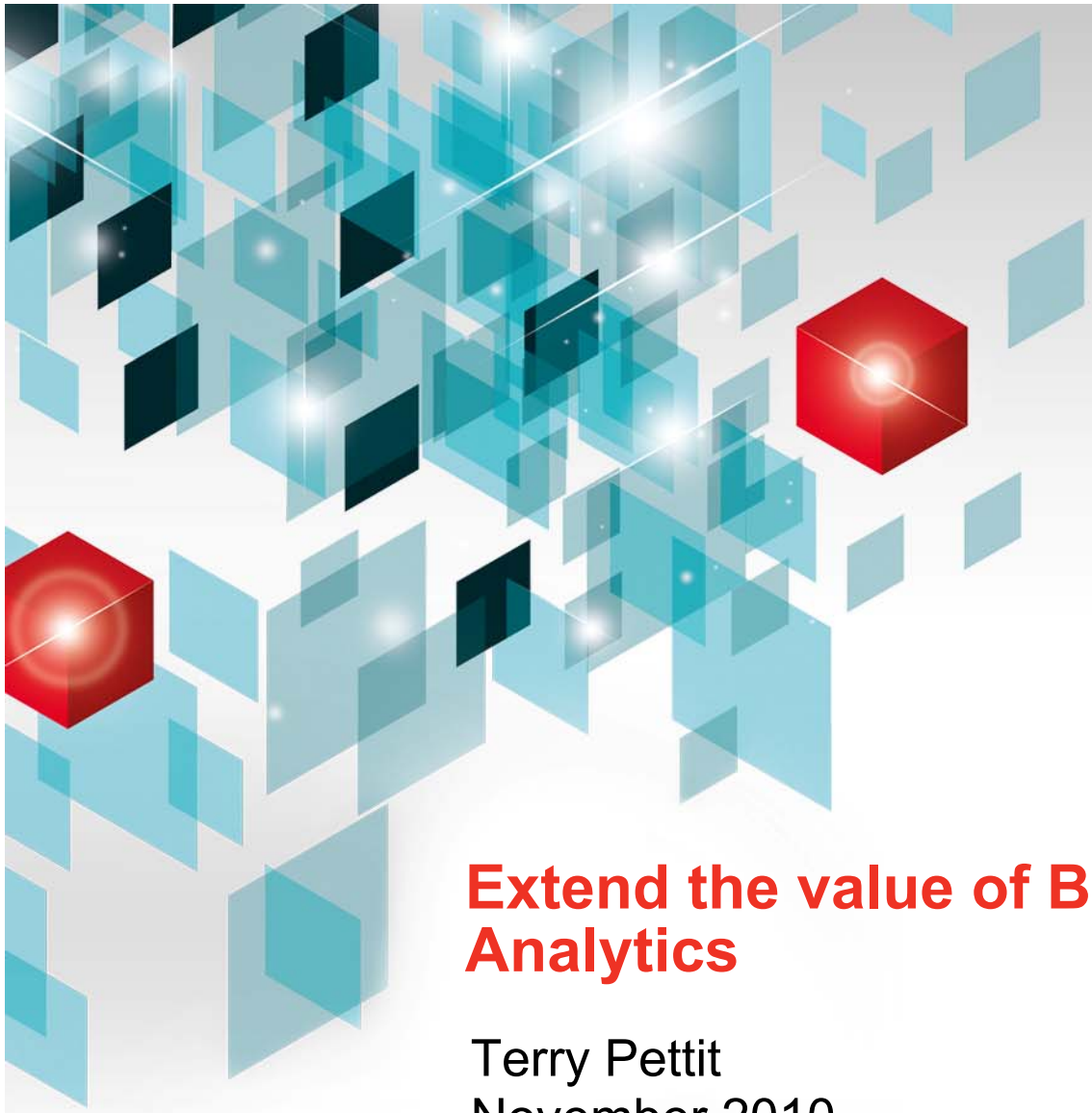
IBM PERFORMANCE EVENTS

Smarter Decisions. Better Results.



Extend the value of BI with Predictive Analytics

Terry Pettit
November 2010

Agenda

- The changing nature of decision making
- The power of predictive analytics
- SPSS introduction
- Power of Cognos + SPSS
- Summary

How Decision-Making is Changing

"We are in a historic moment of horse-versus-locomotive competition, where intuitive and experiential expertise is losing out time and time again to number crunching."

Ian Ayres, author of "Super Crunchers"

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 reflect changing fashions, trends, etc.

The Data Landscape

High-value, dynamic – source of competitive differentiation

Interaction data
- E-Mail / chat transcripts
- Call centre notes
- Web click-streams
- In person dialogues

Attitudinal data
- Opinions
- Preferences
- Needs & Desires

Descriptive data
- Attributes
- Characteristics
- Self-declared info
- (Geo)demographics

Behavioural data
- Orders
- Transactions
- Payment history
- Usage history

"Traditional"

Imagine If Your Decision Makers Could…

Physician	Loan Officer	Retail Sales Associate	Telco Call Center Rep
…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?

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

Predictive Analytics offers Unique Insights to Answer those Tough Business Questions

- **Predictive Analytics** is a transformational technology that enables more proactive decision making, driving new forms of competitive advantage
- Analyses patterns found in historical and current transaction data as well as attitudinal survey data to predict potential future outcomes

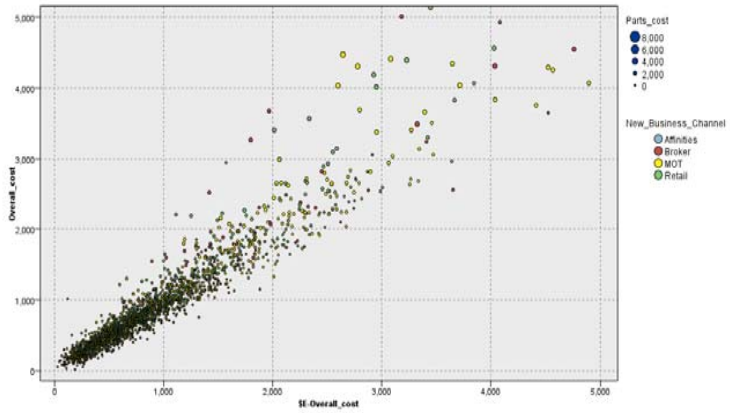
Industry Leader in Predictive Analytics

- 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 organisations to predict future events and proactively act upon that insight to drive better business outcomes

Classic Predictive Analytics Applications

- Campaign Effectiveness
- Customer Retention Modelling
- Sales/Demand Forecasting
- Customer Satisfaction Modelling
- Credit Risk Profiling
- Customer Segmentation
- Fraud and Profit Protection Analysis
- Equipment Maintenance Analysis
- Network Capacity Modelling



IBM BI and Performance Management Capabilities Help Decision Makers Find the Answers

How are we doing?

Why are we on/off track?

What should we do next?

Executive

Manager

Business User

Line of Business Manager

Business Analyst

Financial Analyst

SPSS Enables New Solution Value for IBM Cognos Customers

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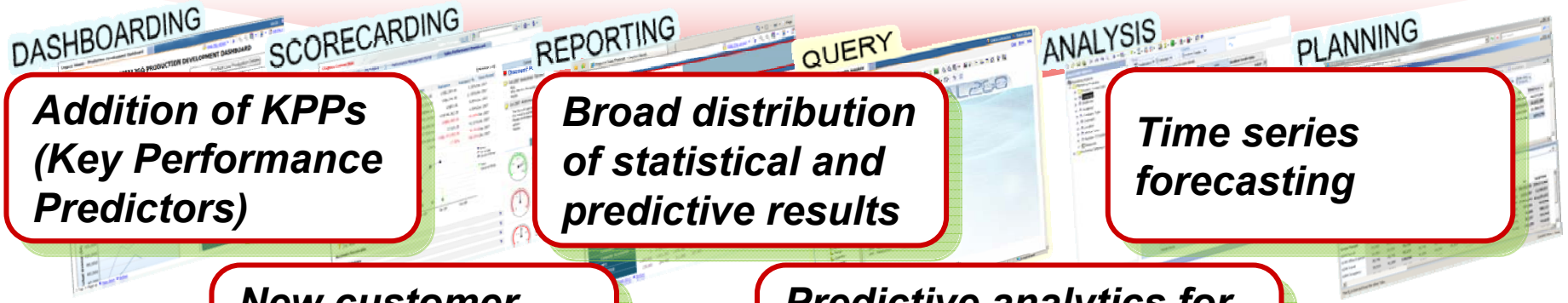


Addition of KPPs (Key Performance Predictors)

Broad distribution of statistical and predictive results

Time series forecasting

New customer insight through Data Collection

Predictive analytics for deeper understanding of the data

Executive

Manager

Business User

Line of Business Manager

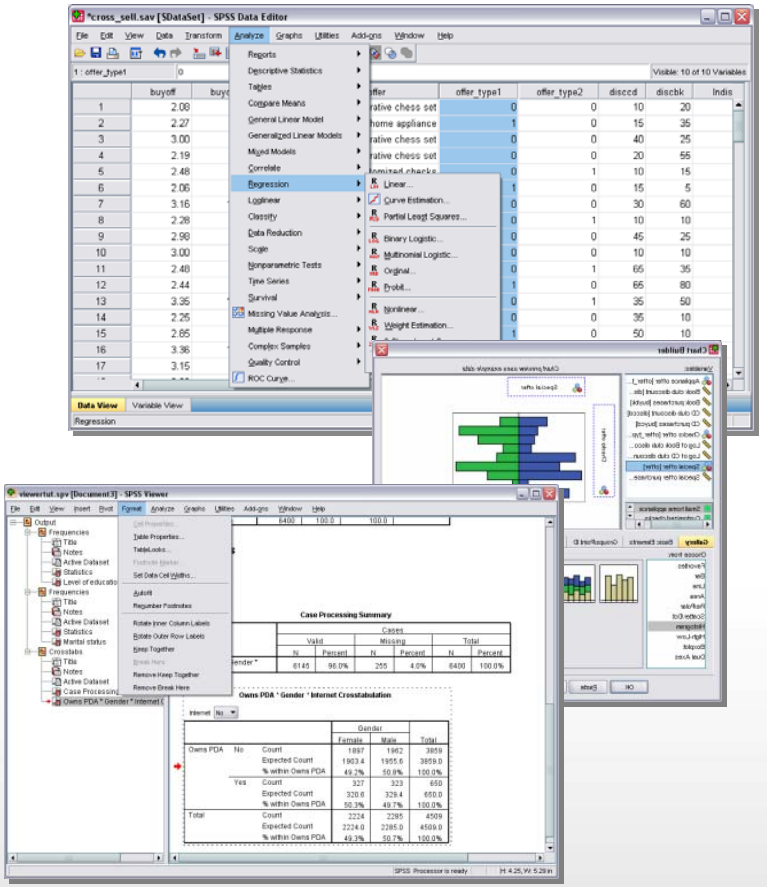
Business Analyst

Financial Analyst

Make informed decisions with statistics

Validate your assumptions and test hypotheses

IBM SPSS Statistics



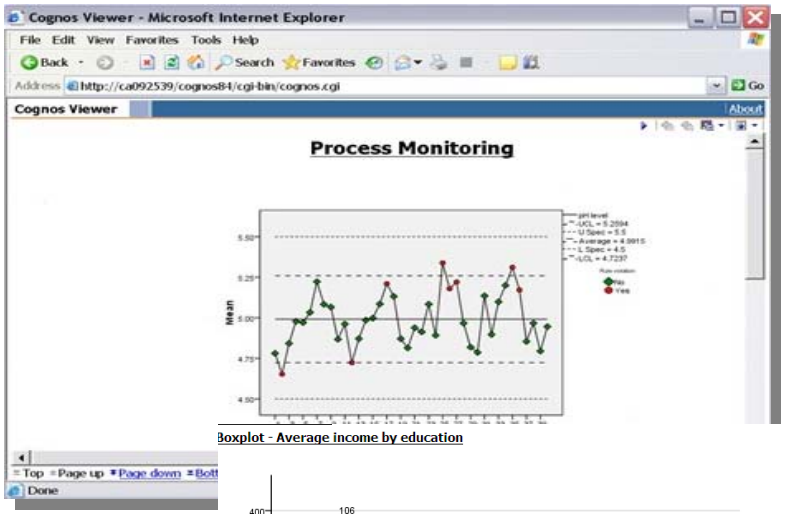
Solution Highlights

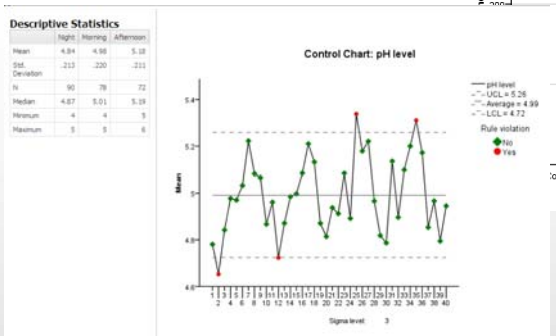
- Generate hypotheses
- Extensive data analysis
- Comprehensive statistical charting

Make informed decisions with statistics

Include statistical analyses and charts in reports

IBM Cognos Report Studio Statistics





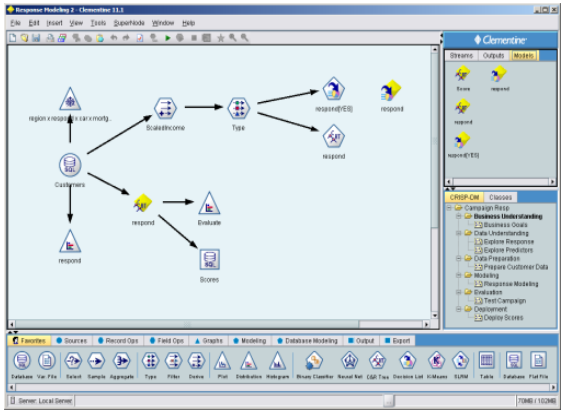
Solution Highlights

- Range of statistical chart types
- Enhance operational or management reports
- Distribute via regular BI mechanisms
- Based on SPSS Statistics engine

Make informed decisions with predictors

Infer the outcome of every interaction by modeling the hidden relationships in your data

IBM SPSS Modeler



Solution Highlights

- Easy to learn, no programming approach to data mining
- Automatically create accurate, deployable predictive models
- Choose the best solution with multi- model evaluation
- Based on statistical algorithms

Advance Auto Parts

Automate and optimise merchandising and assortment planning

- Background
  - 3,400 stores & 400,000 products
  - Revenues over $5bn
- Business Goals
  - Improve DIY business & grow market share
  - Optimise inventory location & availability
- Solution
  - SPSS capabilities help Advance keep its stores stocked with products customers want. A fully automated system supporting effective, proactive decision making, increased profitability & customer satisfaction.

Advance Auto Parts
Keep the wheels turning.

Results

- **Project achieved $100m ROI in 90 days**
- **Sales uplift from 9%-44% (business case assumed 2% uplift)**
- **Unproductive inventory reduced from 20% to 4%**

Cablecom
Increase Customer Retention Rate

- Background
  - Swiss based Telecom
  - Cable TV, Broadband, Digital Phone, Pre-Paid Mobile
- Business Goals
  - Improve retention rate for broadband customers
- Solution
  - Combined customer survey scores with other data (demographics, usage behaviour) to estimate the overall satisfaction for their customer base. Then they predicted the likelihood of contract cancellation for each customer and took proactive action to resolve dissatisfaction.

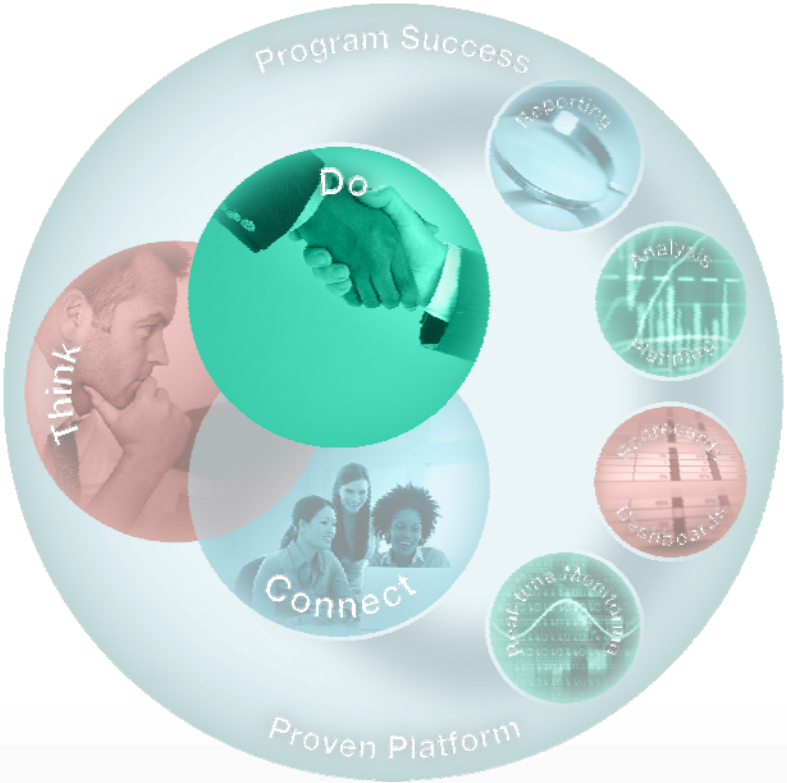
cablecom

Results

- **Predicted satisfaction for key customer groups**
- **Customer Satisfaction increased in 53% of cases**
- **Reduced their customer churn rate in key groups from 19% to 2%**

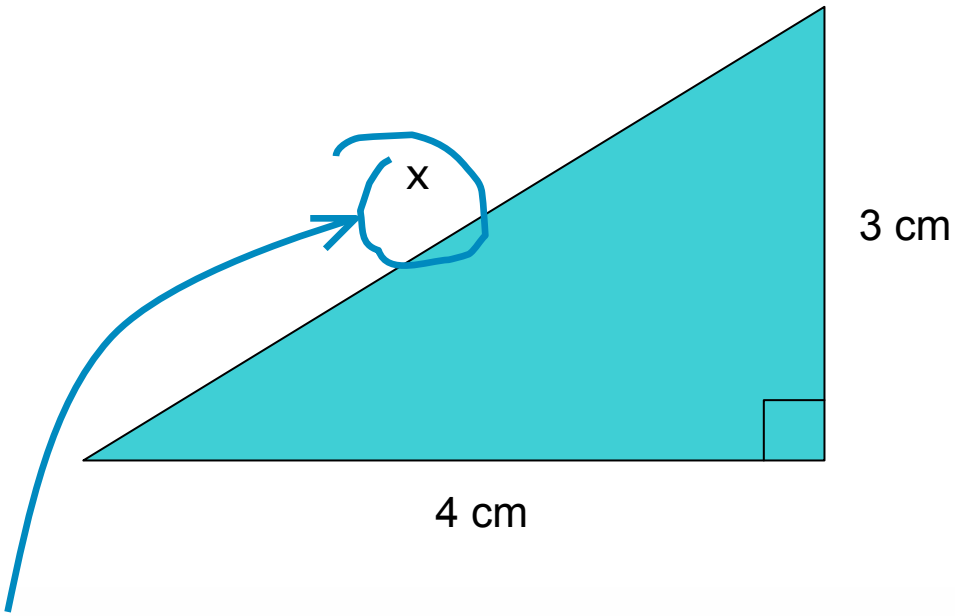
Simply Do

Can we predict a customer's propensity to renew a maintenance contract?



Demonstration

Find x



Here it is

Simply Do

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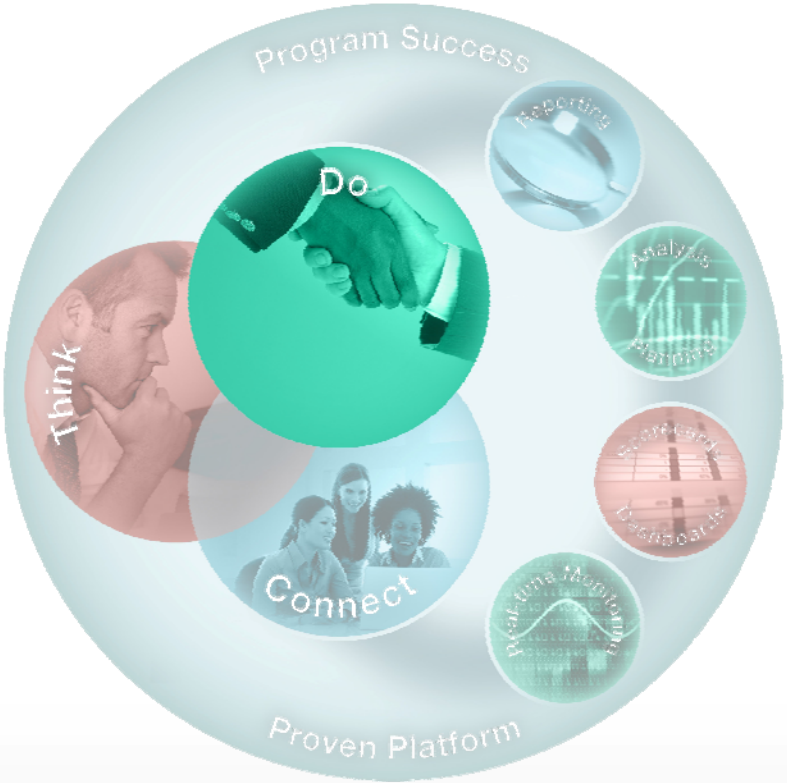

Demonstration

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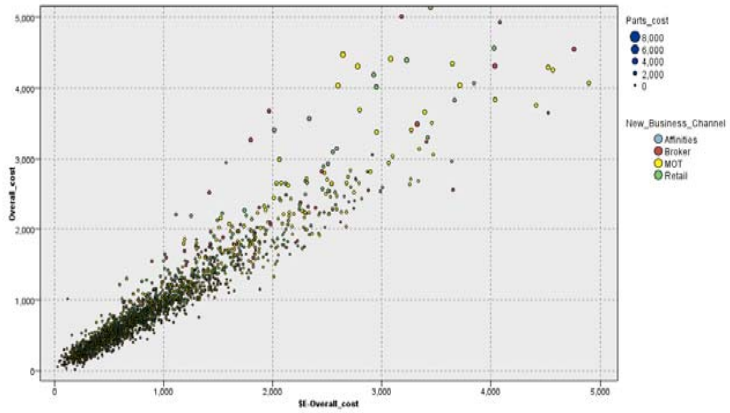
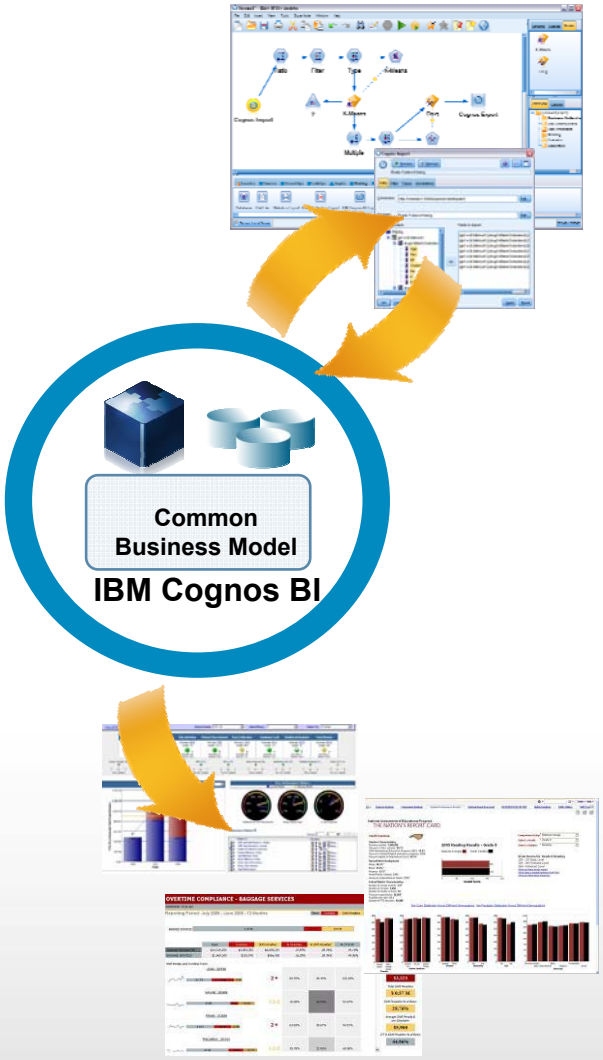


Deliver the power of predictive analytics into the hands of the business users

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

Integration with IBM SPSS Modeler



Solution Highlights

- Leverage BI to identify problem or situation needing attention
- Develop factual context using reliable trends, patterns and predictions.
- Easily distribute the results to broad user communities

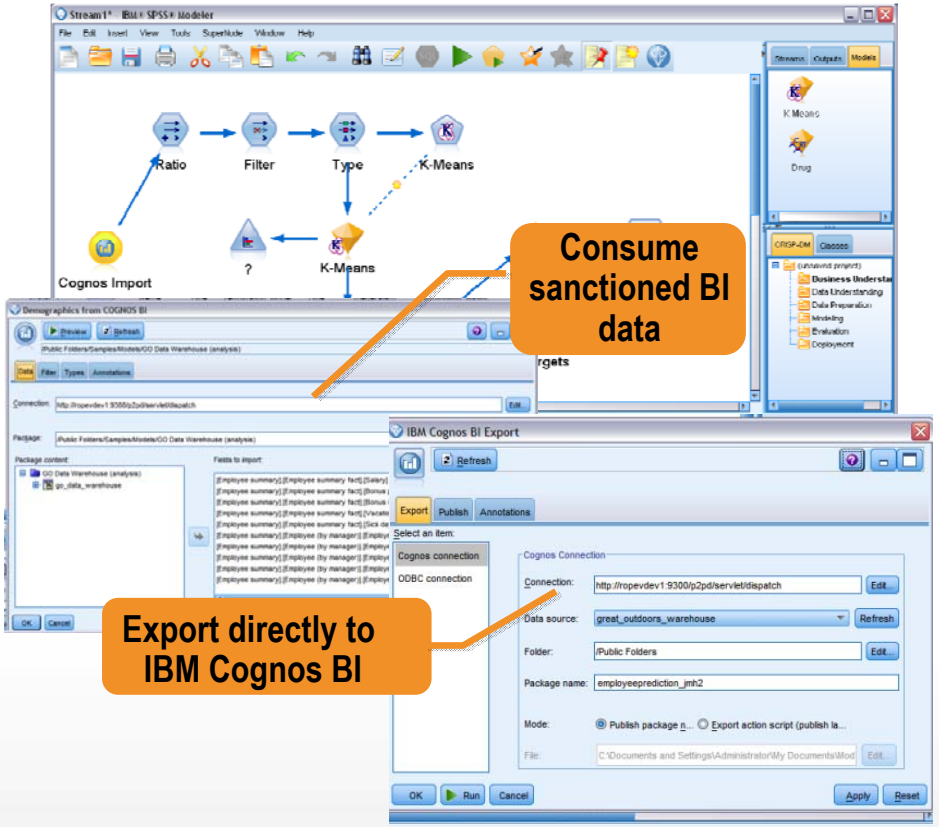
Streamline process to create and distribute predictive results

Leverage your investment in data modeling and IBM Cognos BI

IBM SPSS Modeler 14.1

Solution Highlights

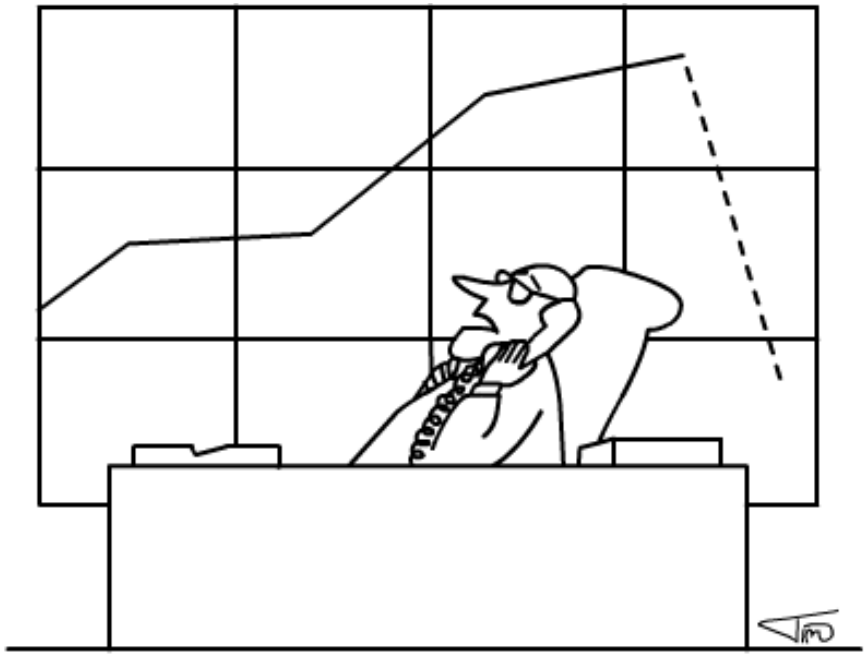
- Interact with familiar data view
- Minimise IT involvement for data access and preparation.
- Automatically publish predictive results to Cognos BI package



Summary

- The nature of decision making is changing
- Predictive Analytics is enhancing decision making
- SPSS Predictive Analytics
- Power of Cognos + SPSS

- Questions ?



"BI tech support? The predictive analysis system is giving the wrong answer again—can you please fix it?... "