

Viscovery[®] Profiler 5.2 – Data Sheet

Main Functions

Explorative data mining, visual cluster analysis, segmentation, and profiling

Data Preprocessing

- Definition of nominal variables.
- Removals (including conditional removal using a combination of several attributes).
- Statistical and deterministic sampling and over-sampling.
- Replacements.
- Transformations.
- Sampling to accelerate model generation.
- Computation of new variables using a custom formula language.
- Renaming of attributes, attribute descriptions.
- Treatment of outliers.

Technology / Self-Organizing Maps

- Generation of multivariate data order.
- Reduction to a two-dimensional SOM data representation and its visualization (attributes, clusters, segments, U-matrix, frequency, quantization error, group profile).
- Possibility to define the influence of individual attributes on the data ordering by setting attribute priorities.
- Automatic compensation of correlations in the data.
- Well-defined treatment of missing values.

Definition of Segments

- Automatic cluster methods (SOM-Ward, Ward, SOM-Single-Linkage).
- Instant retrieval through selections on the model.
- Display of original data records that correspond to selected areas in the model.
- Segment definition by selections using the mouse.
- Precise segment descriptions using Group Profiles (statistical description of segments) – possibility of documentation is included.
- Assignment of operational action codes to segments.
- Management of actions (per project, can be imported and exported).
- Arbitrary number of segmentations in a SOM model.
- Business rules for segments can be defined using formulas.

Assignment of new records to Segments and Classes

- Assignment of each individual record to a segment (classification) and query of the action code as well as evaluation of business rules (formulas).
- Output of these computations as a flat table that contains for each data record the segment, the action code, and optionally the results of formulas, segment statistics (including profile), and map node values.

Evaluation of Applications

- Charts for visual and quantitative evaluation of models and campaigns.
- Visualization of the classification error over the map if actual classification is known.
- All model attributes and values of the evaluated application are available for visual inspection.

Features

Workflow-Oriented

- Optimized workflows leading through the application (Create Data Mart, Create Model, Apply Model, Evaluate).
- Workflows can optionally be processed automatically.
- Integrated project documentation by description of completed workflows.
- Dedicated workflow supporting the decision making process for segment definition (including documentation).

Visual Representations

- Viscovery visualization of SOM attributes and segments.
- Histograms, box plots, scatter plots.
- Charts of important parameters (e.g. segment comparison, group profile, etc.).
- Possibility to define labels and paths over the map.

Statistical Information

- Available for each workflow step; context dependent.
- Data record browser shows the records the SOM is based on.
- Descriptive statistics.
- Correlation matrix.
- Histograms and outlier treatment.
- Principal Components Analysis (attributes can be selected).
- Frequency table.

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Reports

- Instant reports for each workflow step as well as the entire workflow available anytime.
- Automatic reporting of completed workflow steps.
- Integrated project documentation.

Usability

- Simple operation because the user is shielded from the technology core and statistical algorithms.
- Can be operated by business users.
- Info pop-ups in the workflow and in the SOM visualization, attribute descriptions are included.
- Branching of workflows and copying of workflow steps.
- Project management in project directories and “clean directories” function.
- Supportive context menus at numerous places.
- Tables can be sorted, also by absolute value.
- Combinations of visible windows, attribute selections, etc. including their sizes and appearances as well as the active segmentation can be stored in “arrangements”.

IT-Technicalities

Architecture

- File oriented stand-alone software suite, implemented in Visual C++ using Microsoft Foundation Classes (MFC).

Interfaces and Formats

Data

- Most formats are “read-only”, some formats can also be written (results).
- Uses ODBC/OLEDB to access all common RDBMS, such as Oracle, SQL Server, DB2, Informix, Sybase, etc.
- Tab separated flat files.
- Space separated flat files (read-only).
- Microsoft Excel files (read-only).
- SPSS files.
- XML files (by default Viscovery XML, can be adjusted to special formats on request – “customized XML”).

- *.DMS files: Viscovery Data Mart (proprietary file format optimized for the analysis in Viscovery; accompanied by *.DMD and *.DMM files). Can be used in both Viscovery Predictor and Viscovery Profiler.
- Data marts can be exported to files (Text, SPSS, XML) and to databases.

Viscovery Models

- *.SOM files: Viscovery Profiler Models (SOM data representation including segmentations and business rules).
- Used by Viscovery Profiler to assign new records to segments and actions as well as to compute business rules and to evaluate campaigns.
- Real-time integration using Viscovery One(2)One Engine into third-party software applications (for the assignment of segments and actions as well as to compute business rules; furthermore to provide all analytical information in the model).
- These files can also be inspected and modified by Viscovery Decision Maker.

Projects

- *.CSP files: Viscovery Profiler project file. Contains all relevant information of a Viscovery Profiler analysis project in a proprietary format.
- Completed workflows (Create Data Mart, Create Model, Apply Model) can be exported to Viscovery Scheduler via drag & drop and can also be imported back (after Viscovery Scheduler has completed them).

System Requirements

Minimal requirements for a workstation configuration (recommended workstation configuration)

- 1 GHz CPU (3 GHz or higher).
- 512 MB RAM (2 GB or more).
- Windows XP SP2 (or higher).
- 24 bit color graphics, 1280x800 (or more).
- The installed Viscovery Profiler software requires approx. 22 MB disk space; to work comfortably on a project we recommend free disk space per project that is 10 times the size of the data file.