SAS Institute Inc.

The Business of Better Decision M

What is *SAS* Solution ?

It is a software from SAS Institute which consists of four independent but integrated component

1. *SAS* Enterprise Miner
2. *SAS*/Warehouse Administrator™ Software
3. *SAS* Solution for OLAP
4. *SAS*/IntrNet™

SAS Institute Inc.

The Business of Better Decision M

SAS Enterprise Manager

Is a software that provide

1. Advanced, easy to use statistical analysis
2. A guided flexible, ***SEMMA*** methodology
3. Client/ Server enablement
4. Easy to use Graphical user interface (GUI)

SAS Institute Inc.

The Business of Better Decision M

The SEMMA Methodology

S Sample Node

E Explore Node

M Modify Node

M Model Node

A Assess Node

SAS Institute Inc.

The Business of Better Decision M

Sampling Node

Use Sample data can reduce the amount of process time

But be Sure of

The sample data are sufficiently representative of the whole, patterns that appears in the entire databases.

SAS Institute Inc.

The Business of Better Decision M

Sampling Methods Used by *SAS*

1. Random (Default)
2. Every n observation
3. Stratified observation
4. First n observation
5. Cluster

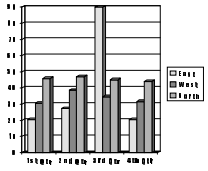
SAS Institute Inc.

The Business of Better Decision M

Exploring Node

SAS Miner is supported with numerous tools to explore data like

1. Graphical Display
2. Outlier Filter
3. Transformation



Exploring Cont…..

- Distribution Explorer Node
- Multiplot Node
- Insight Node
- Associations Node
- Variable Selection Node

Modifying Node

In the distribution Node, there are two possible modifying methods

Modify Data Set attributes

Modify meta data sample

Modifying Cont....

- **Transform Variable Node**

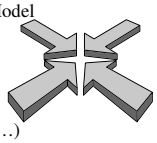
Transform Variables to improve the fit of the model to the data

- **Filter outlier Node**

1. Eliminate rare values
2. Eliminate missing values
3. Replace missing values with (Mean)

Modeling Node

Now is the time to choose the best Model



It uses

1. optimization methods

(Gradient, Newton,Quasi Newton,……)

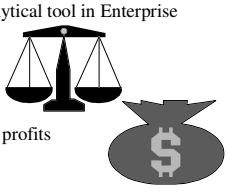
2. Statistical Significant tests

(Chi Square, F. Test,…….)

Assessment Node

Provide a common framework to compare models and predictions from any Analytical tool in Enterprise Miner

Cross Model Comparison



Main Criteria. Actual profits

Conclusion

1. SAS enterprise Miner fully integrates all steps of data mining process beginning with the Sampling of the data, through sophisticated data analysis and modeling, to the dissemination of the resulting information

2. It has intuitive flexible GUI which enables users, who have different degrees of statistical experience, to plan, implement, and refine their data mining projects