



**Discover secrets  
your spreadsheet  
can't tell you**

## Choose SPSS for rich analysis

The following table summarizes why SPSS is a more effective choice for in-depth analysis than your spreadsheet application. With SPSS' range of functionality and ease of use, we're sure you'll agree that SPSS makes the perfect companion to spreadsheets. Start making better, more informed decisions today by including SPSS in your desktop toolkit.

<b>Quickly get a handle on your data.</b>	SPSS helps you quickly get a handle on your data by running descriptives and frequencies that give you more insight into your data. SPSS also goes beyond a spreadsheet's standard business graphs with a wide variety of charts that give you more insight into your data — and enable you to make important decisions with confidence. (Page 3)
<b>There's more than one way to look at your data.</b>	End the hassles of manually building, rerunning and reformatting tables when you make changes by using SPSS' multidimensional pivot tables; they make exploring your data easy. (Page 5)
<b>The trick to effective analysis is knowing what's significant.</b>	SPSS gives you a full set of statistical tests so you can tell if relationships are meaningful or differences are significant. Plus, "What's This?" help function gives you explanations, definitions and rules of thumb. (Page 7)
<b>It's important to separate the apples from the oranges.</b>	SPSS saves you time when you need to produce similar reports and graphics for subsets — in-depth analysis for all subsets is available in just a few mouse clicks. (Page 7)
<b>It's easier for you to work with words than numbers.</b>	SPSS gives you a more intuitive look at your data by showing you words (your labels) while working with numbers (your codes) — and labels are automatically applied to your graphs and reports. (Page 9)
<b>You need accurate results even when some data are missing.</b>	When you have missing data or want to quantify meaningful differences between non-response answers to survey questions, SPSS automatically gives you better, more accurate information than a spreadsheet. (Page 10)
<b>It's important to know when there's a problem with your data.</b>	SPSS helps you spot data-entry errors or unusual data points that you may want to leave out of your analysis or look at more closely before writing your final reports. (Page 11)
<b>Getting data into SPSS is easy.</b>	SPSS makes it easy to analyze data from spreadsheets, databases and complex file structures. And, SPSS practically eliminates the risk of accidentally changing your data while you do your analysis. (Page 12)
<b>All your data are valuable.</b>	You shouldn't be held back just because your spreadsheet can't work with large datasets — with SPSS you can analyze all of your data without risky compromises. (Page 12)
<b>Using the right tool for the job saves time and increases your productivity.</b>	Unlike a spreadsheet, which is designed for row-and-column math, SPSS' simple interface and underlying database make it easy for you to slice and dice your data for the in-depth analysis required to support your decision making. (Page 12)
<b>Answers to your questions should be easy to find and easy to understand.</b>	A spreadsheet's help functions only tells you the commands to follow to perform a task — SPSS' gives you pop-up definitions of statistical terms and rules of thumb for interpreting results. Generous online help is available in SPSS for Windows. In addition, you can get top-quality technical and statistical support over the phone, fax or e-mail or on the SPSS Web site. (Page 14)
<b>Your statistical tools should grow as your analytical needs change.</b>	Spreadsheets limit you to the most basic statistical features — SPSS gives you all those in its Base product, and you can easily take your work to the next level by choosing from a set of closely integrated add-on modules. (Page 15)

Spreadsheets are essential business tools that you should never give up. Spreadsheets are excellent for tracking numbers, creating basic graphs, simple reports and calculating basic math. They are indispensable for "what if?" analysis and many financial tasks, such as budgeting.

When you need to go beyond simple summaries and basic row-and-column math; when you want more insight into your data, you're ready for SPSS for Windows. Together, a spreadsheet and SPSS for Windows give you the tools necessary to make better, more-informed decisions. For example, SPSS for Windows serves as an ideal compliment to survey research, database analysis and predictive modeling.

## Twelve secrets you should know about data analysis

### 1. Quickly get a handle on your data

Before you run your data through models or create reports and summaries, you want to describe your data to ensure that you understand them. You might ask questions such as "What's the distribution?" or "What does the average person score?" SPSS for Windows gives you a variety of ways to summarize your data and accurately describe variables of interest, including:

- Data displays, such as frequency distributions and histograms, help you understand your data distribution and identify outliers so you can determine whether you need to re-enter or recode your data
- Measures of central tendency, such as mean and median
- Estimates of variability, such as standard deviation

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*“When you marry a good database with SPSS as the analytical package there isn't much you can't do.”*

— Lewis Clemmens, Marketing Database Architect, Miami Herald Publishing Co.

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In addition, sometimes it's necessary to see a picture of your data to completely understand the results. Visual displays help you spot patterns and identify data that are unusual or possibly even incorrect. Unusual data may require special treatment and incorrect data can distort the results of an analysis. In either case, a visual representation of your data often helps identify problems or opportunities you may not have discovered in the numbers.

A spreadsheet's standard business graphs, such as bar, line and pie graphs, are good at displaying basic information and summarizing data for presentations. SPSS goes beyond standard graphs by giving you a variety of additional charts – such as boxplots, control charts and Pareto charts — that give you more insight into your data. These charts are powerful analytical aids; they reveal underlying trends and variability in your data that typical business graphs don't reveal. Overall, using the analytical charts and graphs in SPSS helps you better understand your data and make more informed decisions.

Suppose you are the customer service manager for a catalog company that maintains a staffed customer service line. You have access to data that record the average time a customer spends on hold, in 15-minute increments, every day of the week (see Figures 1 and 2 on the next page).

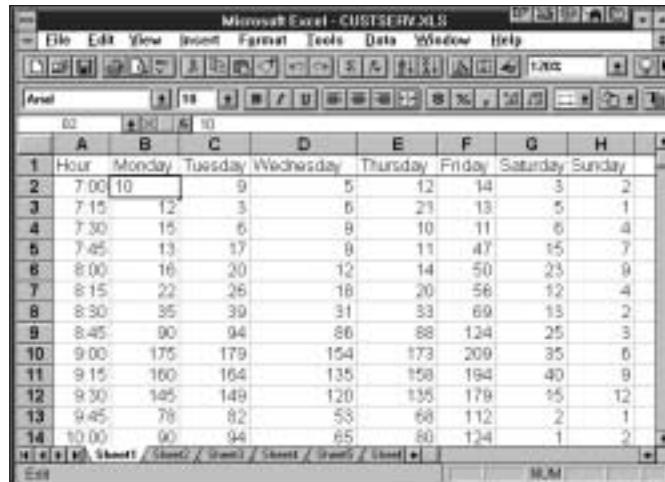


Figure 1. Customer hold time data.



Figure 2. This is a bar chart of average hold time by the day of the week. From this spreadsheet chart, you could mistakenly believe that the customer service team is performing well within the established standards.

You'd like to analyze the performance of customer service representatives to determine how quickly they answer calls since hold time has a direct impact on customer satisfaction. You decide the best way to begin is to create a chart.

You create a single chart with one bar for each day of the week. To do this, you must manually calculate an average hold time for each weekday. With this method, however, you could lose important detail by summarizing the information. Looking at the bar chart, you notice that the average time a customer is on hold varies by the day of the week, between 74 seconds and 115 seconds. This range is well within your company's established acceptable range of 0-150 seconds. If your analysis stopped here, you could draw the incorrect conclusion that the customer service team performs fairly well.

Taking your analysis a step further helps you gain an even better understanding of what happens in customer service. A boxplot of the data shows more detail giving you the median, minimum, maximum and distribution on one chart. SPSS reveals that although the average time a customer spends on hold is adequate, the performance of the customer service area dramatically differs throughout the day (see Figure 3 on the next page).

The "whiskers" of the box plot show that there are several occasions in which customer service representatives answer calls much faster than the average and sometimes their performance is much slower than average.

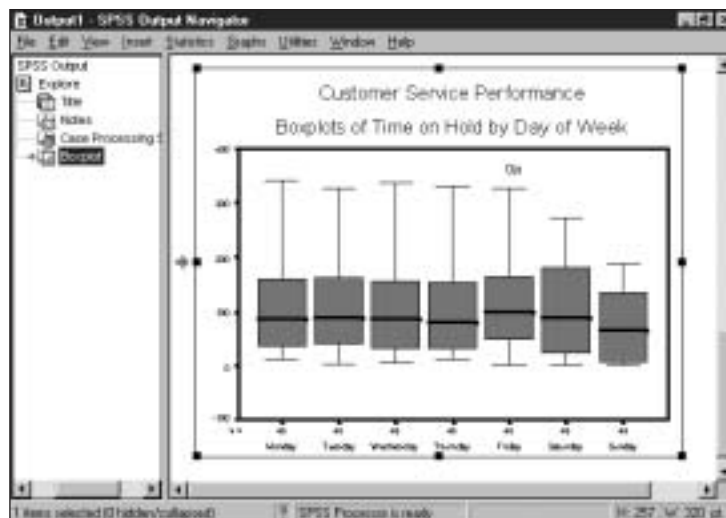


Figure 3. The whiskers of this SPSS boxplot, and the outlying point, clearly show instances in each day when customer service cannot answer calls within an acceptable range of 0-150 seconds. The spreadsheet bar chart misses this important finding.

This chart suggests further investigation. It appears that sometimes the representatives experience a slowdown and at other times there are far too many incoming calls for the representatives to handle. At peak times, many customers may not wish to remain on hold and hang up, resulting in lower satisfaction levels. This is one example of how an SPSS statistical graph gives you more information to understand your data better.

To create graphs in a spreadsheet, you must take extra steps in addition to creating any tables. In a spreadsheet, you must manually specify the data to graph by highlighting rows and columns to include in the graph. Then, you must highlight the area in your worksheet into which you want to place the graph. Finally, you follow a multi-step procedure to set up the chart, label it, etc. until you have completed a simple chart.

In SPSS, creating graphs is easy because data are already organized into a database ready for analysis. There is no need to highlight the individual data cells you include in your graph or to summarize the data to prepare it for graphing. And, you never have to specify where the graph should be placed. When you run a report, you often have the option to produce a fully labeled graph, with just a single mouse click, at the same time. There is no need to leave your analysis and run a separate session to produce charts because you can create and edit charts as you go — with over 50 built-in chart types to choose from.

## 2. There's more than one way to look at your data

When you create a report in a spreadsheet, what you see often triggers additional questions, requiring the analysis to be re-run in a different view. SPSS' pivot tables display your results in a multidimensional table. An SPSS pivot table enables you to look at your results from many

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*“With SPSS, we turn our data into usable information that helps us improve quality of care and address better mechanisms for creating cost efficiencies.”*

— Susan McBride, Director of Outcomes Management, Texas Health Resources East

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different angles by simply dragging icons. Rearranging icons, representing rows, columns and layers, increases the amount of information you can glean from your table and makes it easy to present your results clearly and professionally. The result: your decision makers have the ability to see data the way they want to see it, and your analyst no longer has to re-run reports.

You have the freedom and flexibility to explore your data after you have run your initial analysis. There is no need to run it again. You can explore the results of your analysis, more easily compare results across subgroups and uncover interesting findings.

Some spreadsheet packages include pivot tables, but often it is up to the user to create and format them. Once formatted, these tables cannot be pivoted again without losing their formatting. Pivot tables in SPSS require no additional work to create because the results of your analysis are automatically put into a pivot table (see Figure 4). Simply double-click on the table and it's ready to be pivoted or re-formatted for a different look. And, pivot tables are easy to read because column and row headings are clear.

Re-formatting reports and tables in SPSS is easy because predefined styles can be applied with a single click, so there is no need to manually apply borders, shading, bolding and other attributes. If you prefer, you can create a preferred format for your tables and save your style as a template to use for all your reports.

		Gender	
		Male Col %	Female Col %
How enjoyable was vacation?	Not Enjoyable at all		.0%
	Not Too Enjoyable	4.1%	1.7%
	O.K.	11.0%	4.2%
	Enjoyable	48.1%	50.0%
	Very Enjoyable	34.1%	42.1%

		Gender	
		Male Col %	Female Col %
How enjoyable was vacation?	Not Enjoyable at all	7.7%	.0%
	Not Too Enjoyable	.0%	.0%
	O.K.	11.9%	.0%
	Enjoyable	61.9%	68.8%
	Very Enjoyable	18.2%	21.1%

Figure 4. Pivot tables in SPSS for Windows clearly present your results in an interactive format, so you can easily look at results by group and step through each group. In the tables above, we are show one layer of data at a time. In this example, the layers represent the type of vacation.

The pivot table above was created for a travel agency from survey data about people's travel and vacation preferences. The pivot table contains three dimensions: one in the row, rating how enjoyable a certain type of vacation is; one in the column, gender; and one in the layer, type of vacation.

Layers enable you to display one category of data at a time, so you can, for instance, step through each type of vacation to see if there are any differences in people's vacation preferences. This information is beneficial for the travel agency because it helps them to better target their clients' preferences. You can use this table to get a further understanding of which vacation types people prefer and whether there are any gender differences. SPSS pivot tables help you easily explore questions that require you to examine groups and group differences and ultimately assist you in making more informed decisions.

### 3. The trick to effective analysis is knowing what's significant

It is not enough to look at simple reports and try to draw conclusions from them. Often, in glancing at a spreadsheet report, you notice differences that look interesting. Or, you see what appears to be a meaningful relationship. For example, Territory A's sales are higher than Territory B's. But are these findings really important? Are the differences big enough to be "statistically significant"?

Other factors, such as the size of your data file and the distribution of the data, must be evaluated before you can come to a conclusion with confidence. To know immediately if your results are significant or if differences are random, use the comprehensive significance statistics in SPSS.

SPSS has more significance tests than spreadsheets do, so you can be confident how you interpret results. These significance statistics are easy to use and can usually be run along with another analysis, such as a crosstabulation, with a simple click of your mouse button. Some significance tests include: Z-tests, t-tests, f-tests, p-values and confidence intervals.

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*“Before [SPSS], we did not know, and nobody else knew either. Previously, we would only be looking at actuals. You would assume a low score was a bad thing. But now we can say, ‘no the market is saying that is not important’... From this, you can dig down and look at what it is that attracts different people to different brands.”*

— Martin Callingham, Head of Market Research, Whitbread

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If your statistics are rusty, click “What's This?” to get explanations, definitions and rules of thumb for statistics or results. If you aren't sure what an analytical term means, easily look through the glossary of statistical terms for its definition.

SPSS for Windows gives you several other options for online help. For example, tutorials give you plenty of examples to guide you through the software and get you up and running quickly. The Statistics Coach can help you choose which statistical procedure or graph to use, while the Chart Advisor helps you select the best chart for deeper insight into your results. In addition, the included case studies show you how to use selected statistical procedures and interpret results through realistic, hands-on examples.

### 4. It's important to separate the apples from the oranges

SPSS enables you to quickly and easily run lengthy series of reports and graphs for different groups by simply clicking on the names of the groups and then clicking “Run.” There is no need to set up data as a database, sort it for every group, manually redo totals, and format reports or use wizards to build graphs as required by spreadsheets.

It's easy for you to look at many groups separately or compare them, all with a few mouse clicks and all without any manual manipulation of the data. There may be patterns hidden

in your data that tell you important information, but noticeable only if you look at your data when it is grouped in a certain way or when you compare certain groups.

For example, a product manager may wonder if people who read one magazine purchase more of their product than readers of another magazine, or whether younger people are buying more of their product than older people. These types of questions require you to analyze data in three ways: as a group, as separate groups and as a group comparison. There is no need to create separate data files or run the analysis on each group separately. With SPSS, you can do this quickly and easily so you can pinpoint relationships in the data that are important and make better decisions.

Suppose you need to run the same report on separate groups within your data. In a spreadsheet, you would have to filter each group individually and walk through every step of the analysis for each group. However, if the groups are mutually exclusive, the split file option in SPSS automates this process and can run the entire analysis for each group at one time. You can go back to the whole group, or easily subset the group with which you're working.

Suppose you need to produce sales reports with graphs for each state. SPSS does this for you easily. Simply double-click on the variable "state" and click OK to run all reports. To do this in a spreadsheet, the analysis would have to be specified and run 50 different times and 50 separate graphs would have to be created, through a repetitive, step-by-step, wizard-like process. Or, you could write a lengthy macro to do most of this task in your spreadsheet. Either way, the job is more easily completed using SPSS.

SPSS has many data management features, such as the split file option described above, that save you time and make in-depth analysis easy. As another example, suppose you sent a survey to those sales managers and received this data in 50 separate, tab-delimited files or 50 forms. What would you need to do to effectively analyze that data? Even the first step, getting the data into a form you can use, can be confusing, time-consuming and frustrating. With SPSS, it's easy for you to merge files together without worrying about matching up rows or columns of data.

Some of the data management capabilities SPSS contains are:

- **Merging** — merging combines files together from various sources. For example, information for customers in two different sales regions can be maintained in separate data files, but can be easily combined for monthly summary reports. There is no file aligning required and no loss of detail when you combine files.
- **Splitting** — splitting files separates your data into groups for analysis, but does not change the underlying data structure. For example, you can try grouping your data in different ways to discover new segments of your customer base that warrant more of your marketing efforts.
- **Subsetting** — subsetting files restricts your analysis to a specific subgroup based on criteria you specify, including specific value, date and time ranges as well as many other arithmetic expressions. No new data file is created. You can select sales data from a certain range or region to run a set of analyses, such as sales greater than \$10,000 or Region Y and Z.
- **Recoding** — recoding files changes existing data values into different values. This is especially useful for collapsing or combining categories, such as grouping people into categories for analysis by age.

- **Data Dictionaries** — data dictionaries help you reapply information about a data file, such as display formats, descriptive value and variable labels, and graph labels to a new data file containing some of the same variables. Data dictionaries automatically label all your graphs and tables.
- **Aggregating** — aggregating allows you to sum cases based on the value of one or more grouping variables and to save the “rolled-up” information to a new data file. This is extremely useful when you need to distribute summarized data to a group of people electronically, because there is no need to re-enter the summarized data in a new file.

## 5. It's easier for you to work with words than numbers

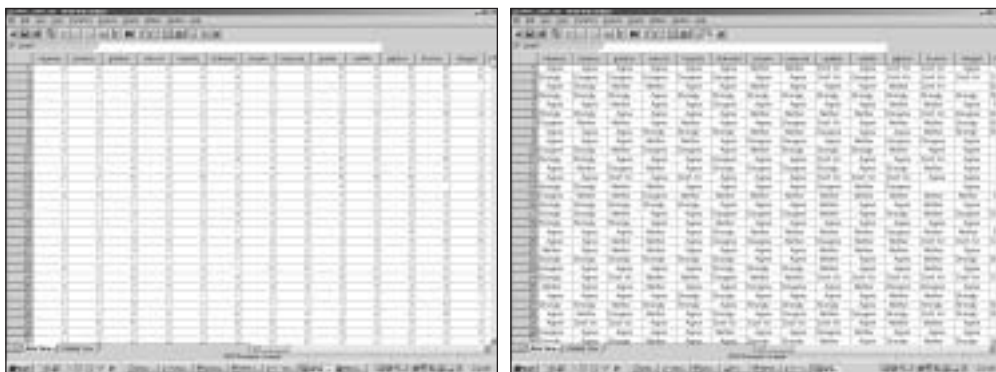


Figure 5: The SPSS Data Editor can show data in two formats: data values (left) and a more intuitive look at your data using value labels (right). In either case, all the calculations are performed with the underlying numbers.

Within a familiar row-and-column setting, SPSS gives you a more intuitive look at your data. The spreadsheet-style Data Editor shows you words (labels) in place of numeric values (codes) while still running calculations using the underlying codes. Codes are defined as values of a variable that identify the level or type of grouping. For example, 1 = Female and 0 = Male (see Figure 5).

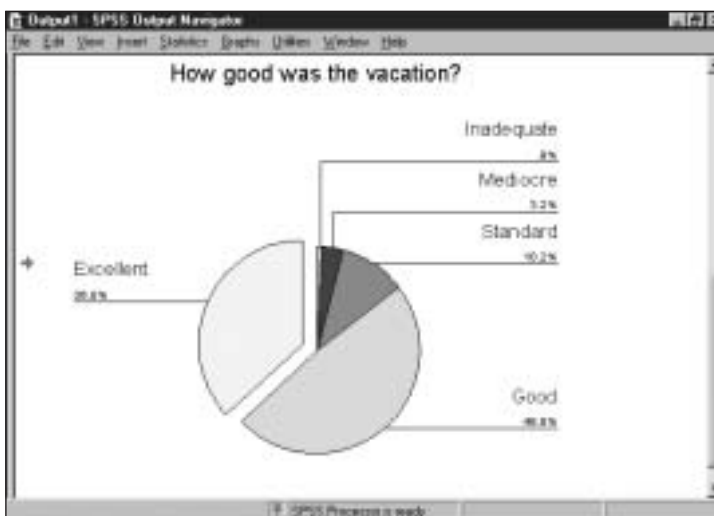


Figure 6. SPSS presents results in easy-to-understand formats. The labels in this pie chart were applied automatically.

SPSS also enables you to store all your labels in a data dictionary and reapply them to new data whenever needed (see Figure 6 on the previous page). This saves you valuable time when preparing your data for analysis. Since your labels are automatically applied to your graphs, you get clearer and easier-to-understand presentations. In a spreadsheet, you can work with words or numbers, but not both at once.

When dealing with unfamiliar data, it can be difficult to remember what each variable represents. SPSS gives you with a list of variables to choose from, and by right-clicking, you can get more information on a specific variable (see Figure 7). The range of acceptable values for that variable is immediately displayed. There is no need to search for variable descriptions because SPSS gives you information at your fingertips.

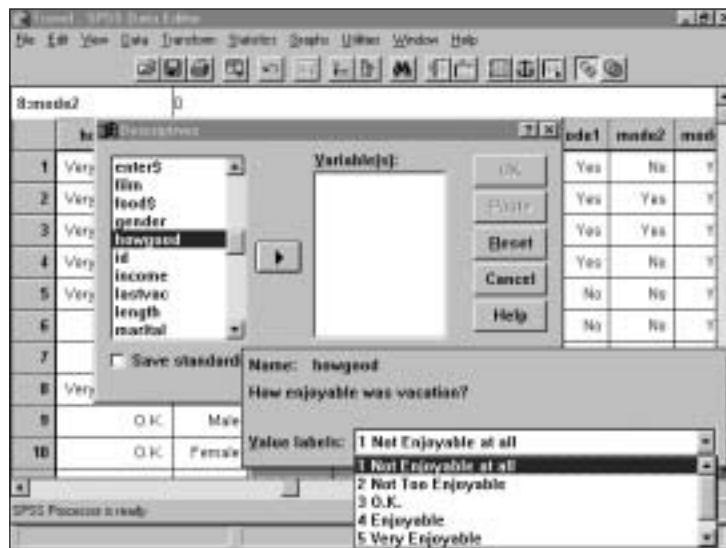


Figure 7. Pop-up information about your data is available whenever you are presented with a list of variables. Not only does this feature save you time, it can also increase your productivity.

## 6. You need accurate results even when some data are missing

Missing data can seriously affect your results. If you ignore missing data or assume that excluding missing data is sufficient, you risk getting invalid and insignificant results. With SPSS Missing Value Analysis as part of your data management and preparation step, you'll enter the data analysis stage using data that takes missing values into account. SPSS Missing Value Analysis, an SPSS add-on module, is a critical tool for anyone concerned about the validity of data.

With SPSS Missing Value Analysis, you can easily examine data from several different angles using one of six diagnostic reports to uncover missing data patterns. You can then estimate summary statistics and impute missing values through statistical algorithms. SPSS Missing Value Analysis helps you to:

- Diagnose if you have a serious missing data problem
- Replace missing values with estimates, for example, impute your missing data with EM or regression algorithms

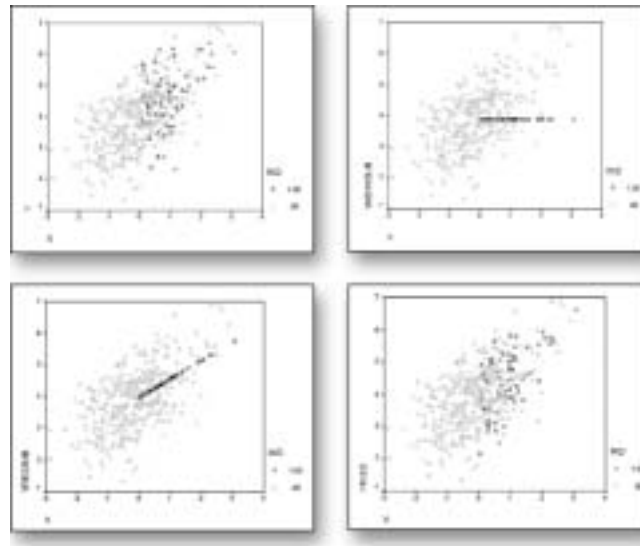


Figure 8.

Top left: Missing data can leave you with invalid or erroneous results.

Top right: Mean substitution available in other software packages isn't an accurate method of imputing missing values.

Bottom left: Using a fairly simple regression is better than means substitution, but it's still insignificant.

Bottom right: Clearly the best model, SPSS Missing Value Analysis provides a scatterplot of YMISS and X with imputed missing values.

A typical spreadsheet package, on the other hand, counts only data that has a blank entry as missing data and doesn't allow you to separate other data you may wish to leave out of the analysis. This inflexibility may cause you to miss critical differences that exist. Some spreadsheets offer a work-around solution by suggesting a "hand-tailored" approach to the formulas in the individual cells. This work-around can be time-consuming and error-prone.

SPSS Missing Value Analysis enables you to use all of your data instead of limiting your analysis to complete cases. Easily replace missing values with estimates and increase your chance of getting statistically significant results. Choose from EM and regression algorithms to predict missing values based on data you already have.

You can also draw more valid conclusions by removing hidden bias from your data by replacing missing values with estimates so all groups are represented in your analysis — even those with poor responsiveness.

## 7. It's important to know when there's a problem with your data

SPSS helps you spot data-entry errors or unusual data points that you may want to leave out of your analysis — or look at more closely.

Data points that are unusual can significantly affect the results of your analysis and influence the decisions you make. It is important to know whether unusual data is the result of a data-entry error, and should be disregarded, or whether it reflects a true relationship that exists in the data, and should be considered in your decision.

For example, scatterplots can provide an overview of the data helping you draw preliminary conclusions about possible relationships. To get more information, add trend lines with a mouse click. Data that do not follow general patterns or groupings may need to be checked to make sure they are not the result of a data-entry error.

Suppose you believe that sales representatives who make more phone calls generate more sales in their territories than those who don't make as many calls. The scatterplot in Figure 9 (on the next page) shows this relationship, but also brings to your attention an outlying point that doesn't seem to follow the general trend. SPSS makes it easy to examine these unusual points.

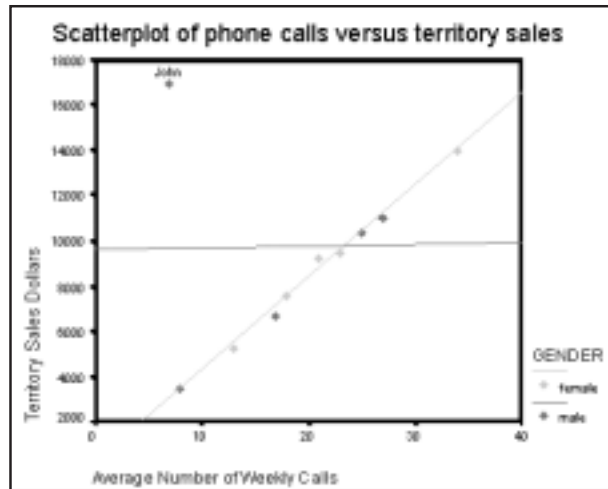


Figure 9. The scatterplot shows an outlying point that does not follow the general trend of the data. Simply click on the point to identify and label it.

## 8. Getting data into SPSS is easy

You can easily import data from your spreadsheet into SPSS, so there is no need to modify or re-enter your data in a different format. Because SPSS creates its own data file from the spreadsheet file, your original spreadsheet file remains completely intact — making your work in spreadsheets and SPSS easy.

SPSS can handle data in a wide variety of formats, beyond spreadsheet files. Using ODBC, SPSS easily reads data in databases such as Oracle or Microsoft Access. SPSS also has advanced capabilities for importing data in complex file types and record structures, as well as data in text files and delimited data.

## 9. All your data are valuable

Don't compromise your analysis because of software limitations. Get the best value with SPSS, and analyze all your data easily.

Typical spreadsheets can only handle datasets containing up to 65,000 rows. Once you have reached that limit, the program does not accept any more data. It simply stops reading data (see Figure 10).

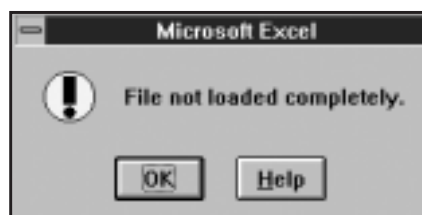


Figure 10. If you try to load more than 65,000 rows of data into a spreadsheet, you are likely to get this message. Since SPSS works with extremely large datasets, you don't have to break up data files and you never see this message.

SPSS works with extremely large datasets, so you never have to break your data file and analyze it piecemeal. Whether your dataset has 200 or 2,000,000 rows, SPSS handles it easily.

## 10. Using the right tool for the job saves time and increases your productivity

Spreadsheets are a good tool for performing row-and-column math, tracking numbers and running some basic statistics. But, they aren't designed for in-depth data analysis. Before statistical analysis even begins in a spreadsheet, you must specify an input and output range. If you aren't careful, you can accidentally copy a formula over data you wanted to keep.

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*“By using the software tools provided by SPSS we have cut out process time by 70 percent. It has also improved accuracy of the results.”*

— Jacqueline Martin, Principle Support Officer, East Ayrshire Council

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In a spreadsheet, you set up an analysis by specifying the cells it should use as an input range. However, this type of analysis never behaves like an analysis in a database would behave. For certain analyses in a spreadsheet, such as producing group data reports, the data has to be manually sorted and resorted.

SPSS is already a database. So, unlike most spreadsheets, you no longer need to manually set up your data. SPSS completely separates your results from the data, so you are never in danger of corrupting your data as you make changes.

Spreadsheets lack crucial business statistics and charts. SPSS goes beyond what you get in your spreadsheet and gives you more tools, including:

- **Time-series analysis** — this forecasting tool provides much better predictions than the simple regression found in spreadsheets because time-series analysis considers seasonal fluctuations. For instance, forecasting future sales of a product with seasonal fluctuations, such as hot chocolate, is much more accurate when time-series analyses are used.
- **Quality-control analysis** — product or service fluctuations in performance and quality can be extremely costly. Quality-control statistics and charts help identify when a product or process is not meeting standards. You can then take action to correct the situation.
- **Nonparametric tests** — general significance tests, like t-tests, are appropriate when the data is normally distributed. But, when the distribution is not normal or the sample size is small, using a general test can result in erroneous significance levels. Nonparametric tests give you an accurate significance level when your data don't follow typical patterns. For instance, data that tracks a direct-mail campaign contains information on every piece of mail sent, who responded and who purchased the product. Because response rates are typically very low for direct mail (i.e., one percent) this type of data is very skewed toward non-responders, or people that did not purchase the product. In this situation, it is more accurate to use nonparametric tests to calculate significance levels.

Spreadsheet statistics are often difficult to find and use effectively. To perform a sophisticated analysis, such as regression, in a spreadsheet you must specify the range of data for your dependent and independent variables. Then, you must specify labels. Plus, you need to tell the spreadsheet where to put the results. If these steps are not followed properly, your regression won't run.

In SPSS, there is no need to specify input and output areas. Statistics are easily found in a single drop-down menu that contains all the statistical choices plus selected graphics. You efficiently choose the correct statistic for your need (see Figure 11 on the next page).

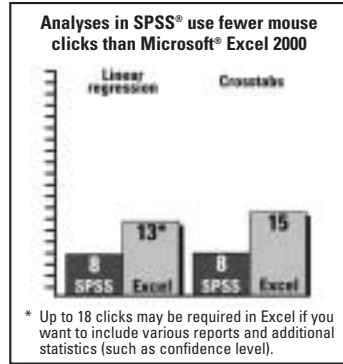


Figure 11. With SPSS for Windows, you can use fewer average mouse clicks than typical spreadsheets, allowing you to concentrate on analysis and not the mechanics of the program.

In addition, all your results including tables, charts and text are automatically organized in the Output Viewer so finding your results is fast and easy (see Figure 12). Should you need to redo the same analysis on another data file, SPSS documents your analytical steps in a separate file, so you can easily walk through your analysis again.

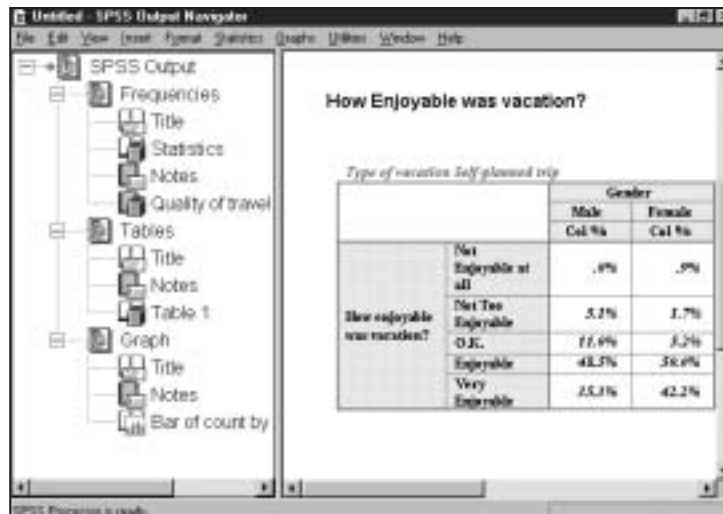


Figure 12. All your results, including tables, charts and text, are automatically organized in the Output Viewer.

### 11. Answers to your questions should be easy to find and easy to understand

If you have a question in a spreadsheet, the "Help" function tells you the commands to follow to perform certain tasks. But, that is really only half the answer. It doesn't show you how a particular analysis could be useful or how to interpret the results once you've run the analysis.

In SPSS, if you have questions, generous online help is available (see Figure 13 on the next page). Help functions include:

- Pop-up definitions of statistical terms
- A complete glossary of statistical terms
- "Rules of thumb" for interpreting results
- Comprehensive tutorial for an introduction to SPSS or when you need a refresher on specific tests



Figure 13. SPSS for Windows' extensive help walks you through the steps for analysis and how to interpret results. This screen shows a tutorial for working with crosstabulation tables.

Each dialog-box choice and every term used in a report is completely explained. Top-quality technical and statistical support is also available over the phone, fax or e-mail. You can also visit SPSS AnswerNet, on [www.spss.com](http://www.spss.com) to access a database of questions and answers about SPSS. With just a click of your mouse, you can search through the same information SPSS Technical Support uses to locate solutions.

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*“I don't know how we did what we did before we purchased SPSS. Before SPSS, we didn't have anything to manipulate our marketing data. SPSS has made our jobs far less complicated and made us more productive.”* — David Jedele, Owner, Marking Dynamics

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## 12. Your statistical tools should grow as your analytical needs change

SPSS offers a broad range of statistics that can grow to fit your needs. The SPSS Base system includes all the statistics, graphics and data management capabilities required by most business users. Add-on modules are available containing statistical procedures designed for specialized analytical needs. These procedures go beyond what is offered in the SPSS Base system. When used with SPSS Base, these modules are seamlessly integrated into the SPSS interface. SPSS gives you all the statistics you need in one package, so there is no need to learn a separate program. A typical statistical or spreadsheet package does not offer such specialized techniques.

SPSS' add-on statistical modules relevant for business users include:

- **SPSS Advanced Models™** — analyze complex relationships using a high-end modeling toolkit.
- **SPSS® Categories** — predict categorical outcomes when you understand how items are grouped with perceptual maps.
- **SPSS Conjoint™** — launch successful products and price them more effectively when you better understand customer preferences.

- **SPSS Exact Tests™** — reach correct conclusions with small samples and rare occurrences in large databases.
- **SPSS Maps™** — discover how geographic variables affect decision making when you transform SPSS data into demographic information.
- **SPSS Missing Value Analysis™** — draw more valid conclusions when you fill in the blanks with your missing data.
- **SPSS Regression Models™** — make better predictions using powerful regression procedures.
- **SPSS Tables™** — create fast production tables from survey data for presentation to clients.
- **SPSS Trends™** — improve your forecasts by analyzing historical information, building models and predicting trends using powerful time-series analysis.

Other modules are also available. Overall, SPSS products meet your changing and expanding needs effectively. Visit our Web site at [www.spss.com](http://www.spss.com) to learn more about and purchase these products.

## Summary

Statistical software is the perfect complement to your spreadsheet. Spreadsheets are great for everyday tasks, such as tracking budget numbers and creating simple summary reports and graphs.

However, there are times when you need more information from your data and need to perform in-depth analysis. At these times, you need SPSS. Since SPSS was designed for in-depth data analysis, you get better information from your data. SPSS can be used in two modes: the interactive GUI (like a spreadsheet) or syntax (for automating repetitive tasks). Thus you can easily and quickly run repetitive reports or automate tasks. And you don't have to learn a programming language to use SPSS since you can perform high-end analysis by pointing and clicking.

SPSS is the right choice to take your analysis to the next level. SPSS connects to your data regardless of where or how it is stored. SPSS can uncover hidden patterns and trends that rarely emerge when using spreadsheet row-and-column math. SPSS gives you great looking reports and graphs so you can effectively and easily communicate the results of your analysis. Together, SPSS and your spreadsheet can take your business data and translate it into meaningful information. That means you can make better, faster decisions that give your organization a significant competitive advantage.

## About the SPSS Business Intelligence division

The SPSS Business Intelligence division helps people solve business problems using statistics and data mining. This predictive technology enables our customers in the commercial, higher education and public sectors to make better decisions and improve results. SPSS Business Intelligence software and services are used successfully in a wide range of applications, including customer attraction and retention, cross-selling, survey research, fraud detection, enrollment management, Web site performance, forecasting and scientific research. SPSS Business Intelligence's market-leading products and product lines include SPSS,<sup>®</sup> Clementine,<sup>®</sup> AnswerTree,<sup>®</sup> DecisionTime,<sup>®</sup> SigmaPlot<sup>®</sup> and LexiQuest.<sup>™</sup> For more information, visit our Web site at [www.spssbi.com](http://www.spssbi.com).