

Data Management
Data Mining
Predictive analysis
Scoring
Text Mining

SPAD Solutions help companies to find and implement new sources of competitive advantage through predictive and exploratory analytics.

- Targeting: maximize the output of the direct marketing actions, target an offer towards customers with a high probability to answer, customize your marketing according to the purchasing profile of your clients
- Building loyalty: reduce churns identifying those customers likely to do so, do preventive actions for fragile customers
- Up selling and cross selling: understand and pilot transfers in the customers life cycle and in the products or services range, analyze the co-holding of products to increase sales
- Sales force efficiency: help them to target customers, assign products' appetence scores to each client, anticipate the quantity of calls on the telephone platforms
- Customization of proposals: bring to light some customers segments characterized by a specific profile, main interests and motivations, a purchase potential
- Customer Relationship: study the use of the various communication channels (email, mail, face to face, telephone...), select the most fitting channel for each customers profile
- Retailers segmentation: analyze customers profiles and the results of every retail, determine their segmentation and manage efficiently the sales targets and objectives
- Satisfaction surveys: bring to light and classify the main satisfaction and dissatisfaction levers
- Management and calculation of customer risk: identify customers presenting a risk when asking for a loan, or subscribing to an insurance contract
- Anticipate financial problems in the customer life cycle
- Fraud detection: search the fraudulent uses of credit cards

A powerful and interactive graphical user interface

SPAD solution allows you for the best use of your data files for:

- Customer data, subscriber data...
- Survey data
- Human Resource Data
- Industrial Data

SPAD integrates three complementary approaches:

- Exploratory analysis of data
- Predictive Analysis and Data Mining
- Text Mining

An architecture that exactly meets companies' technical and functional requirements:

- SPAD stand alone
- SPAD network
- SPAD Terminal Server
- SPAD Execution Server

The capacity to operate databases of all sizes and regardless of their origin:

- Several millions rows
- Several thousands columns
- Oracle, DB2, SQL Server, MySQL, Sas PC/Server...
- Fixed or delimited text files, CSV, Excel, Access...

SPAD is famous for:

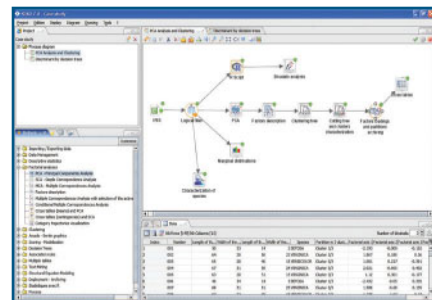
- Intuitive ergonomics (no programming required)
- Powerful calculation engine
- Easy to use and manage
- Quality results presentation (interactive graphs and Excel)

SPAD solutions are taught in many Universities and Higher Education Institutions and are available in French and English.

SPAD is the only software dedicated to Data Mining and Predictive analysis that provides a totally graphical and intuitive interface with so powerful features.

The SPAD interface includes the following components:

- Project manager, used to manage projects and diagrams, which displays all the elements relative to current project.
- Diagram workspace, used for building, editing, and running process flow diagrams. This is where you graphically build, order, sequence and connect the methods that you use to prepare or mine your data.
- Methods panel, which contains all the functionalities and methods of SPAD, organized by categories. Drag and drop a method into the diagram to use it.
- Data view displays interactively the data read or modified by the selected method : control and validate your data in real time



Increase the power and capabilities of SPAD with R and Python extensions

At any place in a SPAD diagram, you can use Python language to import, transform your data or build a new dataset directly usable within the SPAD diagram.

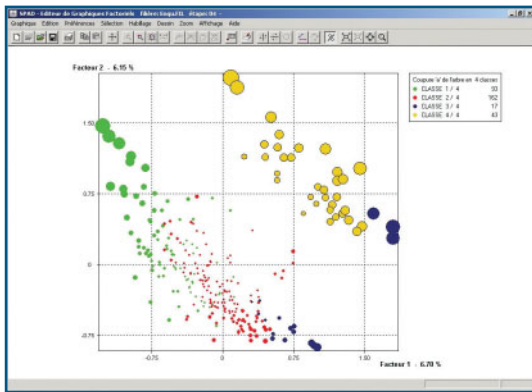
Also, if the open source R program is installed on the computer, the user can easily execute an R procedure within SPAD diagram, using the data of a SPAD method. It is also possible to generate a new SPAD dataset from R. Moreover, SPAD interactive graphic editor displays R charts with more features than R standard.

This ability to integrate external programming languages dramatically increases the power and the capabilities of SPAD.

All the SPAD solutions provide indispensable tools, from data access to decision rules and expanding predictive models.

COHERIS SPAD : Solutions adapted to your needs

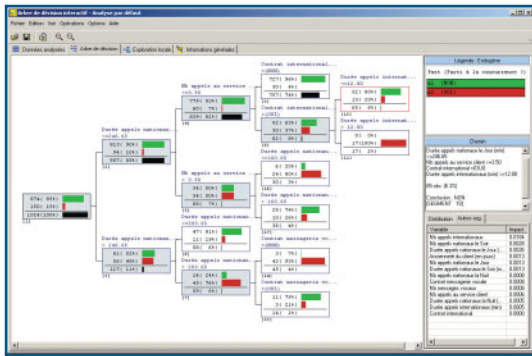
The progression through the SPAD solutions follows the logical path of the data mining methodology: from a first exploratory and descriptive approach to a global and predictive decision approach for production.



SPAD Profiling: prepare your data, explore and discover

To control the validity of the data, transform and calculate new indicators or aggregates, explore and discover the main characteristics and dependencies that structure your data (univariate and bivariate descriptive statistics, factorial analyses, clustering, automatic variable and clustering characterization...)

SPAD Profiling includes all the descriptive and exploratory analyses that have made SPAD worldwide leader in multidimensional data analysis.

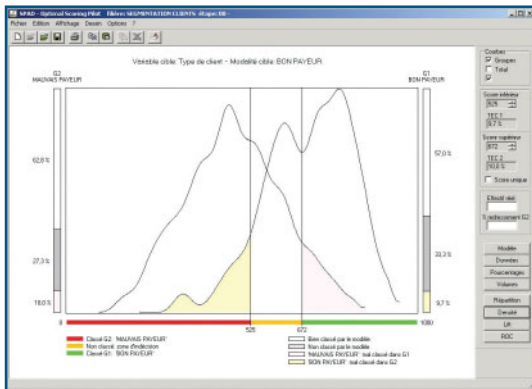


SPAD Scoring : an initial predictive approach

To explain, model and predict quantitative variables as well as assign scores or probabilities of belonging to a group.

SPAD Scoring methods are an indispensable complement to exploratory analyses. They enable to model and predict phenomena uncovered by factorial and clustering methods.

SPAD Scoring includes all SPAD Profiling functionalities and integrates a first part of predictive analysis methods.



SPAD Data Mining: the world of predictive analysis

To explain and predict different phenomena using the interactive decision tree method. This powerful method provides results as rules that are particularly easy to interpret and reuse.

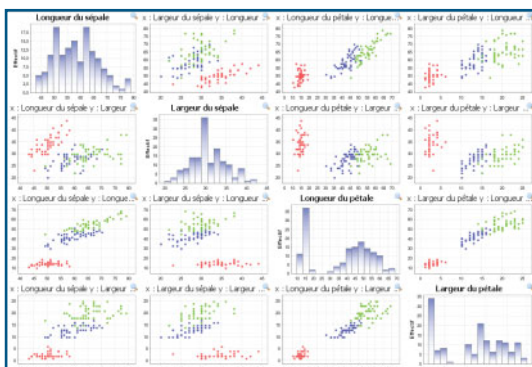
To analyze market basket, find product associations or associations between categories of categorical variables.

To build clusters using decision trees in one step and thus benefit of the decision tree properties: interactivity, cluster assignment logical rules...

To simultaneously analyze several data tables using AFM and Statis methods: sensorial analysis, table development over time, general survey comparisons.

SPAD Data Mining includes all SPAD Profiling and Scoring functionalities and also integrates Interactive

Decision Trees, Association rules and multiple table analysis.



SPAD Integral: a complete solution for information processing - Data Mining and Text Mining

To process any kind of information, in particular textual information.

The main strength of SPAD's text Mining is the parallel processing of classical numerical data as well as text data. Both data sources are mutually enriched.

SPAD Integral includes all functionalities present in SPAD Profiling, Scoring and Data Mining and also integrates the analysis of text data (Text Mining) and SPAD Question, a tool used to process survey results.

SPAD Integral is the most complete solution of the SPAD suite.

Data Management

- Import text files (delimited or fixed format), excel, SPSS...
- Native access to main databases: Oracle, DB2, Sybase, SQL Server, SAS PC/Server ... ODBC access to others
- Simultaneous access to several data sources,
- Automatic typing of variables, missing data handling
- SQL queries on databases
- Create table, insert and update in a database
- Join, stacking, juxtaposition, distinct, sort
- Aggregation, transposition
- Full range of transformation functions for the creation of new variables
- Python programming language
- Statistical recoding : binning, category grouping, variable crossing, binarization, standardization, rank transformation...
- Label management, Format libraries
- Weighting (RAS method)
- Predictions archiving (score, regression, segmentation, clustering)
- Model archiving, model deployment

Descriptive analyses

Descriptive analyses

- Marginal distributions, histograms, crossed tables, bivariate analysis,
- Graphic gallery : histograms, circular diagrams, box plots, biplot, 2D and 3D graphic, concentration curves
- Automatic characterization of favoured variables (continuous or categorical) by the rest of the information
- Semantic mark-up: powerful alternative to decision trees
- Multivariate analyses
- Principal component analysis (PCA)
- Simple correspondence analysis
- Multiple correspondence analysis (MCA)
- Active/supplementary variables, active/supplementary cases
- Assistance with the interpretation of the factorial axes
- Powerful and interactive editor for factorial graphs and mapping

Clustering

- Ascending hierarchical classification (AHC): direct or based upon factors
- Mixed classification: mobile centres and AHC
- Graph editor for the tree and the level indexes
- Search for optimal partitions
- Automatic description of classes by active and/or supplementary variables
- Semantic mark-up of classes
- Cases assignment to classes
- Graphical representations of typology, ellipses

Amado

- Module for the graphical treatment of data, based on the complementarity of factorial analysis techniques and graph methods developed by J. Bertin

Models

Predictive modeling

- Simple and multiple regression
- Analysis of variance and covariance (ANOVA and ANCOVA)
- General linear model
- PLS regression
- Logistic regression
- Discriminant analysis on continuous variables
- Discriminant analysis on main factors
- Discriminant analysis on categorical variables (DISQUAL)

Model Mining

- Optimal multiple Regressions (Furnival and Wilson)
- Optimal Discriminant (Furnival and Wilson)
- Log-linear models: combined search for all interactions and systematic
- evaluation of models using Akaike criteria
- Scoring
- Scale for user-defined scores
- Simple additive model, intelligible and modifiable by the business expert
- Optimal Scoring Pilot: visual and interactive choice of score thresholds
- (rejection, undecided, accepting)
- Lift curve, Roc curve, model assessment

Segmentation

Discriminations and regressions by interactive decision trees

- CART, CHAID, C4.5 methods
- Criteria for termination: number of tree levels, minimum count to divide a segment, specialization threshold
- Automatic or interactive analysis
- Manual pruning of the tree: choice of cut off variables, reduction or expansion of the tree by level, grouping of methods, threshold value of a continuous variable...
- Visualization of the whole full tree with zoom in/out,
- Local exploration of a segment and graphical comparison with the full group,
- General characteristics of the tree and Confusion Matrix
- Full report publication on the tree in html format
- Decision rules publication in Select or Update mode in SQL format
- according to the Database System (Oracle, Access etc.)

Clustering by decision trees with ICT

- Descendant hierarchical clustering combining factorial analyses and decision trees properties

Association rules

- Association seek in a transactional dataset (market basket)
- Association seek between categories of categorical variables in a standard dataset

Multiple tables

Multiple Factorial Analysis (MFA)

- Exploration of data beyond classical data analysis by using the idea of "Groups of Variables"
- Groups of active/supplementary, categorical or continuous variables
- Partial factorial analysis and Global factorial Analysis
- Powerful and interactive Graphics editor

STATIS

- STATIS methods, Dual STATIS and Jaffrenou's Triadic
- Groups of continuous active variables
- A powerful and interactive graphics editor

Text Mining

- Simultaneous processing of one or more text variables.
- Vocabulary construction: words and repeated segments (word groups)
- Vocabulary modification with a semi-automatic lemma program
- Statistics on repeated words publication ...
- Word contexts publication
- Sub groups characterisation by a specific vocabulary: words and characteristic phrases
- Lexical contingency table creation
- Analysis of simple correspondences in a lexical and classification table
- Creation of a SPAD dataset including initial variables, words and segments in columns

Question

- Creation of questionnaires, use of question libraries
- Automatic creation of input masks with consistency control
- Definition of the question chains by multi-criteria filters
- Definition of sort plans for the automation of recurrent queries
- Sort tables and complete cross sorts with automatic publication of tables
- and graphics in Excel, Word and html
- Image balance sheet with the SATIMIX method
- Merger of files and hierarchical files

PLS Path Modeling

- Modeling of structural equations on latent variables
- Manual or graphic definition of the model
- Latent variables defined in mode A, B, centroid, ACP, PLS, Mimic
- Internal assessment mode: structural, factorial, centroid
- Classic or PLS regression between latent variables
- Missing data management : averages, NIPALS, EM algorithm
- Standardisation of data and weighting (at choice)
- Assessment of confidence intervals by bootstrap, jackknife
- Overall model Validation
- Graphic visualisation of results from internal and external models

SPAD Profiling SPAD Scoring SPAD Data Mining SPAD Intégral

Data Management	★	★	★	★
Descriptive analyses	★	★	★	★
Models		★	★	★
Segmentation			★	★
Association rules			★	★
Multiple tables			★	★
Text Mining				★
Question				★
PLS Path Modeling (optionnal module)				

Business Areas

Banking – Insurance – Finance

- **Marketing / Sales departments:** Targeting – Customer loyalty – Additional sales, cross selling – Sales team efficiency – Offer customization – Customer relations – Agency typologies – Satisfaction surveys
- **Risk Management:** Management and assessment of customer – Accident Analysis – Anticipate the occurrence of financial incidents – Helping recovery by presenting the correct approach guidelines – Fraud detection.

Mail Order – Mass distribution – Wholesale

- **Marketing / Surveys department:** Targeting – Customer relations – Offer customization – Market analysis – Satisfaction surveys – Cross selling – Behavioral Segmentation of loyalty card holders– Forecast – Points of sale Segmentation – Fraud Detection.
- **Sales department:** Forecasts – Sales team Optimization
- **Research and Development / Quality:** Sensorial Analysis – Quality Control

High Tech – Telecom - Industry

- **Marketing / Sales departments:** Targeting – Customer loyalty – Additional sales, cross selling – Sales team efficiency – Offer customization – Customer relations – Agency typologies – Satisfaction surveys
- **Research and Development Management:** Metrology – Fault analysis

Production / Manufacturing:

Improvement of manufacturing processes – Study of errors arising upon use – Quality Certification of a product– Validation of new measuring methods – Quality surveys

Publication - Communication

- Customer loyalty – Targeting – Customization of media content– Behavioral Intelligence – Sociological Intelligence – Image and Popularity – Customer and Audience Positioning - Readership Survey
- **Marketing / Sales departments:** Behavioral Intelligence – Audience and Target Forecast – Assistance with selling advertising spaces – Improvement of media planning projects

Health

- **Public Health:** Hospitals – Clinics – Health Observatories...: Establishing behavioral conditions in relation to health – Analysis of sanitary risks – Treatment and Therapy surveys – Hospital environment surveys.
- **Social Security Institutions:** Summarize the most typical behavior among social security members, claimants, pensioners... - detection of requirements and new services.

Cosmetology – Pharmaceutical Laboratories

- **Marketing / Surveys department:** Targeting – Offer Customization – Satisfaction Survey
- **Sales Department:** Optimization of medical plans of medical visitors – Evaluate the marketing potential of new products

- **Research and Development / Quality:** Quality Control – Improvement of manufacturing processes

Transportation

- **Transport of people:** Satisfaction Survey - Risky Behavior survey – “Origin-Destination” Statistics – Traffic Forecast – Fraud
- Measurement
- **Goods transportation (Road, Freight):** Flow Management –Investigation and modeling of delays – Customer Satisfaction Analysis – Fleet Management – Evaluation of risks linked to transport of goods

Public Administrations, services

- **Local and regional institutions:** Fixing priorities to ensure economic development, safety of goods and persons, environmental protection...
- Studying the impact of new companies on the employment pool, determine the factors which encourage the establishment of companies -Establish a photograph of populations, urban facilities, employment – improve services of local authorities for users – Study population migrations

Education - Research

- Since its creation, SPAD has maintained close, privileged relationships with the Educational and Research sector through all its activities: SPAD, training and publications
- Our proactive strategy is based on scientific partnerships, many of which relate directly to the European Commission and a distribution agreement signed with the Minister for National Education and Research (MENR)

SPAD products and services are divided into three totally complementary sections:

SPAD Software

Market leader in data analysis, data mining and Text Mining. SPAD software is unequalled in the area of exploratory analysis of data.

Training

We offer evolutive training in data processing data treatment with SPAD and more general training programs ranging from an introduction to an in depth study of main data analysis techniques. SPAD training programs are designed in line with a methodology adapted to different users. Each course alternates theoretical presentations, problem solving, practical exercises and reality simulations. Our training programs are available in two modes: internal to a single company or between several companies.

Consulting

CRM - Client Files

Analyse of client files, behavioural analysis, Customer segmentation, Customer loyalty, New Markets, Targeting of Direct Marketing, Predictive Analysis, Text Mining...

Quality - Process

Improve of product quality, determination of criteria relating to the origin of faulty parts, Efficiency tests, sensory analysis...

Surveys

Opinion, satisfaction, image and reputation, Insertion, processing of open questions, Text Mining...

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Cofinoga • Aviva • La Poste • Groupama • 3 Suisses • La Redoute • Fnac.com • Unilever • Castorama • L'Oréal
Yves Rocher • Galeries Lafayette • LVMH • Ciel • Ubisoft • Essilor • Wanadoo • Orange • France Telecom • Telefonica
Cegetel • Eurosport • RFI • Canal+ • TF1 • PSA • Renault • SNCF • RATP • Michelin • Nestlé • Danone • EDF
Alcatel • Schneider Electric • CNAM-TS • ACOSS • Mutualité Française • URSSAF • CRAM • CAF • Aventis
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