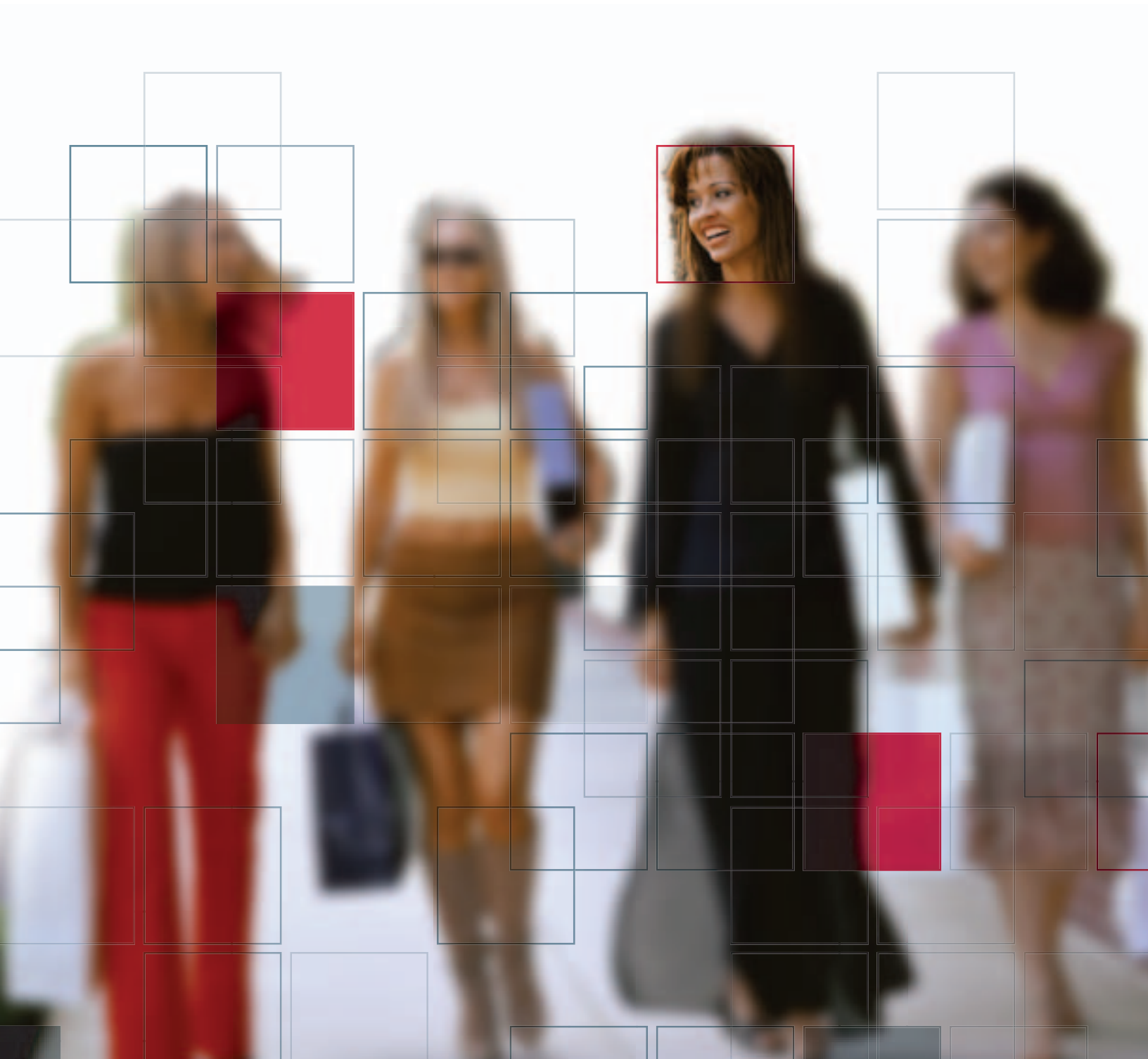


AnswerTree®

> Target the Right People More Effectively



> Better understand your customers

How do you determine which customer, citizen, or other groups best match your offerings or programs? Using AnswerTree, you can understand groups by creating profiles that identify segments and patterns in your data. Then, use this information to make predictions about the behavior of these groups.

Turn data into strategic information

What if you had a way to avoid spending a lot of money and time targeting people—and could achieve results that would increase your return on investment? Imagine if you could more accurately target people and eliminate the guesswork that leads you to send offers to arbitrary groups of people on your mailing list.

AnswerTree empowers you to more efficiently target the right groups of people. Unlike other types of segmentation, AnswerTree creates graphical representations—so you can easily see the groups that matter. Using the results from the trees, you can confidently profile groups and predict response rates.

With AnswerTree, you can detect segments and patterns, such as “high-profit customers are likely to respond to Web offerings” or “students who miss more than 45 days of school a year are twice as likely to drop out.” AnswerTree’s scalable decision-tree algorithms—the most comprehensive and flexible decision-tree package available—enable you to uncover this valuable information and solve business problems.

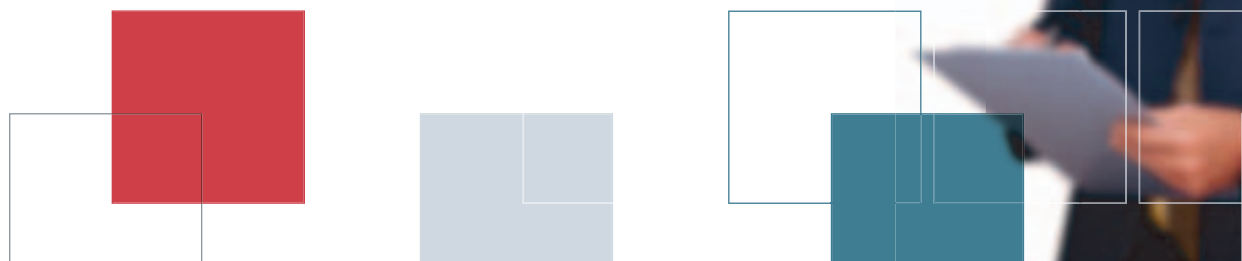
Use results to make a difference in your customer relationships

AnswerTree finds segments and patterns in your data, and gives you information you can use. For example, AnswerTree analyzes your data to:

- Identify potential respondents
- Discover which customer groups buy specific products
- Identify which customers will most likely defect
- Predict which customers are likely to repay their loans on time
- Determine which students are likely to graduate or drop out
- Profile the people who participate in your programs

So you have information that empowers you to:

- Develop better-targeted direct mail programs
- Offer specific products to the customer groups most likely to purchase them
- Create campaigns to increase customer retention
- Improve your credit scoring
- Improve student retention and graduation rates
- Develop more effective government programs and services
- And more



Spot important segments and patterns easily

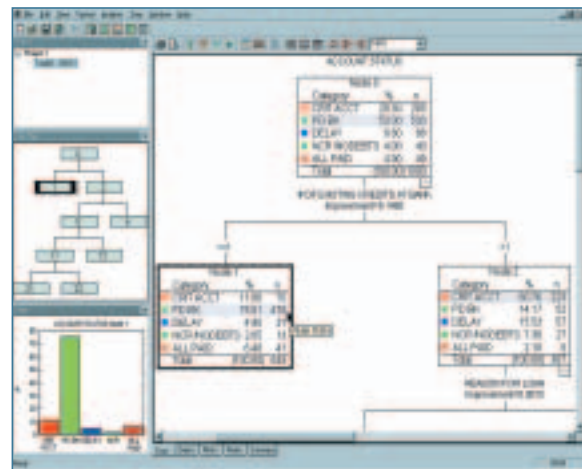
AnswerTree's intuitive diagrams ensure you can see the outcomes you care about. Because the diagrams display a snapshot of the segments, patterns, and relationships in your data, they enable you to confidently make decisions.

You don't need to be a specialist to get results in AnswerTree. You can automatically generate trees all at once. Or, interactively create trees by identifying the factors yourself, to work with groups as they are formed.

As you look from the top of your tree to the bottom, each branch represents the next-best predictor. Each node represents a unique segment—enabling you to see the groups in your data.

AnswerTree's model-building features help you quickly reach results:

- Get the best fit for your models—choose simple defaults or fine-tune results with expert model-building options
- Clearly see results—collapse and expand branches without having to delete branches in your tree
- Zoom to specific nodes of interest to better manage large trees
- Uncover more details for deeper understanding of each node using summary statistics, gains charts, and evaluation graphs
- Present results using a variety of formats—see everything you need to know about your nodes using dynamically linked bar charts, summary statistics, and a data viewer



A financial services company uses AnswerTree to determine the best loan candidates. The information highlighted in gray shows the target variable, “paid back,”—the percentage of people who repaid a previous loan. AnswerTree determined 75 percent of the people in this segment will repay loans. By focusing on the segment that includes the highest percentage of people who pay back loans, the company can decrease exposure to debt.

“AnswerTree helps me identify particular factors that could influence district, school, and individual student performance, without having to be a world-class statistical genius.”

—Chris Bowman
Technology Manager
Lafourche Parish School Board

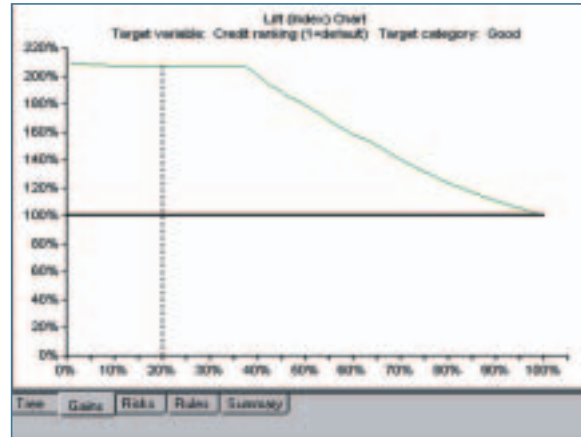
Leverage data across your organization

Because AnswerTree's algorithms are built with scalability in mind, you can work with your data more efficiently. But sometimes you need more processing power than your desktop computer provides—especially if you're working with large datasets, such as a catalog mailing list. If your data have outgrown your desktop computer, run AnswerTree on a server.

You can leverage your IT investment when using a larger server machine with a client-server version of AnswerTree installed. The distributed architecture means you process data where they can be handled more effectively. For example, if you have multiple users, you can analyze data on the server rather than running data on users' individual machines.

Act on results quickly

See the information that enables you to act on results quickly using AnswerTree's unique evaluation graphs. Chart types include gains, response, lift, profit, and ROI. These at-a-glance charts provide summaries of selected segments—giving you a clear picture of your results. For example, looking at a gains chart, a telecommunications company could determine what percentage of likely churners to target when creating a customer retention campaign.



Lift charts and other types of evaluation graphs empower you to identify ideal cutoff points—such as the segment most likely to have good credit. Lift charts, in particular, enable you to see the gains summary table graphically and interpret results. In this example, credit ranking is the target variable, and the lift chart shows the “good” responses (Y-axis) relative to the entire population (X-axis). We see that the top 20 percent of the total population is twice as likely to belong in the “good” credit-ranking group.

Put your model to work for you

Once you have results, how do you ensure your organization uses them effectively? Take action based on your findings when you apply concrete decision rules to new data. For example, a financial services company might use AnswerTree to discover a rule about bad credit risk. The company can write this information to a database or an SPSS file using SQL or SPSS syntax. The organization can then use these scores to determine which groups of people are most likely to repay loans.

Build better models with unprecedented analytical power

Different types of data work better with different algorithms, and your organization likely has many types of data—which change over time. Therefore, you need the ability to try different types of decision-tree algorithms with your data to find the best fit.

AnswerTree gives you four powerful algorithms that empower you to select the right one for your specific data. For example, you can choose one of the four algorithms and build a model, then compare it against another algorithm to determine which one works best for your dataset. Whether you're analyzing purchase amounts, product categories, demographics, or satisfaction ratings, only AnswerTree gives you the widest range of decision-tree algorithms available today:

1. CHAID—a fast, statistical, multi-way tree algorithm, which explores data quickly and efficiently, and builds segments and profiles with respect to the desired outcome
2. Exhaustive CHAID—a thorough, statistical, multi-way tree algorithm that explores data exhaustively
3. Classification and Regression Tree (C&RT)—a complete binary tree algorithm, which partitions data and produces accurate homogeneous subsets
4. QUEST—a statistical algorithm that selects variables without bias, and builds an accurate binary tree quickly and efficiently



“We developed (AnswerTree) models that enabled UNICEF Germany to identify optimal target groups, thus increasing its direct mail response by up to 80 percent.”

— *Matthias Singer-Fischer*
Senior Consultant
Ogilvy and Mather Dataconsult

Discover why specific customer groups defect

What if you could more accurately predict attrition rates and make the right decisions to keep more customers? Discover how organizations like yours use AnswerTree to solve a variety of business problems.

Situation

A regional branch of a national insurance company faced high churn rates.

Critical issue

The company needed to understand which customers had left the organization and which groups of customers were likely to defect in the future. It also needed to understand the factors that led to defection.

Solution

The company used AnswerTree, which enabled it to:

- Build customer profiles
- Understand the complexities that caused customers to defect

Results

- Better understood how premiums, tenure, and group rates affect churn
- More accurately predicted churn rates among customer groups and modified controllable factors to reduce churn

Uncover customer segments and reduce marketing costs

Situation

A financial services company needed to maintain high customer acquisition and retention rates—all while keeping marketing costs low to maintain margins.

Critical issue

In the past, the company mass-mailed marketing materials to all types of customers—spending a lot of money mailing offers to people who weren't likely to ever respond.

Solution

The company selected AnswerTree, which enabled it to:

- Uncover customer segments within its current customer database
- Analyze the patterns of current customer behavior

Results

- Reduced key marketing costs by 30 percent because it sent fewer mailings to a more targeted audience
- Boosted campaign profitability due to a higher rate of return

Assess program success

Situation

A social services agency, which is responsible for paying benefits, needed to ensure that people who recently left its programs remained self-sufficient.

Critical issue

The agency needed to maximize the efficiency of its programs and services. It needed to understand how more effective program management can empower the agency to reach its goals—ensuring the self-sufficiency of people who recently exited a program.

Solution

The agency used AnswerTree, which enabled it to:

- Build profiles of participants
- Evaluate the programs people participated in prior to their initial exit

Results

- Isolated factors that lead to program re-entry
- Assessed individual program success when it understood which groups of people entered and re-entered programs



Features

Trees

- Display tree diagram, tree map, bar graphs, and data
- Build trees easily using a wizard that prompts you through the model-building steps
- Choose from three tree-generating methods: automatic, interactive, or production mode
- View nodes using one of several ways: show bar charts of your target variables, tables, or both in each node
- Collapse and expand branches without deleting the model itself
- View and print trees horizontally or vertically
- Print large trees more easily using the print preview
- Specify the exact percent you want to zoom in on models
- Re-run tree building using the production mode; generate scripts automatically from the user interface or edit models directly from the script

Algorithms

- Four powerful decision tree algorithms:
 - CHAID by Kass (1980)
 - Exhaustive CHAID by Biggs, de Ville, and Suen (1991)
 - Classification & Regression Trees (C&RT) by Breiman, Friedman, Olshen, and Stone (1984)
 - QUEST by Loh and Shih (1997)
- Methods for handling missing data: Assign to a category or impute by surrogate
- Automatic discretization of continuous variables according to the number of categories the user specifies
- Partition data between training and test data to verify model accuracy
- Cost complexity pruning for C&RT and QUEST
- Random sampling of source data
- Pruning: Select subtree based on either standard error rule or minimum risk

- Stopping rules control the following settings:
 - Maximum tree depth by maximum number of levels or minimum number of cases
 - C&RT: Specify the minimum change in impurity

Scalability

- Algorithms made more scalable to better handle large datasets
- New server-tier processing added to increase scalability:
 - Decrease time for analyses with larger datasets
 - Make analysts more productive
 - Perform operations on the server to minimize network traffic
 - Reduce network traffic by enabling multiple users to analyze data on the server rather than bringing data to each user's machine for analysis

Evaluation

- Interactive evaluation graphs enable visual representation of gains summary table: Gains, response, lift (index), profit, and ROI
- Misclassification chart: Describes model performance, accuracy versus actual, and risk estimates
- Gains chart: Identify segments by highest (and lowest) contribution, and select nodes using this criteria
- Summary report: Document analysis results as well as the criteria used to build trees

Deployment

- Export:
 - Trees as Windows bitmap (BMP) or meta files
 - Gains charts and risk summary tables as tab-delimited text files
 - Rules and summaries as text files
 - Trees, gains charts, and risk, rule, and summary tables as HTML
- Export decision rules that define selected segments in SQL to score databases or SPSS syntax to score SPSS files

- Export XML models for use with SmartScore, a software development kit from SPSS Inc., to score cases using models developed in AnswerTree or in other systems:
 - Deploy models to your database or operational systems, such as call centers and Web sites, for automatic scoring
 - Customize and integrate into every point of your decision-making process

Data access

- To SPSS, Microsoft® Excel, and text (ASCII) files
- To Oracle®, Microsoft SQL Server™, and IBM® DB2® database management systems natively, and to other ODBC-compliant sources through the ODBC Wizard

System requirements

AnswerTree client:

- Operating system: Microsoft Windows® 98, 2000, or Windows NT® 4.0 with Service Pack 5 or higher
- Hardware: Intel® Pentium® class processor, SVGA monitor, and CD-ROM drive for installation
- Minimum free drive space: 70MB
- Minimum RAM: 64MB
- Microsoft Internet Explorer 5.0 for reading help documents

AnswerTree server:

- Windows NT Server, Windows 2000 Server, or Windows 2000 Advanced Server
 - Hardware: Pentium-class processor, SVGA monitor, and CD-ROM drive for installation
 - Minimum free drive space: 70MB
 - Minimum RAM: 64MB for the server
- Sun™ Solaris™ 2.6, 7, and 8
 - Hardware: UltraSparc® II processor (or better) and CD-ROM drive for installation
 - Minimum free drive space: 70MB
 - Minimum RAM: 256MB



About SPSS Inc.

SPSS Inc. (Nasdaq: SPSS) headquartered in Chicago, IL, USA, is a multinational computer software company providing technology that transforms data into insight through the use of predictive analytics and other data mining techniques. The company's solutions and products enable organizations to manage the future by learning from the past, understanding the present and predicting potential problems and opportunities. For more information, visit www.spss.com.

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