuous outcomes; this helps ensure that the imputed values are reasonable (within the range of the original data).
- Missing data pattern detection helps determine which imputation method to use.
- Three imputation methods are offered:
 - Monotone: An efficient method for data that has a monotone pattern of missingness
 - Fully conditional specification (FCS): An iterative MCMC method that is appropriate when the data has an arbitrary (monotone or no monotone) missing pattern
 - Automatic: Scans the data to determine the best imputation method (monotone or FCS)
- Specify:
 - The number of imputations
 - The range of imputed values
 - Whether interaction effects are used when imputing – Optionally, turn off imputation for variables that have a higher percentage of missing values
 - Tolerance levels, to check for singularity

- You can also specify a variable containing analysis (regression) weights. The procedure incorporates analysis weights in regression and classification models used to impute missing values. Analysis weights are also used in summaries of imputed values (for example, mean, standard deviation and standard error).
- Display an overall summary of missingness in your data as well as an imputation summary and the imputation model for each variable whose values are imputed. You can obtain analysis of missing values by variable as well as tabulated patterns of missing values. Optionally, you can obtain descriptive statistics for imputed values.
- Graphically summarize missingness for cases, variables and individual data (cell) values.
- Request an IBM SPSS Statistics data file containing imputed values or an FCS iteration history.
- Multiple imputation data sets can be analyzed using supported analysis procedures to obtain final (combined) parameter estimates that take into account the inherent uncertainty in the various sets of imputed values.

A model of health

Centerstone Research Institute mines patient data with IBM SPSS predictive modeling to optimize treatment and enhance clinical outcomes

Centerstone Research Institute (CRI) has a network of more than 130 nonprofit community mental health locations in Indiana and Tennessee serving more than 75,000 people each year with illnesses such as depression, drug addiction and stress-related disorders. CRI's objective is to help guide the Centerstone clinics by conducting clinical research on a variety of frequently seen illnesses, providing clinicians with actionable information for their clinical and business management practices.

Now, with the help of IBM SPSS Modeler software, researchers at CRI are taking evidence-based medicine a step further: They are using direct feedback from patients to steadily improve Centerstone's knowledge base and help clinicians understand which treatments have the most likelihood of being successful. It's an alternative approach called practice-based evidence.

To analyze the data, CRI implemented IBM SPSS Modeler software, a predictive analytics solution that reveals patterns and trends in data to better understand what factors influence outcomes. Researchers can use those patterns to build clinical decision support tools within the electronic health record that generate individualized treatment recommendations for future clients. With the intelligence generated from the data, CRI has been able to help clinicians significantly improve patient outcomes—the center's number-one priority—and lower costs.

"We know from health research literature that patients are only diagnosed correctly 50 percent of the time at first pass," says Casey Bennett, lead data architect at CRI. "On top of that, patients are only given the correct treatment about 50 percent of the time. That means we're only achieving correct diagnosis and treatment rates of about 25 percent at first pass. With IBM SPSS Modeler, we can increase that rate significantly and deliver more personalized medicine."

"Our goal is to deliver personalized medicine based on real-world experience. IBM SPSS predictive modeling is a key tool to help us achieve that."

— Tom Doub, COO, Centerstone Research Institute

Specifications: Key features

Analysis

- Supported analysis procedures for multiple imputation (Note: You must have purchased the proper module in which the procedure is located.)
- Descriptive procedures: Frequencies, descriptives, cross-tabs, correlations, nonparametric correlation, partial correlation
- Comparison of means: Means, t test, nonparametric tests, one-way ANOVA, univariate ANOVA
- Models: General linear models, generalized linear models, linear regression, multinomial logistic regression, binary logistic regression, discriminant analysis, ordinal regression, linear mixed models
- Survival analysis techniques: Cox regression

Pooling

- Pooling of output: Output is pooled using one of two levels of pooling, which produces pooled parameters
- Pooling diagnostics
 - Relative increase in variance: Measure of relative variability in parameter estimate across imputations
 - Fraction of missing information: Relative increase in variance scaled as a proportion; a measure of uncertainty as a result of nonresponse
 - Relative efficiency: Efficiency of estimate for M imputations relative to that for an infinite number of imputations
- Obtain model predictive model markup language (PMML) for pooled parameter estimates: Linear regression, generalized linear models, multinomial logistic regression, binary logistic regression, discriminant analysis, Cox regression

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

IBM SPSS Neural Networks

Discover complex relationships in your data more easily

With IBM SPSS Neural Networks software, you can:

- Explore data using nonlinear data modeling tools
- Uncover hidden connections in your data
- Improve model performance

IBM SPSS Neural Networks software offers techniques that enable you to explore your data in new ways and, as a result, build more accurate and more effective predictive models.

A computational neural network is a set of nonlinear data modeling tools consisting of input and output layers plus one or two hidden layers. The connections between neurons in each layer have associated weights, which are iteratively adjusted by the training algorithm to minimize error and provide accurate predictions. You set the conditions under which the network “learns” and can finely control the training stopping rules and network architecture or let the procedure automatically choose the architecture for you.

IBM SPSS Neural Networks software provides a complementary approach to the statistical techniques available in IBM SPSS Statistics Base software and its modules. From the familiar IBM SPSS Statistics interface, you can mine your data for hidden relationships using the multilayer perceptron (MLP) or radial basis function (RBF) procedure. With either of these approaches, the procedure operates on a training set of data and then applies that knowledge to the entire data set and to any new data.

Get a greater return on your investment in data

The data you already have holds opportunities you may not have fully realized. With the models created with IBM SPSS Neural Networks software, you can discover relationships that you wouldn’t find using traditional, linear statistical techniques. And you can do this almost automatically. You don’t have to do any programming—but you can still stay in control of the process.



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

You can influence the weighting of variables, specify details of the network architecture, select the type of model training desired and more. After you have trained and validated your models, you can share results with others in graphs and charts.

How can you use IBM SPSS Neural Networks software?

You can combine neural network techniques with other statistical approaches to gain clearer insight in many areas.

- **Marketplace research**
 - Create customer profiles
 - Discover customer preferences
- **Database marketing**
 - Segment your customer base
 - Optimize campaigns
- **Financial analysis**
 - Analyze applicants’ creditworthiness
 - Detect possible fraud
- **Operational analysis**
 - Manage cash flow
 - Improve logistics planning
- **Healthcare**
 - Forecast treatment costs
 - Perform medical outcomes analysis
 - Predict hospital length of stay

Specifications: Key features

MLP

- Fits an MLP neural network, which uses a feed-forward architecture
- Can have multiple hidden layers
- One or more dependent variables may be specified—scale, categorical or a combination of these
- EXCEPT subcommand excludes selected variables
- RESCALE subcommand rescales covariates or scale-dependent variables
- PARTITION subcommand specifies the method of partitioning the active data set into training, testing and holdout samples
- ARCHITECTURE subcommand specifies the network architecture
 - The number of hidden layers
 - The activation function to use for all units in the hidden layers
 - The activation function to use for all units in the output layer
- CRITERIA subcommand is used to specify computational resources

- STOPPINGRULES subcommand specifies the rules that determine when to stop training the network
- MISSING subcommand controls whether user-missing values for categorical variables are treated as valid values
- PRINT subcommand indicates the tabular output to display and can be used to request a sensitivity analysis
- PLOT subcommand indicates the chart output to display
- SAVE subcommand writes temporary variables to the active data set
- OUTFILE subcommand saves XML format files containing the synaptic weights

RBF

- Fits an RBF network, which uses a feed-forward, supervised architecture
- Has only one hidden layer
- Trains the network in two stages and is faster than an MLP network

- Subcommands listed for the MLP procedure (above) perform similar functions for the RBF procedure, except that:
 - When using the ARCHITECTURE subcommand, users can specify the Gaussian RBF used in the hidden layer: either normalized RBF or ordinary RBF
 - When using the CRITERIA subcommand, users can specify the computation settings for the RBF procedures, specifying the hidden-unit overlapping factor that controls how much overlap occurs among the hidden units

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux

IBM SPSS Regression

Make better predictions using regression procedures

IBM SPSS Regression software gives you an even wider range of statistics so you can get more accurate responses for specific data types. Do you build predictive models but find ordinary least squares regression too limiting? If so, IBM SPSS Regression software can make your life easier.

Use IBM SPSS Regression software for:

- Marketplace research: Study consumer buying habits
- Medical research: Study response to dosages
- Loan assessment: Analyze good and bad credit risks
- Institutional research: Measure academic achievement tests

Find the best predictor from dozens of possibilities

Apply more sophisticated models with IBM SPSS Regression software's wide range of nonlinear modeling procedures.

- **MLR:** Predict categorical outcomes with more than two categories. Free of constraints such as yes or no answers, MLR allows you to model which factor predicts whether the customer buys product A, B or C.
- **Choose from four methods for selecting predictors:** Forward entry, backward elimination, forward stepwise and backward stepwise
 - Stepwise function in MLR: Save time and more easily find the best predictors for your data.
 - Use Score and Wald methods for a faster and more accurate conclusion for variable selection.
 - Apply a highly scalable, high-performance algorithm to handle big data sets.
 - Save time by specifying the reference category in your outcome variable in the user interface. You no longer need to recode the dependent variable set up in the desired reference category.
 - Use AIC and BIC to better assess model fit.



Play a quick demo.



Download the data sheet and full specifications.



Buy now.

With IBM SPSS Regression software, you can:

- Predict categorical outcomes with more than two categories
 - More easily classify your data into two groups
 - Gain more control over your model
-
- **Binary logistic regression (BLR):** Predict dichotomous variables such as buy or not buy, vote or not vote. This procedure offers many stepwise methods to select the main and interaction effects that can best predict your response variable.
 - **NLR and CNLR:** Get control over your model and your model expression. These procedures give you two methods for estimating parameters of nonlinear models.
 - **Weighted least square regression (WLS):** Give more weight to measurements within a series
 - **Probit analysis:** Analyze potency of responses to stimuli, such as medicine doses, prices or incentives. Probit evaluates the value of the stimuli using a logit or probit transformation of the proportion responding.

Specifications: Key features

MLR

- Control the values of the algorithm-tuning parameters
- Include interaction terms
- Customize hypotheses by directly specifying null hypotheses as linear combinations of parameters
- Specify a dispersion scaling value
- Build equations with or without a constant
- Use a confidence interval for odds ratios
- Save the following statistics: predicted probability, predicted response category, probability of the predicted response category and probability of the actual response category
- Find the best predictor from dozens of possible predictors using stepwise functionality
- Use Score and Wald methods to quickly reach results with a large number of predictors
- Assess model fit
- Diagnostics for the classification table

BLR

- Forward and backward stepwise and forced entry modeling
- Transform categorical variables by using deviation contrasts, simple comparison, difference (reverse Helmert) contrasts, Helmert contrasts, polynomial contrasts, comparison of adjacent categories, user-defined contrasts or indicator variables
- Criteria for model building: probability of score statistic for entry, probability of Wald or likelihood ratio statistic for removal
- Save the following statistics: Predicted probability and group, residuals, deviance values, logit, studentized and standardized residuals, leverage value, analog of Cook's influence statistic, and difference in Beta
- Export the model using XML

CNLR

- Save predicted values, residuals and derivatives
- Choose numerical or user-specified derivatives

NLR

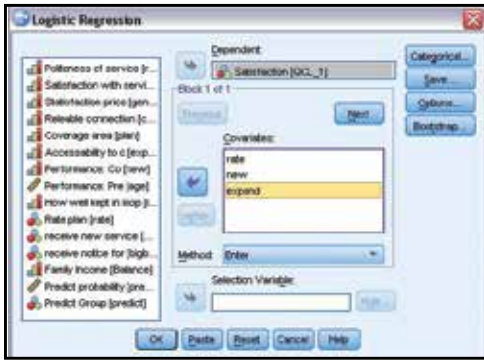
- Specify loss function options
- Use bootstrap estimates of standard errors

WLS

- Calculate weights based on source variable and Delta values or apply from an existing series
- Output for calculated weights: Log-likelihood functions for each value of Delta; R, R2, adjusted R2, standard errors, analysis of variance and t tests of individual coefficient for Delta value with maximized log-likelihood function
- Display output in pivot tables

Powerful regression procedures help you find the best predictors

1. Build predictive models



Predict the presence or absence of a characteristic or outcome based on values of a set of predictor variables. In this example, a wireless telephone service provider is interested in identifying dissatisfied customers so it can intervene before they defect to a competitor.

2. Predict categorical outcomes

Observed	Predicted			Percent Correct
	Breakfast Bar	Oatmeal	Cereal	
Breakfast Bar	118	34	79	51.1%
Oatmeal	14	251	45	81.0%
Cereal	96	116	127	37.5%
Overall Percentage	25.9%	45.6%	28.5%	56.4%

The parameter estimates table summarizes the effect of each predictor. The ratio of the coefficient to its standard error, squared, equals the Wald statistic. If the significance level of the Wald statistic is small (less than 0.05), then the parameter is different from zero. Parameters with significant negative coefficients decrease the likelihood of that response category with respect to the reference category. Parameters with positive coefficients increase the likelihood of that response category.

Specifications: Key features

Two-stage least squares (2SLS)

- Structural equations and instrumental variables
- Control for correlations between predictor variables and error terms
- Display output in pivot tables

Probit

- Transform predictors: Base 10, natural or user-specified base
- Natural response rate estimates or specified
- Algorithm control parameters: Convergence, iteration limit and heterogeneity criterion probability
- Statistics: Frequencies, fiducial confidence intervals, relative median potency, test of parallelism, plots of observed probits or logits
- Display output in pivot tables

System requirements

- Requirements vary according to platform

Available on the following platforms: Windows, Mac, Linux



IBM SPSS Text Analytics for Surveys

More easily make your survey text responses usable in quantitative analysis

With IBM SPSS Text Analytics for Surveys software, you can gain significant value from text responses—without the drudgery and expense associated with manual coding. Specifically designed for survey text, this product is based on our automated NLP software technologies. Using this software, you can automate the creation of categories and categorization of responses to transform unstructured survey data into quantitative data—without having to read text responses word for word.

You can get better out-of-the-box results in the English-language version by using prebuilt text analysis packages (TAPs) designed for categorizing customer, product or employee satisfaction surveys. New TAPs are also available for evaluating opinions on advertising, on banking satisfaction and on brand awareness.

Two versions of IBM SPSS Text Analytics for Surveys software are available for separate purchase: one for analyzing English, Dutch, French, German and Spanish survey text and a second for analyzing Japanese text.

When you use IBM SPSS Text Analytics for Surveys software, you are empowered to gain greater insight from text responses using these capabilities:

- **Dictionary-based text-extraction technology:** This product ships with libraries and resources to automate concept extraction. You can easily customize these libraries by adding topic-specific terms to match your needs.
- **Proven linguistic technologies:** This product is based on NLP technologies that enable you to quickly create categories and reliably categorize responses.



Play a quick demo.



Download the data sheet and full specifications.



Download a complimentary trial.



Buy now.

With IBM SPSS Text Analytics for Surveys software, you can:

- Gain greater analytical value from your text responses
- Save time by automating the creation of categories and the categorization of responses
- Save money by eliminating or reducing the need for outside coding services

Create conditional rules to enhance categorization: Use extraction results and Boolean operators to categorize responses based on more complex information and filter erroneous responses.

- **Visualization capabilities aid category refinement:** Use bar charts, web graphs and web tables to quickly reveal which categories contain concurrent responses. Then decide whether to combine certain categories or to create new ones that better account for shared responses.
- **Reuse and share categories:** Export categories for use by others in new projects to save time and help ensure reliability across the same or similar studies.
- **Export results to IBM SPSS Statistics or Excel software:** Analyze and graph results in other software for use in decision making.

Specifications

Key features

- Import data from IBM SPSS Statistics (SAV), Excel (XLS), Excel (XLSX) for Office 2007 and ODBC-compliant databases

Extract key concepts

- A Project wizard makes setup easier
- Extract terms, types and patterns automatically
- Create categories automatically (or manually if desired)
- Use prebuilt categories and resources (TAPs) for customer, employee and product satisfaction surveys*
- New: TAPs are available for evaluating opinions on advertising, on banking satisfaction and on brand awareness*
- Supports the reuse of categories created in other programs
- Use linguistic algorithms and a semantic network to automatically create categories and categorize responses
- New: Semantic network supports hundreds of general themes for enhanced category building*

- Create conditional rules to categorize responses by using extraction results and Boolean operators
- Allows the “force-in” and “force-out” of responses into and out of categories without changing the category definition

Refine results

- Categorize responses manually by dragging terms, types and responses within the interface
- Sort categories by relevance
- View response cooccurrence by using a category bar chart, web graph or web table
- Use flags to mark responses as complete or to follow up
- Profile categories by overlaying reference variables onto bar charts
- Print category lists and some visualizations

Export results

Export data from:

- IBM SPSS Statistics (SAV) and Excel (XLS)

Share resources

- Share project files that contain extracted results, categories and linguistic resources
- Export categories and definitions for reuse by others in new projects

Dictionaries (customizable)

- Type dictionary: Supports the grouping of similar terms
- Substitution dictionary: Groups similar terms under a target name
- Exclude dictionary: Contains terms to be ignored during extraction

* Indicates an exclusive feature of the English-language version

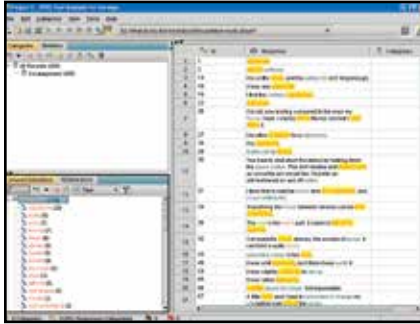
Get reliable results faster with automated features

Import survey text responses

Import text responses from a variety of sources, including IBM SPSS Statistics software, Microsoft Excel, and virtually any ODBC-compliant database program.

Extract key concepts

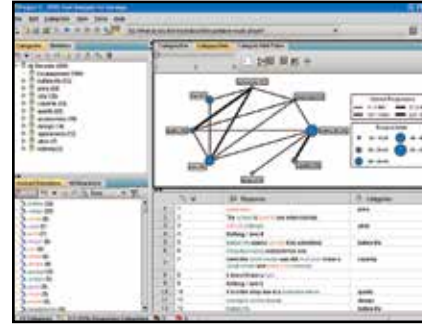
Extract key concepts automatically from responses to open-ended questions. The software creates a list of terms, types and patterns.



Simply click the “Extract” button (lower-left pane) to automatically extract concepts from the text responses. Automatic color coding identifies which terms have been extracted and identifies their type. Positive items are green; negative ones are red. The Data pane shows the full text of all responses to the question.

Refine categories

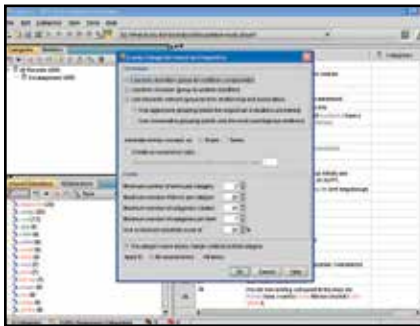
Visualization capabilities enable you to quickly see which categories share responses. This can help you refine categories manually.



A web graph showing which categories share responses enables the user to decide whether to combine certain categories or to create new ones that better account for shared responses.

Create categories and categorize text responses

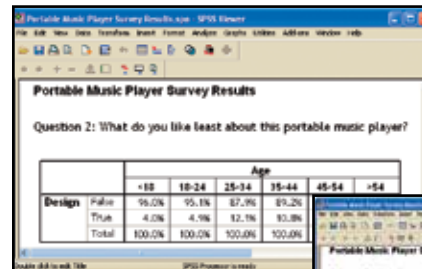
Automatically create categories and categorize responses using term derivation, term inclusion, a semantic network or frequency. Also, categorize responses manually by dragging terms, types and responses within the interface.



Click the “Create Categories based on Linguistics” button at the upper left to automatically create categories and categorize responses.

Export results for analysis and graphing

When you are satisfied with your categories, you can export results either as dichotomies or as categories. These can be used to create tables and graphs, either separately or in combination with other survey data.



Export results to IBM SPSS Statistics software to create cross-tabs or whatever your analysis requires.

Results can also be exported to IBM SPSS Statistics software to create graphs that communicate survey findings.



Specifications

Libraries

- Survey library: Contains resources related to pattern rules and types as well as a predefined list of synonyms and excluded terms (proprietary)
- Project library: Stores dictionary changes for a particular project
- Core library: Contains reserved type dictionaries for person, location, product and organization
- Budget library: Contains a built-in type for words or phrases that represent qualifiers and adjectives
- Opinions library: Contains seven built-in types that group terms for qualifiers and adjectives
- New: Additional libraries are available for banking, emoti-cons, finance and slang

System requirements

- For Microsoft Windows 7 Enterprise and Professional (32-bit and 64-bit); Windows Vista Ultimate, Enterprise, Business, Home Premium and Home Basic (32-bit and 64-bit) SP1; or Windows XP Professional (32-bit and 64-bit) SP3
- Japanese language version supports Microsoft Windows 7 Enterprise and Professional (32-bit); Windows Vista Ultimate, Enterprise, Business, Home Premium and Home Basic (32-bit) SP1; or Windows XP Professional and Home Edition (32-bit) SP3

Hardware:

- Processor: Intel Pentium-class; 3 GHz recommended – Monitor: 1024x768 (SVGA) resolution
- Memory: 512 MB RAM minimum (1 GB for Japanese language version); 1 GB or more for large data sets (2 GB for Japanese language version)
- Minimum free space: 800 MB minimum (1 GB for the Japanese language version); more recommended for larger data sets

Available on the following platforms: Windows

Index

Centerstone Research Institute.....	43	IBM SPSS Missing Values	42
Florida Department of Juvenile Justice.....	9	IBM SPSS Neural Networks.....	44
Follow the path to improved outcomes	4	IBM SPSS Regression.....	45
Gachon University Gil Hospital.....	30	IBM SPSS Statistics	8
IBM SPSS Advanced Statistics.....	20	IBM SPSS Statistics Base	17
IBM SPSS Amos	22	IBM SPSS Statistics Premium	14
IBM SPSS Bootstrapping	24	IBM SPSS Statistics Professional	12
IBM SPSS Categories	26	IBM SPSS Statistics Server	16
IBM SPSS Complex Samples.....	28	IBM SPSS Statistics Standard.....	10
IBM SPSS Conjoint.....	30	IBM SPSS Statistics Subscription	6
IBM SPSS Custom Tables.....	32	SPSS Statistics Text Analytics for Surveys.....	47
IBM SPSS Data Preparation.....	34	Portland Police Bureau	36
IBM SPSS Decision Trees	36	Solve your business and research problems	5
IBM SPSS Direct Marketing.....	38	What's new in IBM SPSS Statistics	7
IBM SPSS Exact Tests.....	39	Who uses IBM SPSS analytics?.....	3
IBM SPSS Forecasting.....	40		



© Copyright IBM Corporation 2017

IBM Corporation
New Orchard Road
Armonk, NY 10504

Produced in the United States of America
August 2017

IBM, the IBM logo, ibm.com, and SPSS are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at "Copyright and trademark information" at ibm.com/legal/copytrade.shtml

Adobe is either a registered trademark or trademark of Adobe Systems Incorporated in the United States, and/or other countries.

Intel is a trademark or registered trademark of Intel Corporation or its subsidiaries in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

UNIX is a registered trademark of The Open Group in the United States and other countries.

This document is current as of the initial date of publication and may be changed by IBM at any time. Not all offerings are available in every country in which IBM operates.

The client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions.

THE INFORMATION IN THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT. IBM products are warranted according to the terms and conditions of the agreements under which they are provided.

The client is responsible for ensuring compliance with laws and regulations applicable to it. IBM does not provide legal advice or represent or warrant that its services or products will ensure that the client is in compliance with any law or regulation.