IBM SPSS Predictive Analytics Software and Solutions

Marcello Savarese
Italy Lean Six Sigma Leader
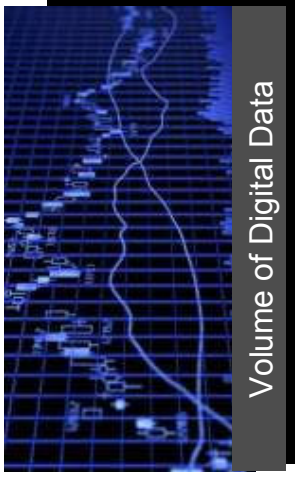Nov 18th 2010

Contents

> Smarter Planet

Predictive Analytics: The decision making is changed

IBM SPSS: Industry leader in Predictive Analytics

Solutions to Accelerate Time to Value

Volume and variety of information is exploding …

… Yet organizations are operating with blind spots

Lack of Insight
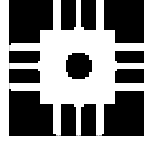2 in 3 managers frequently make critical decisions without the information they need

Inefficient Access
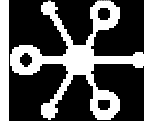1 in 2 don't have access to the information across their organization needed to do their jobs

Inability to Predict
3 in 4 business leaders say more predictive information would drive better decisions

Volume of Digital Data

Variety of Information

Velocity of Decision Making

Source: IBM Institute for Business Value

Our world is becoming smarter.............

Instrumented

Interconnected

Intelligent

.....enabling organizations to make faster, better-informed decisions

How Decision-Making is Changing

Quality and value of decisions

Decisions from "Intuition"

- "Instinct"
- "Hunches"
- Based on experience

Automated Decision-Making

- Knowledge, policies and practices embodied in business rules
- Decisions made efficiently and consistently
- Objective

Predictive Decision-Making

- Accurate predictions based on historic patterns
- Leverage all available data
- Flexible, evidence-based decisions
- Robust in volatile environments – models re-generated from latest data to reflects changing fashions, trends, etc.
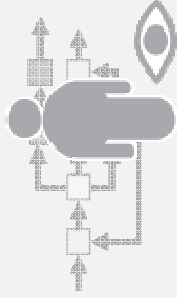
Imagine If Your Decision Makers Could...

...predict and treat infection in premature newborns 24 hours earlier?
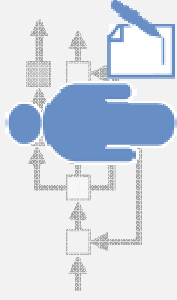
...adjust credit lines as transactions are occurring to account for risk fluctuations?

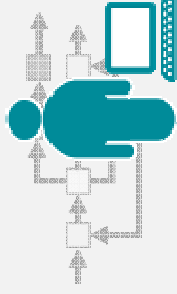...determine who is most likely to buy if offered discounts at time of sale?

...apply inferred social relationships of customers to prevent churn?
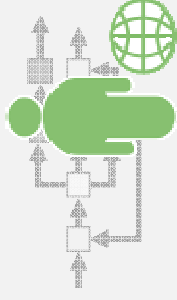
Physician

Loan Officer

Retail Sales Associate

Telco Call Center Rep

...optimize every transaction, process and decision at the point of impact, based on the current situation, without requiring that everyone be an analytical expert
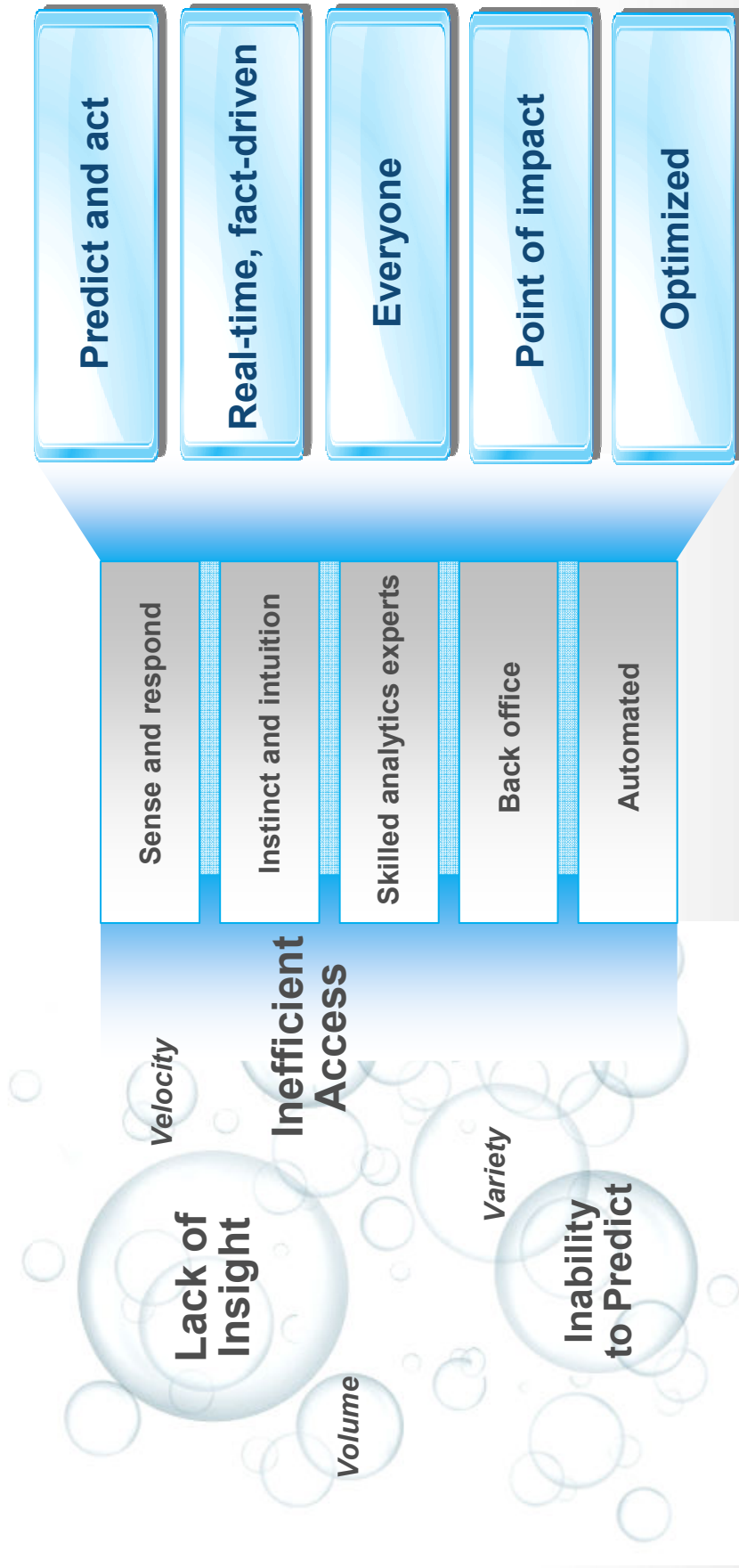
Contents

Smarter Planet

> Predictive Analytics: The decision making is changed

IBM SPSS: Industry leader in Predictive Analytics

Solutions to Accelerate Time to Value

New ways of working to optimize decisions and actions

Predict and act	Sense and respond
Real-time, fact-driven	Instinct and intuition
Everyone	Skilled analytics experts
Point of impact	Back office
Optimized	Automated

Velocity

Lack of Insight

Inefficient Access

Variety

Volume

Inability to Predict

New ways of working to optimize decisions and actions

Predict and act
Predict and act

Real-time, fact-driven

Point of impact

Optimized
Optimized

Sense and respond
Sense and respond

Instinct and intuition

Back office

Automated
Automated

Predictive Analytics

Lack of Insight

Inability to Predict

IBM

Contents

Smarter Planet

Predictive Analytics: The decision making is changed

> IBM SPSS: Industry leader in Predictive Analytics

Solutions to Accelerate Time to Value

Industry Leader in Predictive Analytics

- 40+ year heritage, with a single aim:
  - to drive the widespread use of data in decision making
- Drove the creation of the Predictive Analytics market
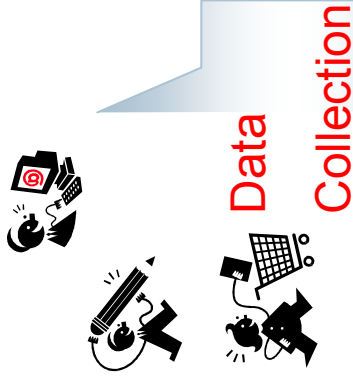- Acquired by IBM October 2009

- Enables organizations to predict future events and proactively act upon that insight to drive better business outcomes
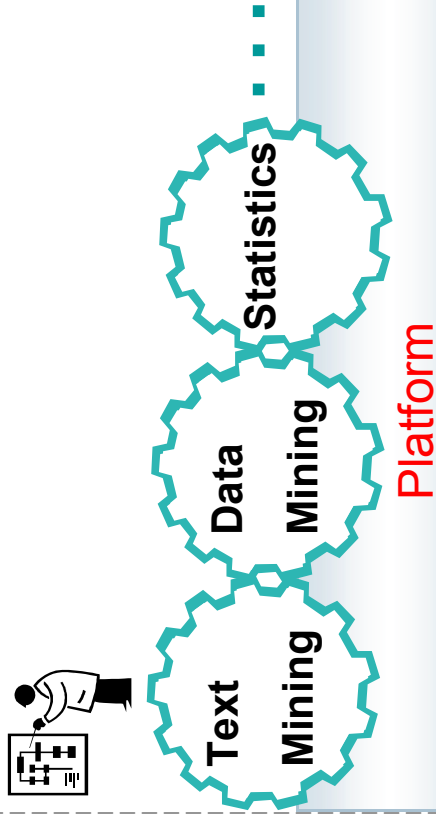
SPSS software and solutions enable customers to predict future events and proactively act upon that insight to drive better business outcomes
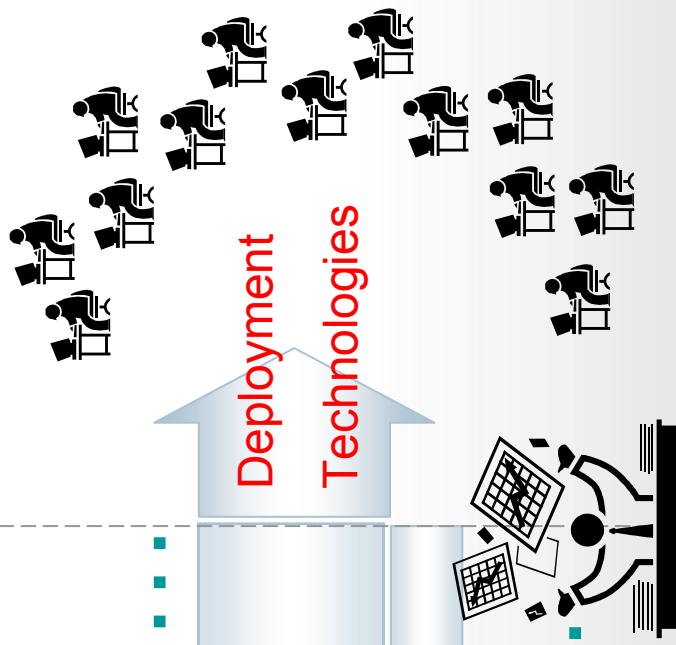
Capture

Predict

Act

Data Collection

Text Mining

Data Mining

Statistics

Deployment Technologies

Platform

Pre-built Content

Attract

Up-sell

Retain

SPSS Predictive Analytics Software
4 Key Categories

➡ *Data Collection*
Delivers accurate view of customer attitudes & opinions
- **IBM SPSS Data Collection**

➡ *Statistics*
Drives confidence in your results & decisions
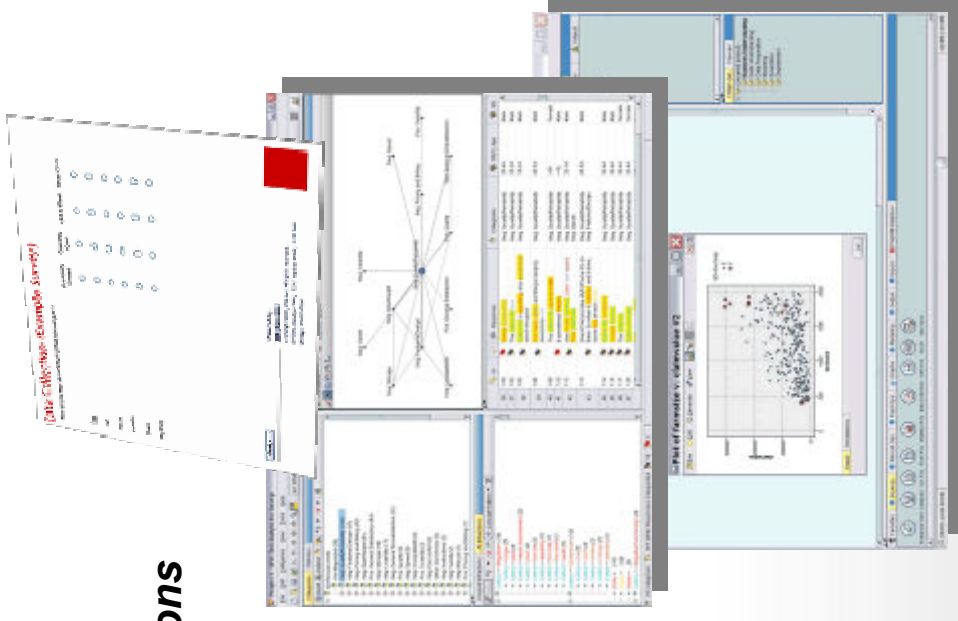- **IBM SPSS Statistics**

➡ *Modeling*
Brings repeatability to ongoing decision making
- **IBM SPSS Modeler**
- **IBM SPSS Text Analytics**

➡ *Deployment*
Maximizes the impact of analytics in your operation
- **IBM SPSS Decision Management**
- **IBM SPSS Collaboration & Deployment Services**

Capture: SPSS Data Collection

- **Data collection capabilities to capture attributes, interactions, behaviors, and attitudes for customers, employees or constituents**

- **Augments internally captured data with sentiment and opinion data and use this combination as part of the analytic process**


Data Collection (Example Survey)

Delivers an accurate view of customer attitudes and opinions

Predict: SPSS Statistics

- **Advanced statistics and data management for analysts researching business problems**

- **Collection, preparation, analysis, interpretation, explanation and presentation of data**

- **Provides insight into a sample of data and tools for prediction and forecasting based on the data**
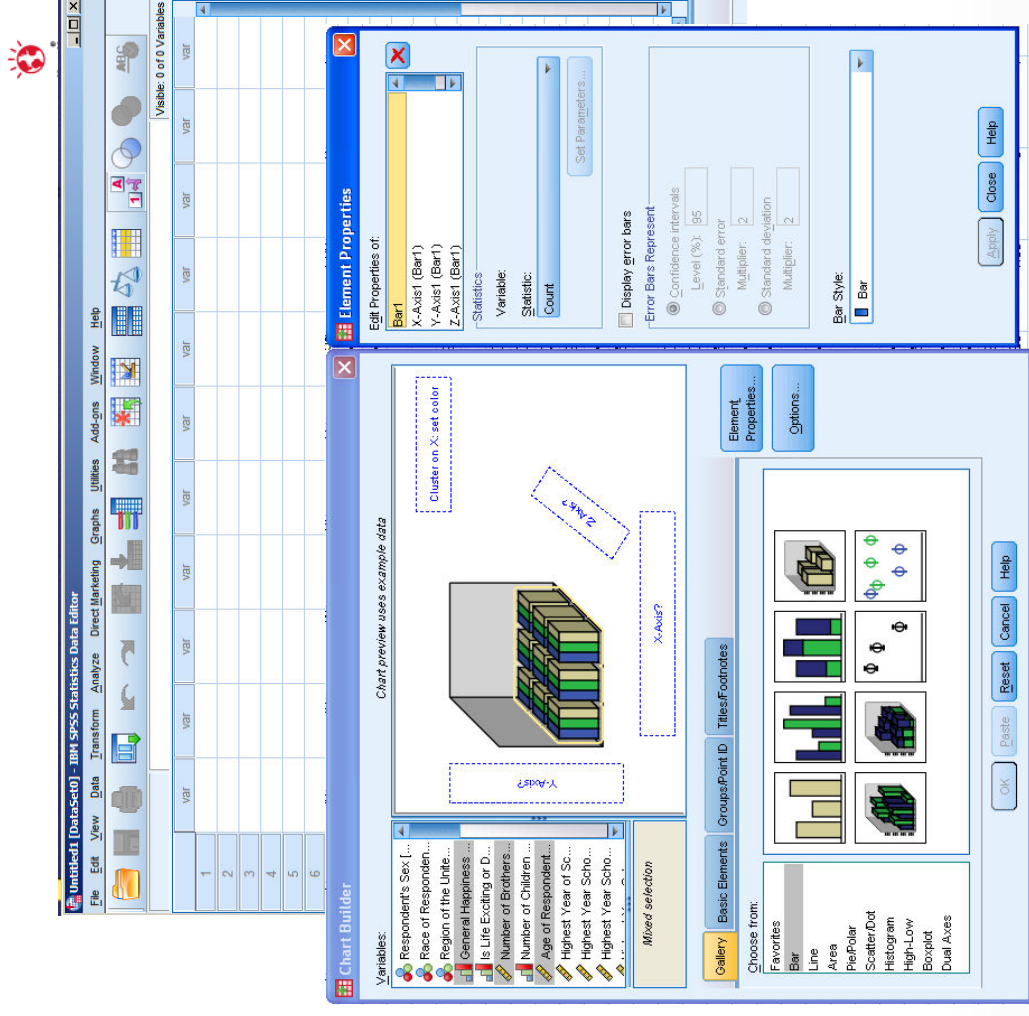
Drives confidence in your results and decisions

Predict: SPSS Modeler

- **Workbench with data preparation functions to build analytic streams or jobs and a run time environment for job execution**

- **Set of mining algorithms that provide insight and prediction**

- **Enables the discovery of key insights, patterns and trends in data that can be used to optimize business decisions**

Brings repeatability to ongoing decision making
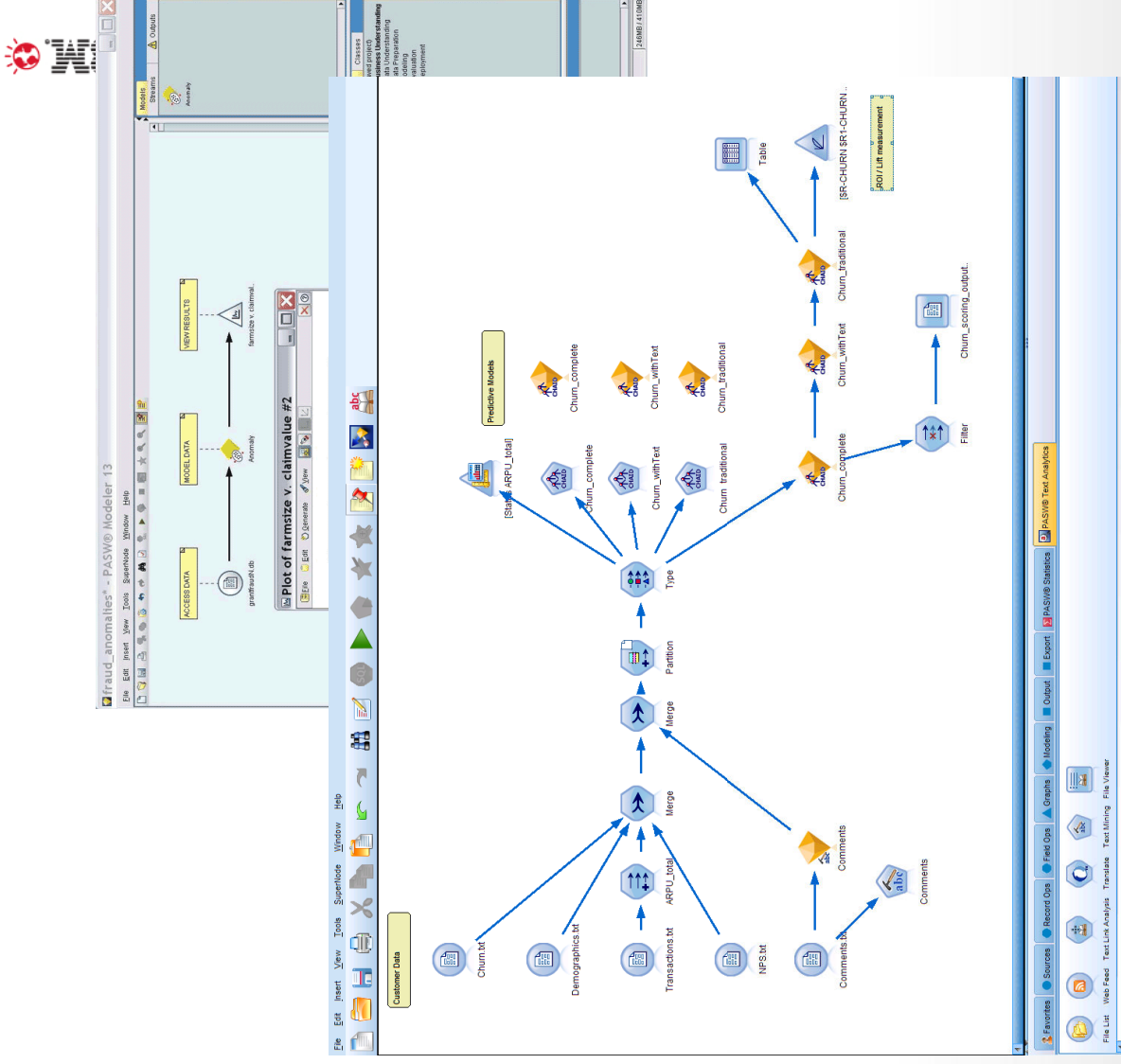
Predict: SPSS Text Analytics

- **Uses natural language processing heuristic rules and statistical techniques to reveal conceptual meaning in text**

- **Extracts concepts from text and categorizes them**

- **Makes unstructured qualitative data more quantifiable, enabling the discovery of key insights from sources such as survey responses, documents, emails, call center notes, web pages, blogs, forums and more**

Brings repeatability to ongoing decision making
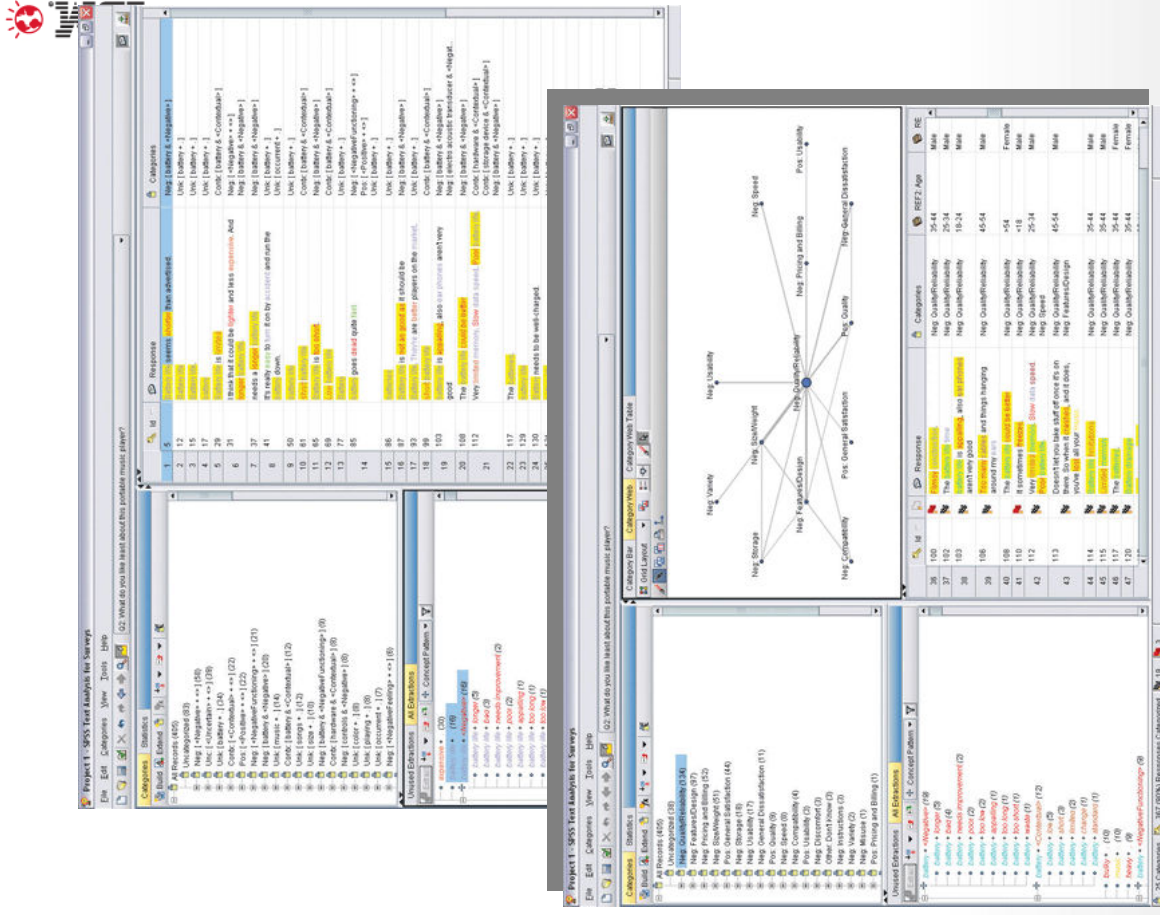
Act: SPSS Decision Management
SPSS Collaboration and Deployment Services

- **Set of tools to automate high-volume decision making enterprise-wide**

- **Automates analytical processes**

- **Enables collaboration by securely sharing and reusing analytic assets**
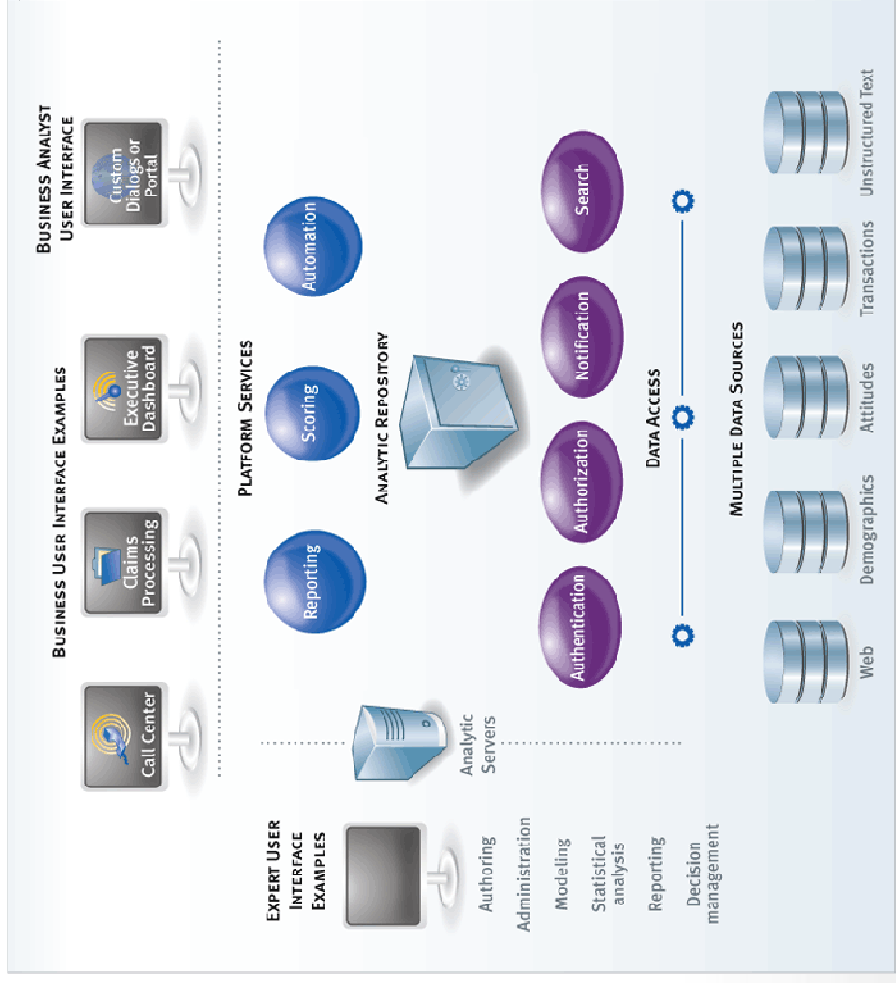
*Maximizes the impact of analytics in your operation*

Deliver the power of predictive analytics into the hands of the business users: Cognos and SPSS Integration.

Uncover key insights in your corporate data by integrating predictive analytics as a core activity to drive business decisions

Solution Highlights

- Leverage BI to identify problem or situation needing attention.

- Easily distribute the results to broad user communities

- Predictive results immediately available to IBM Cognos Business Intelligence

- Easily compare current state to predicted result

- Measure by effect of key factors on predicted outcome.
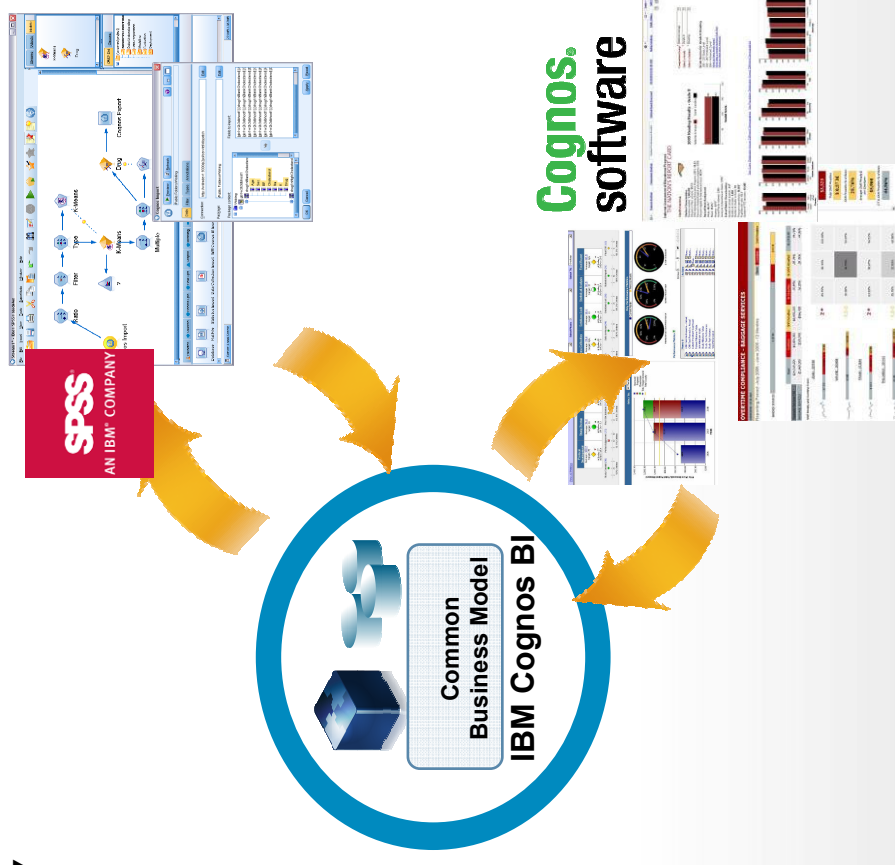
Common Business Model

IBM Cognos BI

Cognos. software

Contents

Smarter Planet

Predictive Analytics: The decision making is changed

IBM SPSS: Industry leader in Predictive Analytics

> **Solutions to Accelerate Time to Value**

Insurance

Used advanced algorithms to analyze each case to accelerate processing of valid claims and to minimize fraud and unnecessary payments

- *Referral time for suspicious claims cut from 14 days to under 24 hours*
- *Time to identify subrogation opportunities cut by half*
- *Subrogation rate substantially increased*
- *403% ROI and investment payback in less than 3 months*

Food and Beverage

Optimized the budgeting process through predictive analytics modeler to identify the sales volume.

- *Proactive budget splitting according to an identified regression model*

- *Saved €750000 in right logistic forecasting*

Telco

The client combined feedback management with text mining and predictive modeling in a Customer Experience Management strategy to attack churn and boost customer satisfaction

- *Churn reduced from 19% to 2% for broadband customers*
- *Satisfaction increased in over 50% of customers*
- *Converted 23% of "detractors" to "promoters"*

Banking

To retain their most profitable customers, the client analyzed its 2.5 million customers using more than 400 attributes. The analysis identified potential leads and intelligently market to them based on their individual preferences and histories.

- *Recouped the total cost of the project within 2 years*
- *Tailored marketing programs to segmented customers*
- *Increased efficiency of direct marketing campaigns*

Retail

Built predictive models to assess optimal new store assortment planning.

- *Provided deeper understanding of store dynamics affecting store performance*
- *Market Basket Analysis*
- *Accurately predicted logistic replenishment*

Automotive

Reduced time to detect quality issues therefore reducing maintenance costs by adding predictive maintenance capabilities to warranty claims

- *Reduced warranty cases from 1.1 to 0.85 per vehicle*

- *5% reduction in warranty cases*

- *Annual savings of €30m*

- *Proactively address warranty issues and other anomalies*

Take the learnings and incorporated in "model" improvements for subsequent years

Industrial Equipment

Minimized down time and repair costs through optimized predictive maintenance and generated a continuous-improvement feedback loop

- *Proactively identified problems and the best action before failure*

- *Saved $1 million in repair costs in under 2 weeks*

- *12-14x ROI (return on investment) in just 4 months*

Let's build a smarter planet together…..

…..with Predictive Analytics

More information :
marcello.savarese@it.ibm.com