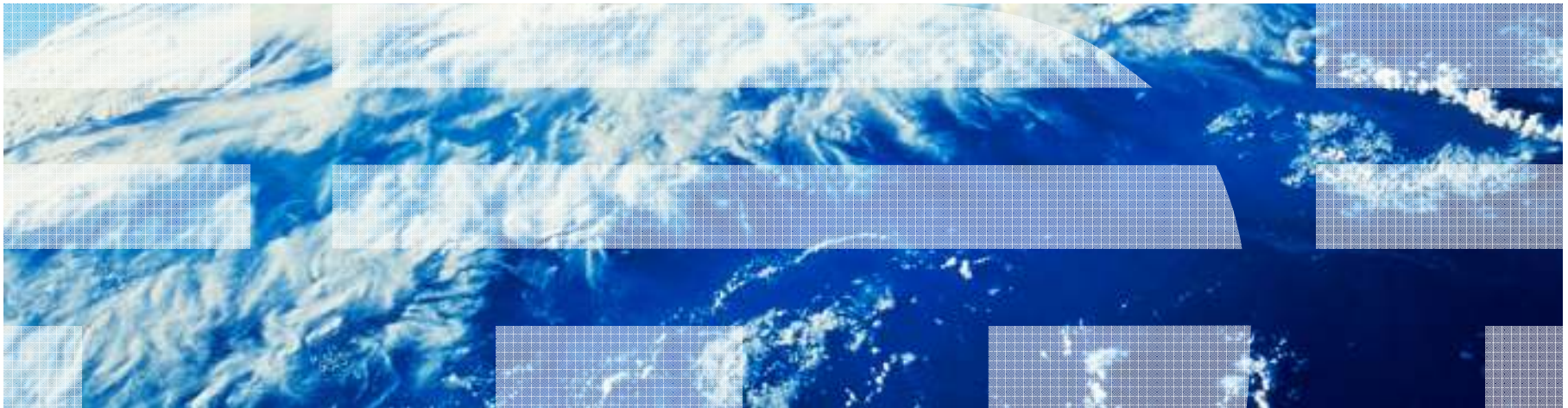


# **IBM SPSS Predictive Analytics**

**Chih-Feng Ku**

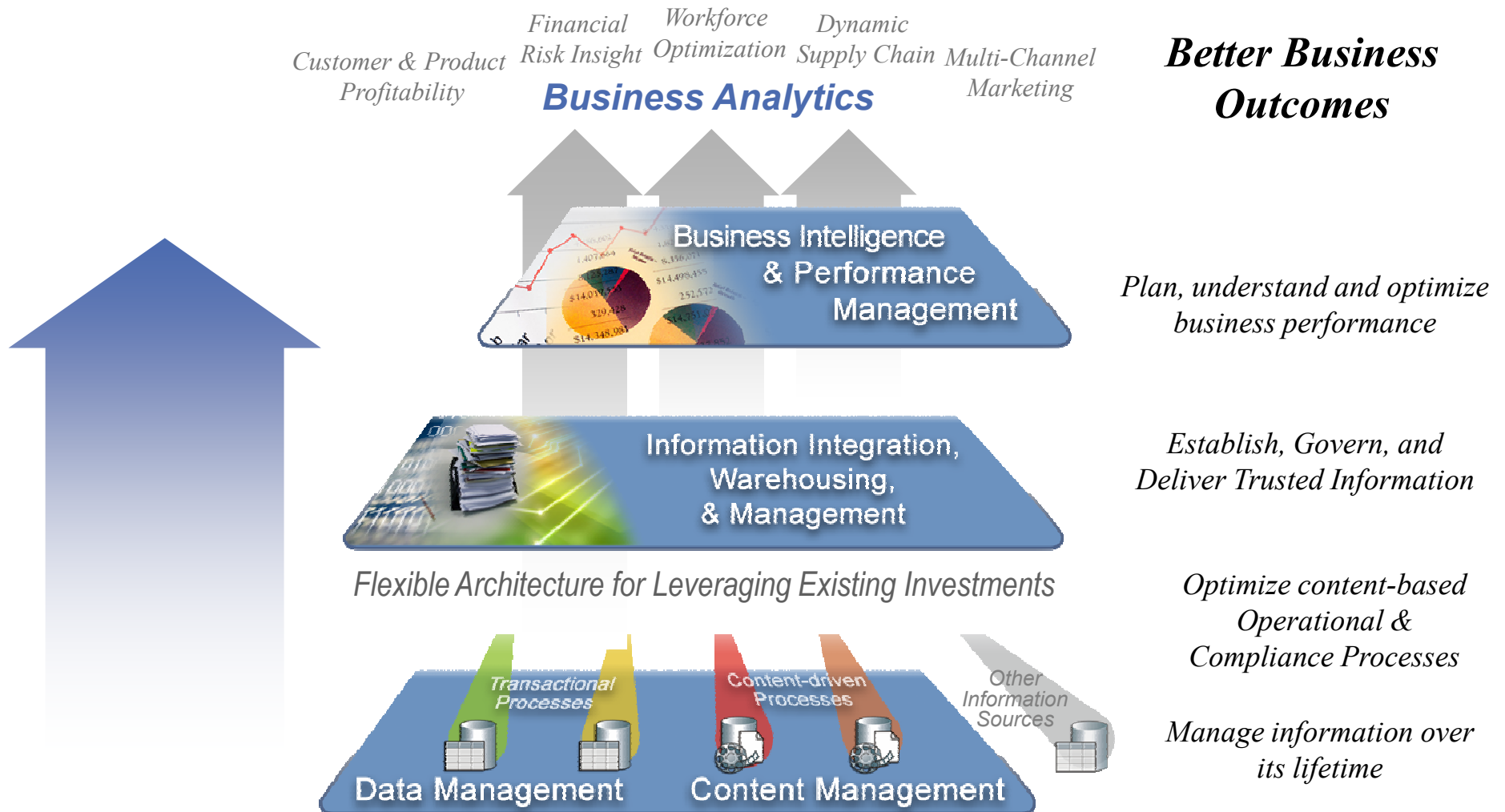
**Technical Manager, Asia Pacific**

**Business Analytics**



# Information On Demand

Unlocking the Business Value of Information for Competitive Advantage



## Business Analytics - Three Questions that Drive Performance



# Delivering your business objectives with Performance Management

How are we doing?

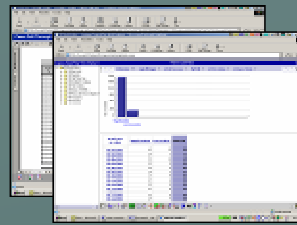
Why?

What should we be doing?

COMPLETE MANAGEMENT VIEW OF THE BUSINESS



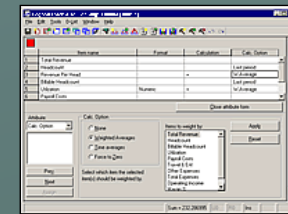
Scorecarding  
& Dashboarding



Reporting  
& Analysis



Advanced &  
Predictive  
Capabilities



Planning, Budgeting  
& Forecasting

ONE PLATFORM ALL DATA SOURCES

OPS

PLM

SALES

WMS

SCM

CRM

ERP

# The Need for Better Decisions

Speed  
to insight  
and  
speed  
to impact

**1 in 3**  
business leaders frequently make critical decisions without the information they need

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

**4 in 5**  
business leaders see information as a source of competitive advantage

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

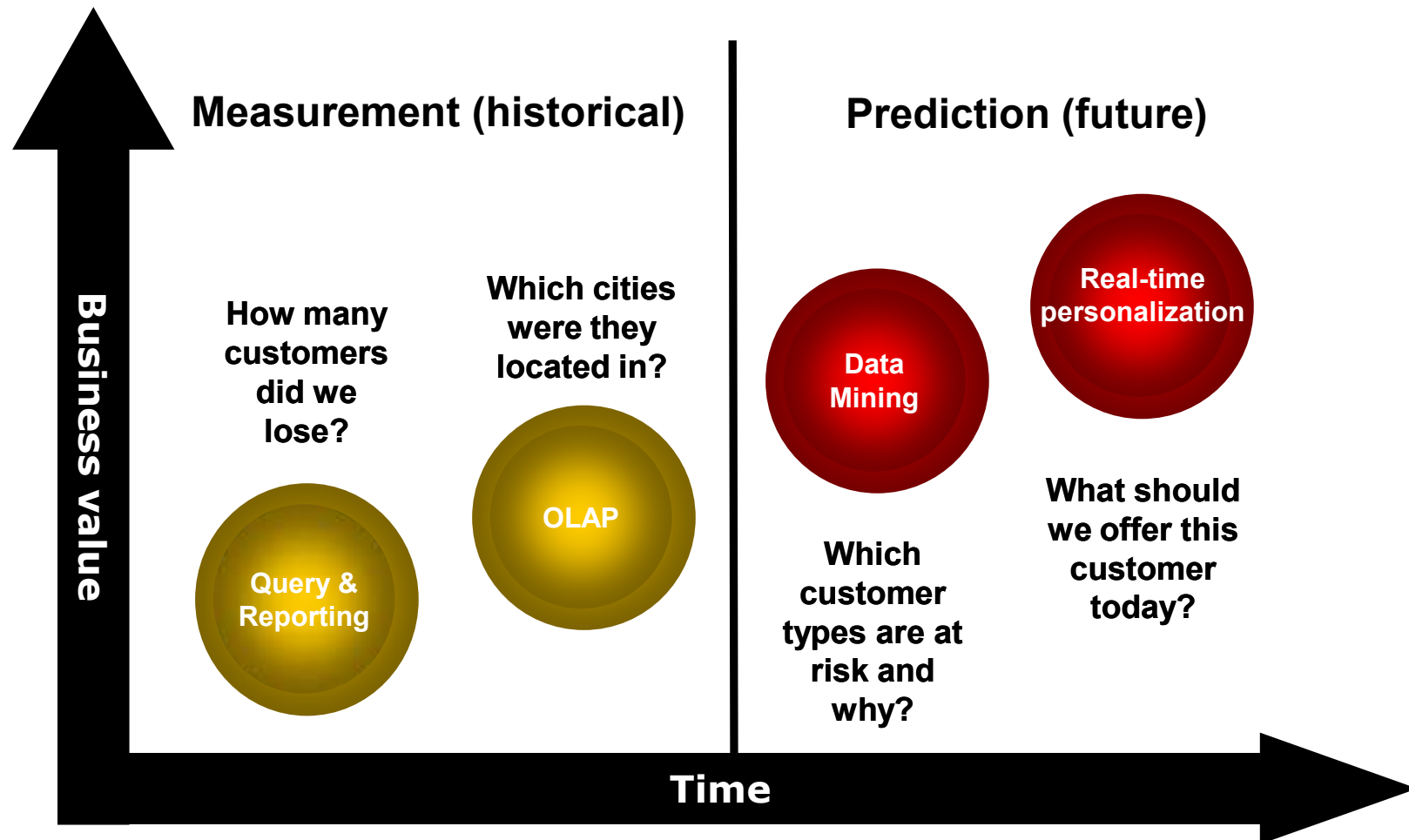
***“In the end, the proof of any leader’s decisions is in their outcomes”***

**Sam Palmisano**

**Chairman & CEO – IBM Corporation**

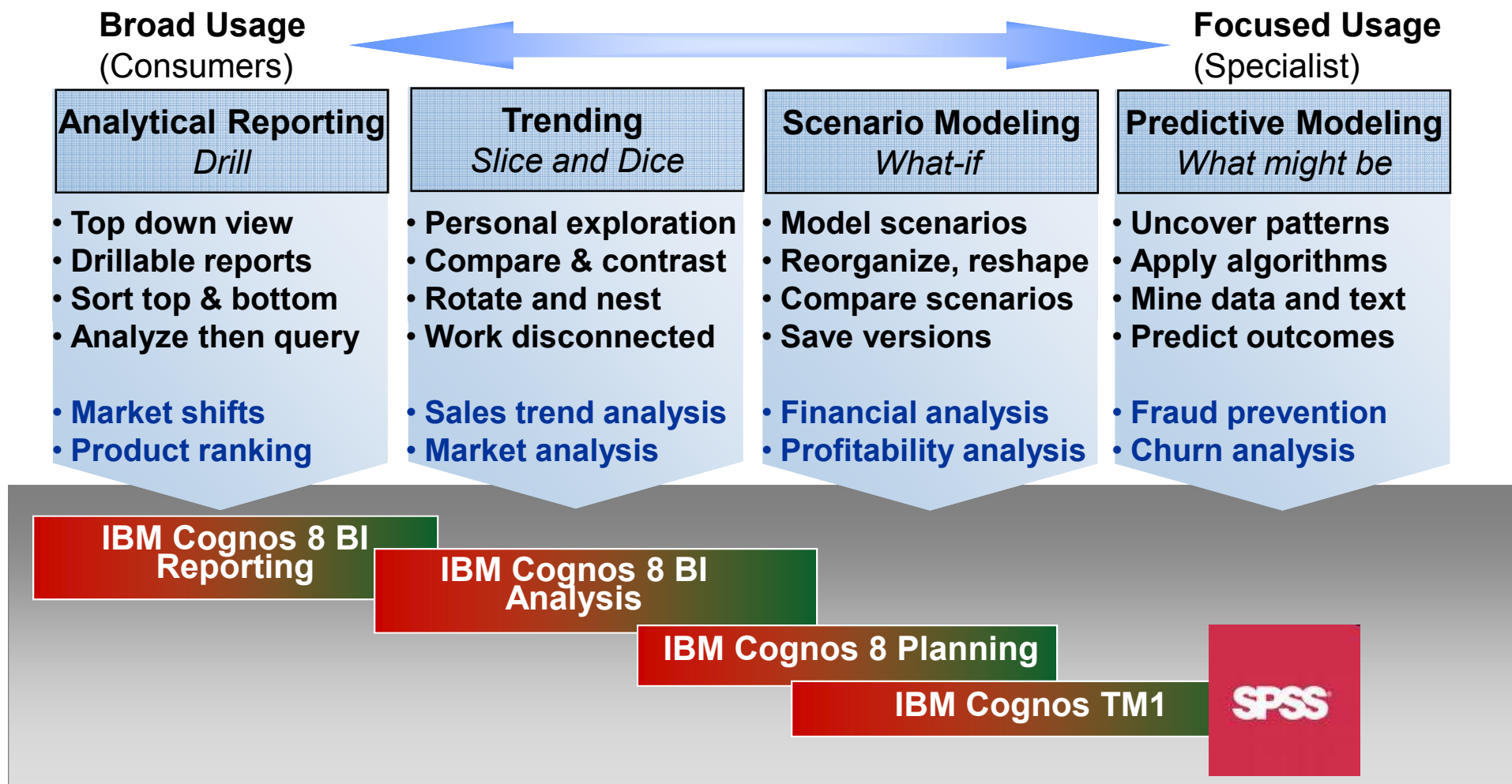


## *Evolution of Analytics*






# The Different Styles of Analysis



## 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**
  - **Analyzes patterns found in historical and current transaction data as well as attitudinal survey data to predict potential future outcomes**





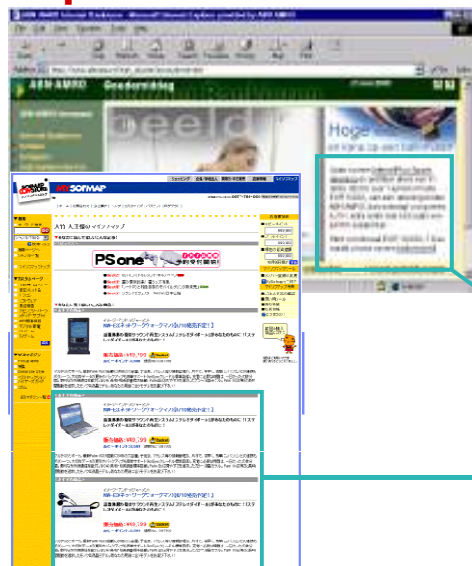
## Introducing SPSS, an IBM Company

- **A leading provider of predictive analytic software, services and solutions**
  - **Software** – data collection, text and data mining, advanced statistical analysis and deployment technologies
  - **Services** – implementation, training, consulting, and customization
  - **Solutions** – combine software and services to deliver high-value line-of-business solutions; used for optimizing marketing campaigns, call center effectiveness, identification of fraudulent activity and more
- **40 years of experience and a broad customer base**
  - 250,000 customers: 100 countries, 50 states, 100% of top universities

Enables decision makers to predict future events and proactively act upon that insight to drive better business outcomes

# Business Areas of Focus

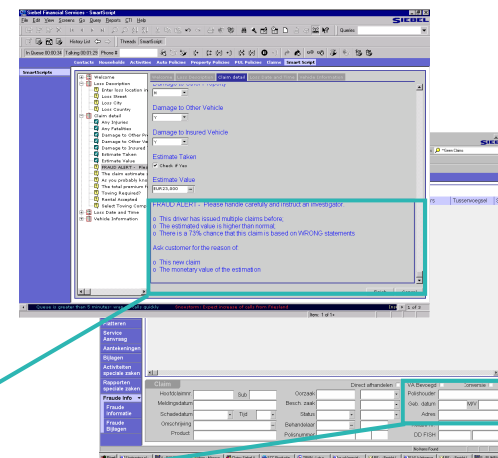
**Acquire**



*Cross-sell and up-sell offers via the Web site*

**Risk**

*Assessment of risk at the point of data entry*

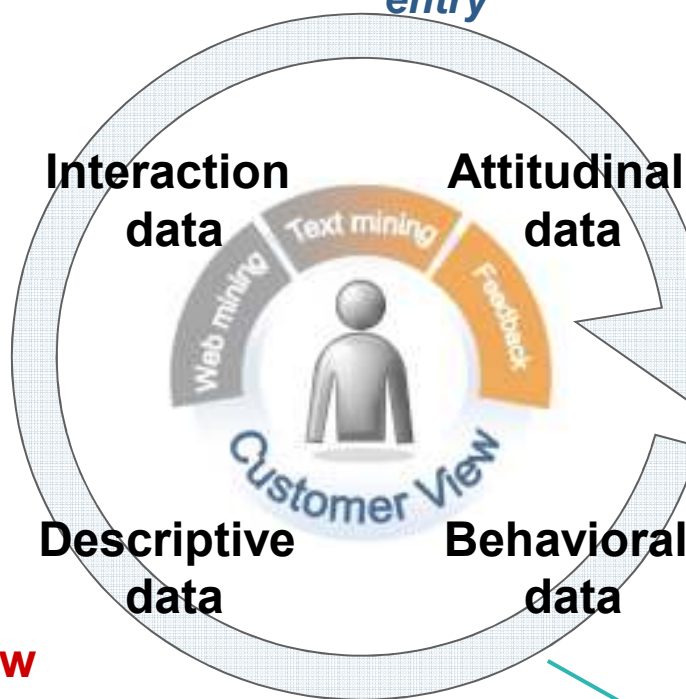


**Interaction data**

**Attitudinal data**

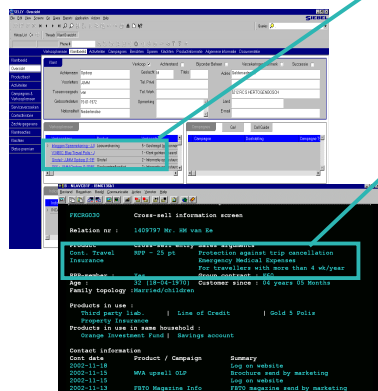
**Descriptive data**

**Behavioral data**



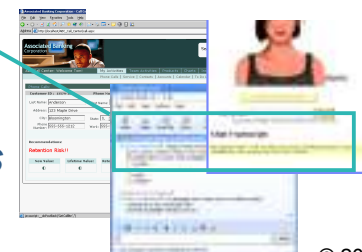
**Grow**

*Sales offers presented via the call centre*



**Fraud**

*Real-time identification of suspicious transactions*



**Retain**

*Real-time retention actions via chat messages*

# Enabling the Predictive Analytics Process

## Capture

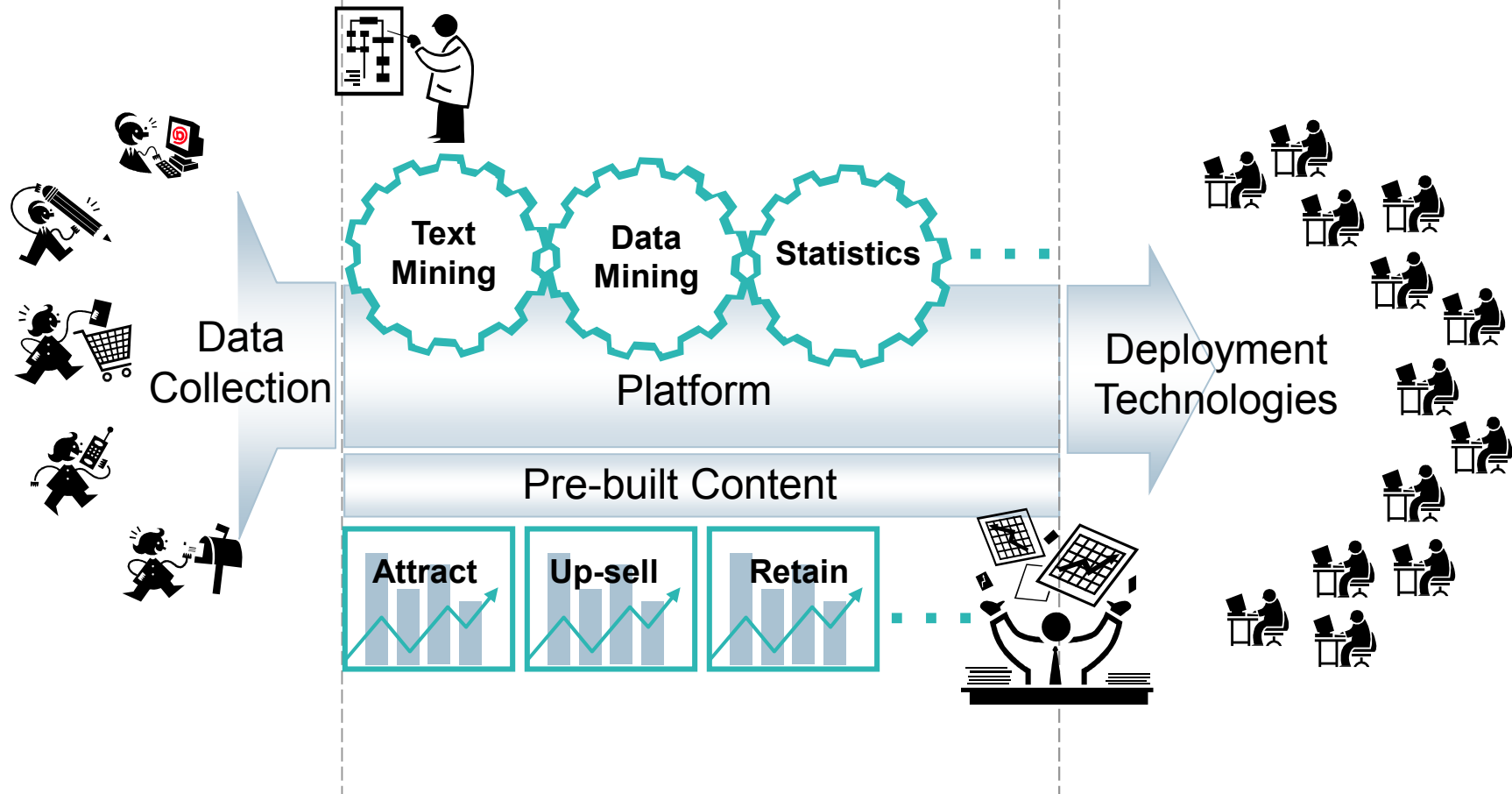
*Data Collection delivers an accurate view of customer attitudes and opinions*

## Predict

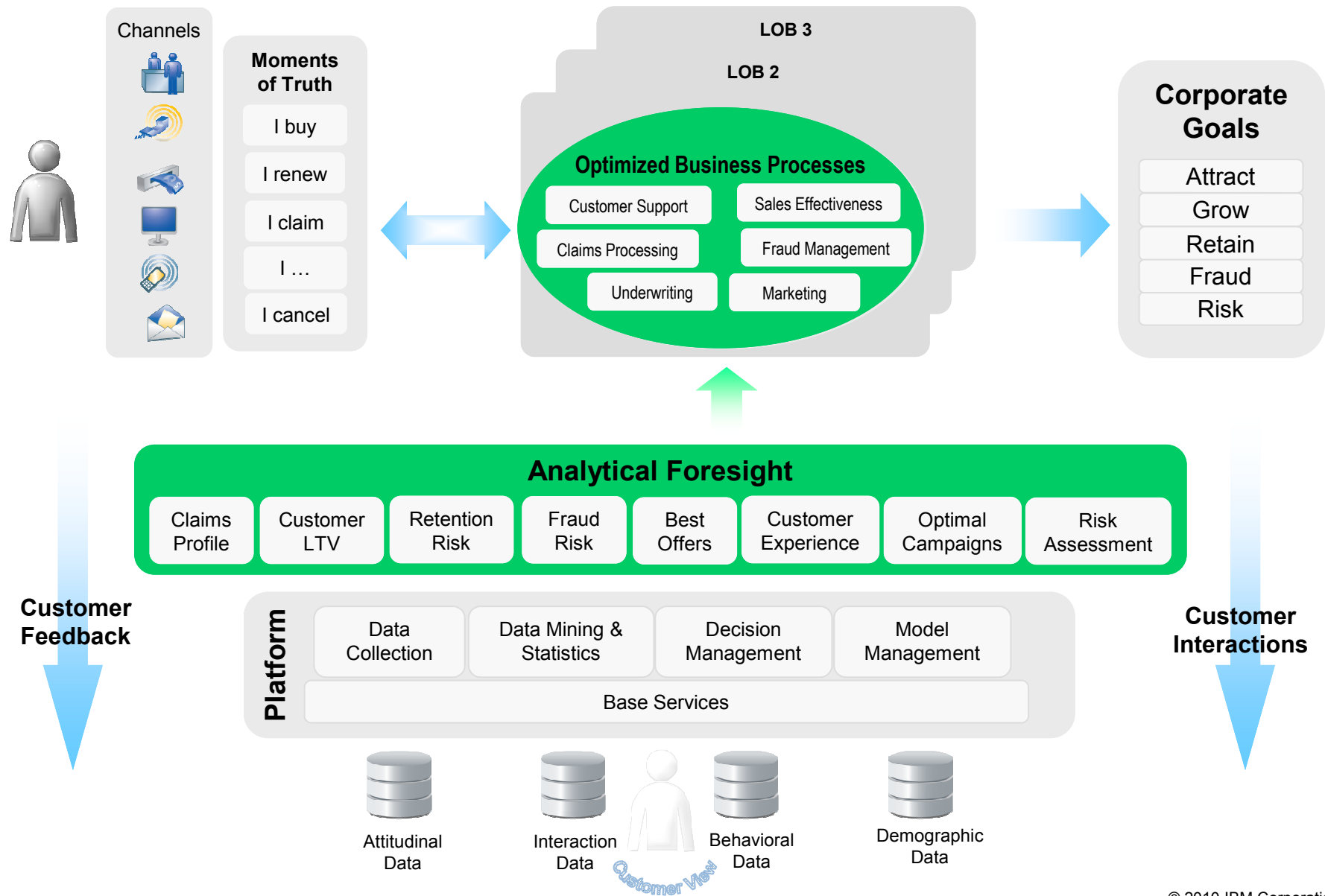
*Predictive capabilities bring repeatability to ongoing decision making, and drive confidence in your results and decisions*

## Act

*Unique deployment technologies and methodologies maximize the impact of analytics in your operation*



# The Predictive Enterprise



# 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**

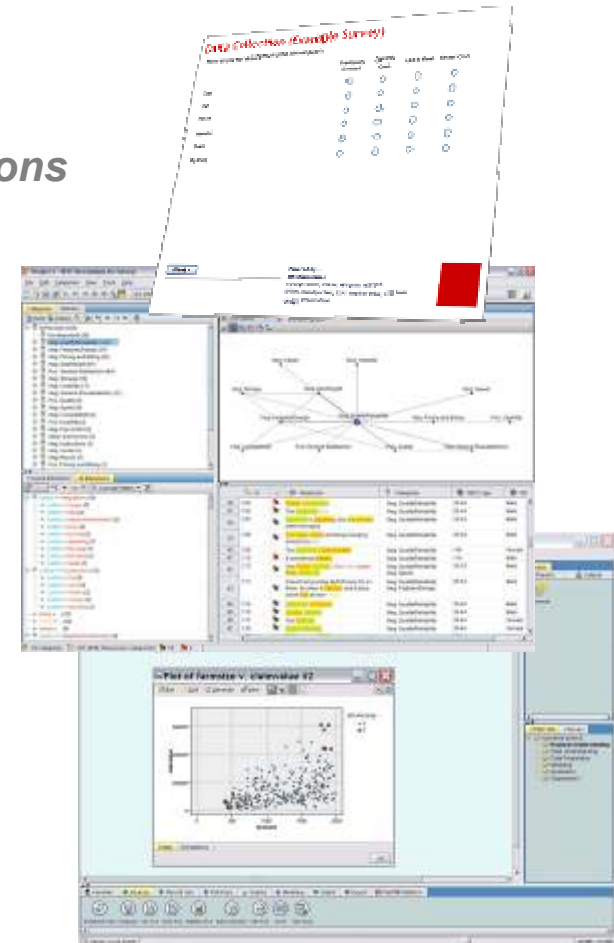
*Brings repeatability to ongoing decision making*

- **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 a Complete Perspective

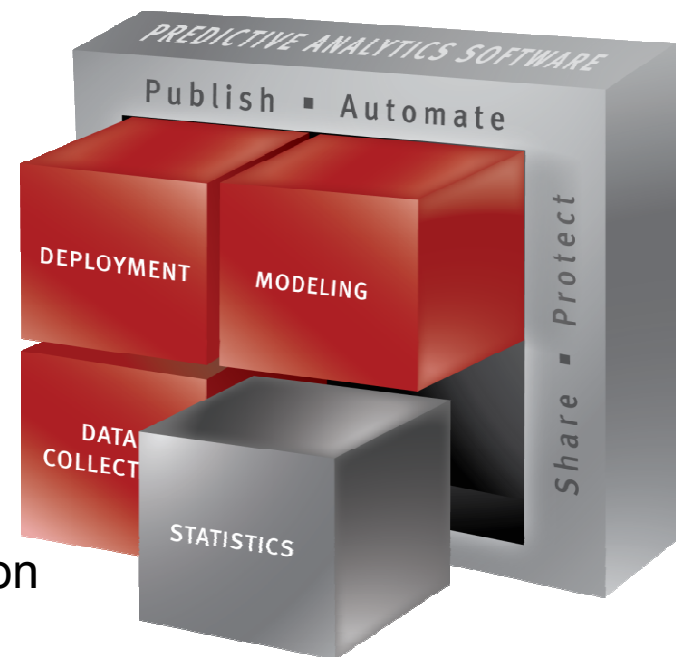
## *IBM SPSS Data Collection for Comprehensive Surveying*

- **Take control of your research**
  - Create and conduct surveys fast
- **Reach a broader audience, easier**
  - Build surveys once, leverage in multiple ways, and in multiple languages
- **Consolidate research efforts**
  - Find and reuse questions and surveys
  - Share results quickly
  - Secure sensitive data
  - Leverage previous research



## Statistics Family

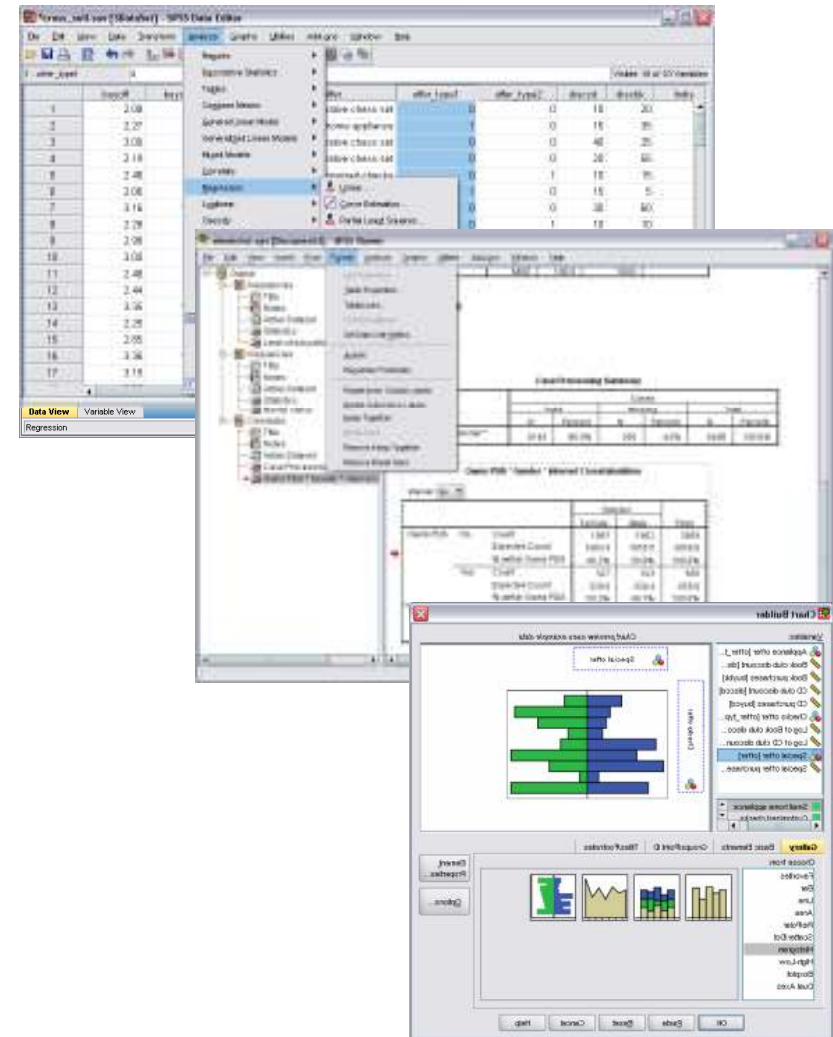
- **The Family Message**
  - Be confident in your results and decisions
- **The Core Usages**
  - Validate your Assumptions
  - Test Hypotheses
- **Without Statistics?**
  - You're making assumptions based on false perspectives
  - You're making business decisions based upon gut feel



# Predict Behavior & Preferences

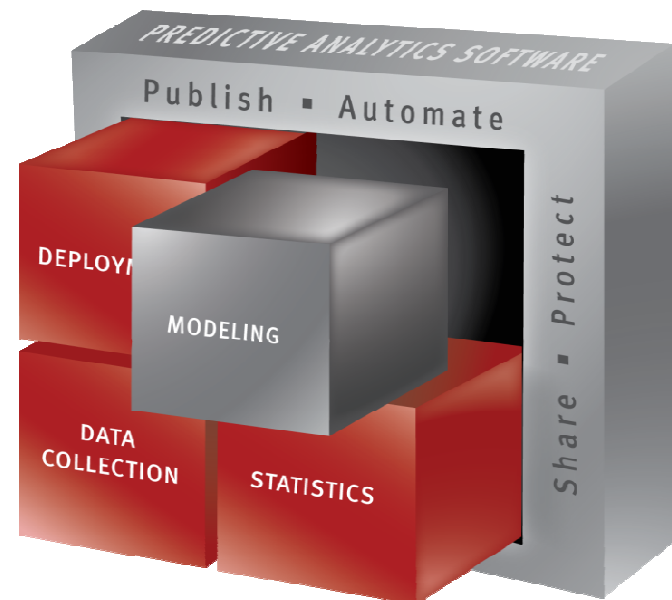
## *IBM SPSS Statistics Suite for Research & Analysis*

- **Increase analyst productivity**
  - The most comprehensive workbench
  - Presentation ready output
- **Grows with your needs**
  - Increase functionality with add on modules, scripting and programmability
- **Scales to your requirements**
  - Flexible deployment options maximize resource utilization



# Modeling Family

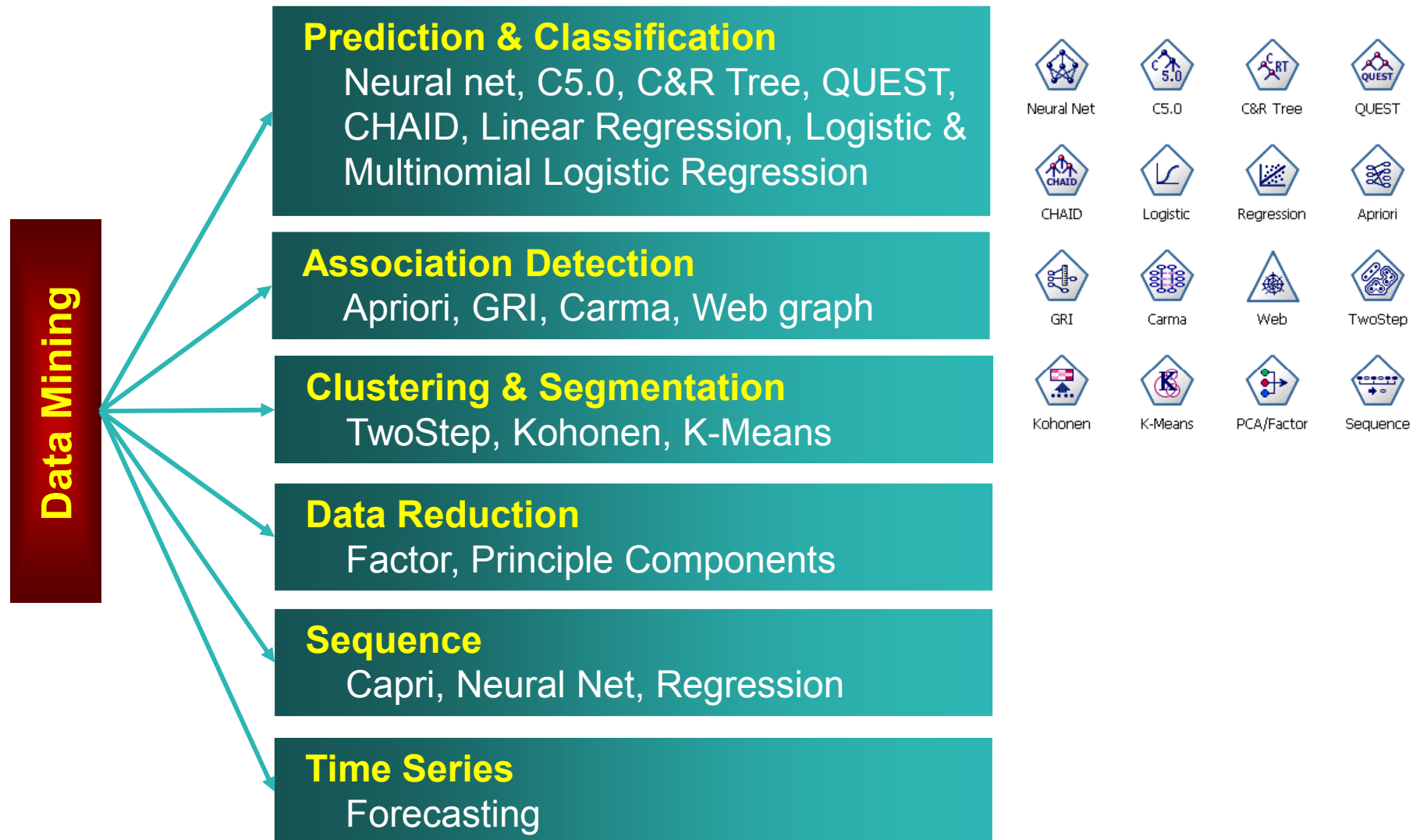
- **The Family Message**
  - Bring repeatability to ongoing decision making
- **The Core Usages**
  - Model the hidden relationships in your data
  - Infer the outcome of every interaction
- **Without Modeling**
  - Every interaction is ad-hoc
  - You're counting on instinct to handle situations appropriately







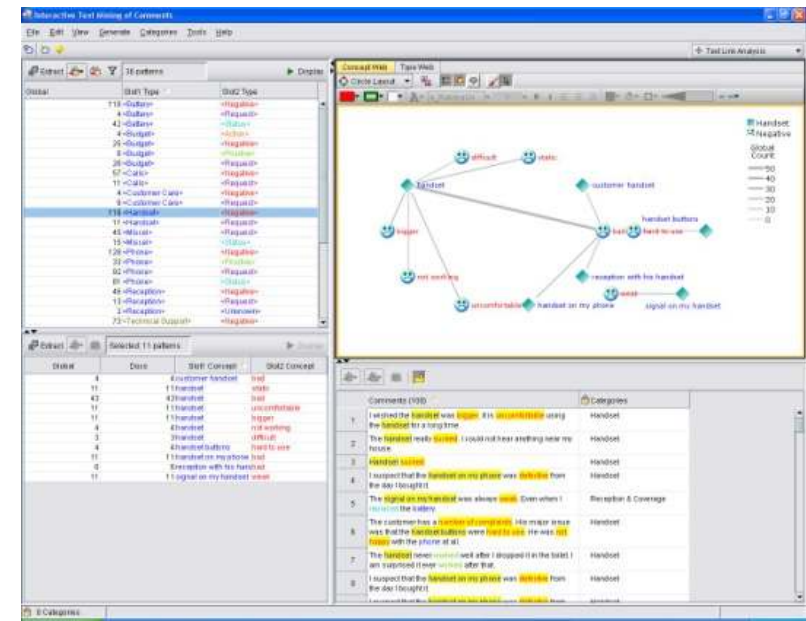
# Modelling Algorithms in SPSS Modeler



# Predict Behavior & Preferences

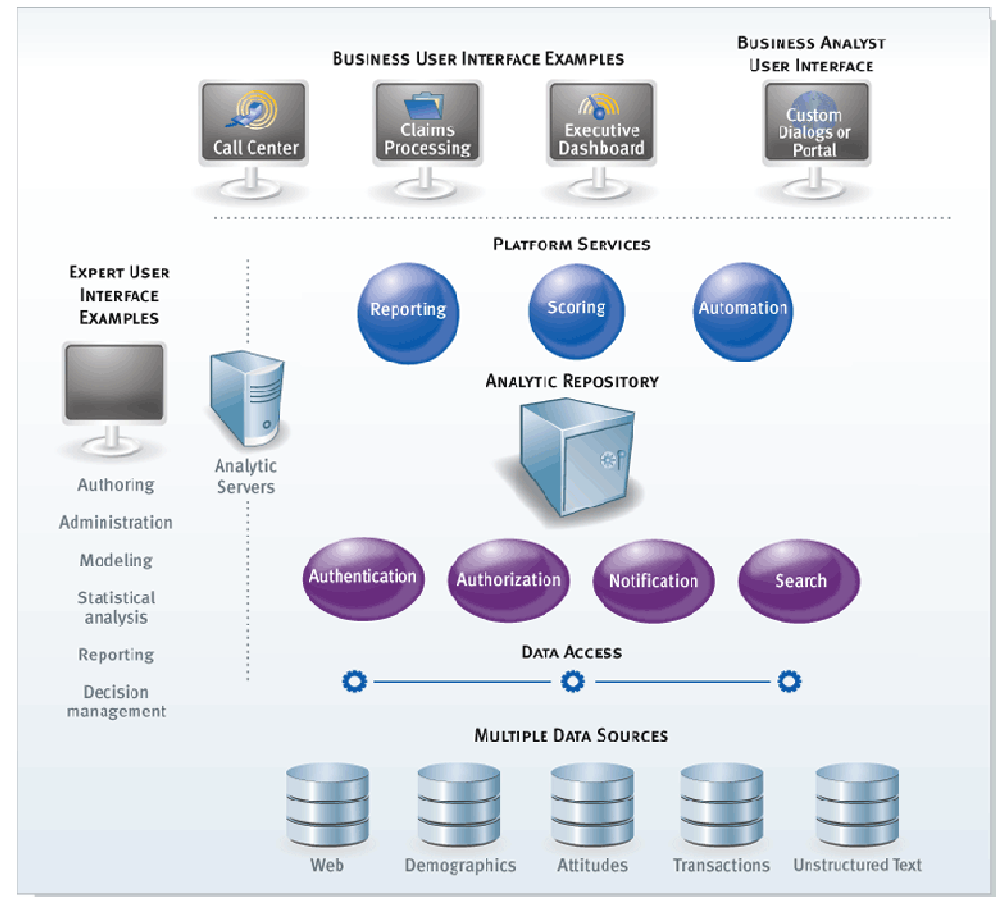
## IBM SPSS Text Analytics

- **Broaden the Perspective**
  - Mine unstructured data, regardless of source
- **Extract Relevant Data**
  - Natural Language Processing
  - Concepts, Categories, and Relationships
  - Combination of automated and customized extraction
- **Integrate Extracted Data**
  - Combine narratives with numbers
  - Deeper understanding



## IBM SPSS Collaboration and Deployment Services

- **Flexible enterprise foundation for managing and deploying analytics throughout the organization**
- **Automates analytical processes**
- **Enables collaboration by securely sharing and reusing analytic assets**
- **Streamlines deployment of analytical information on a scheduled or real-time basis**



Maximizes the impact of analytics in your operation

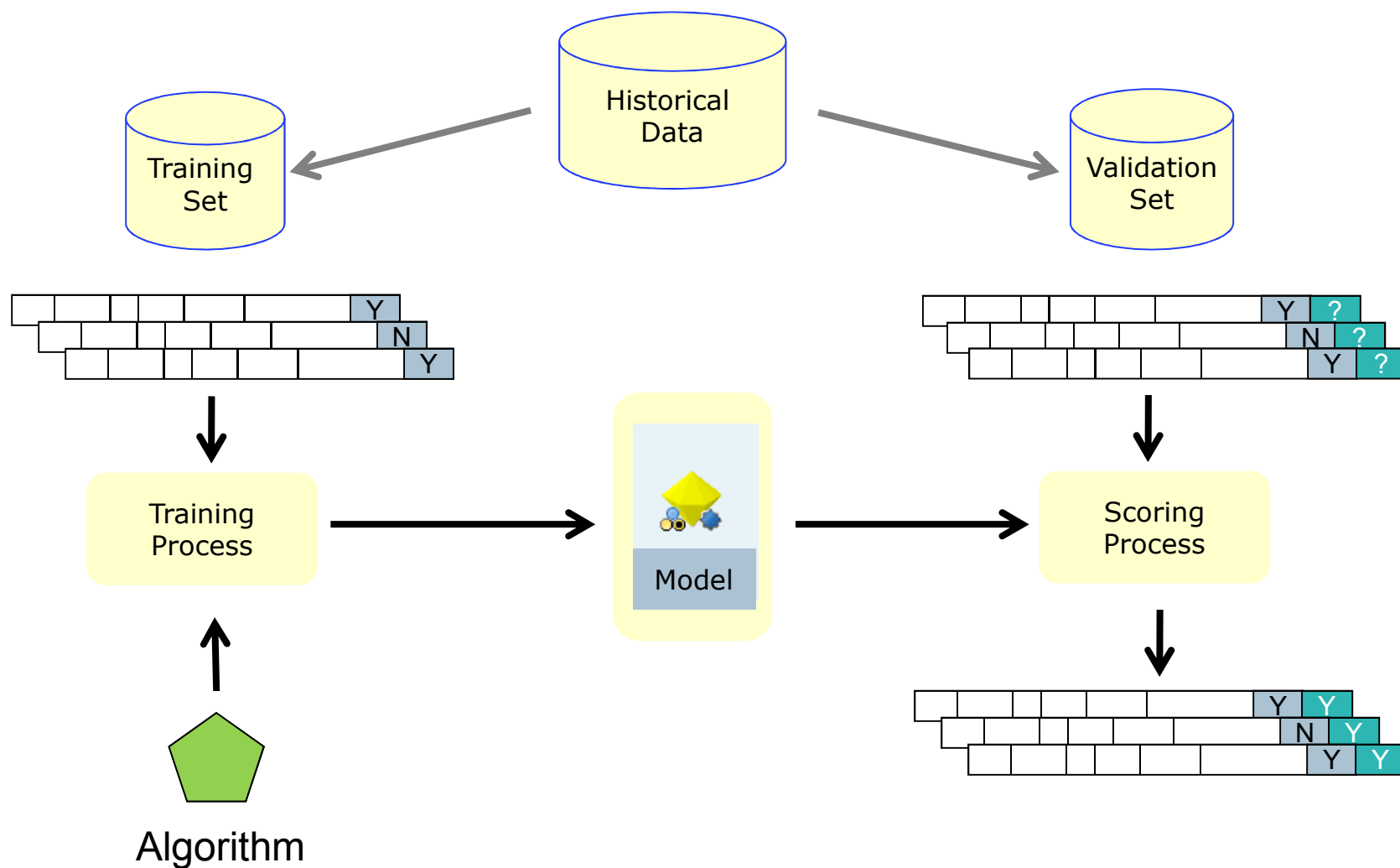
# IBM SPSS Decision Management

- Framework for domain specific applications that combine Models, Rules, and Optimization to solve business problems
- Extends predictive insights to the business user at the point of decision
  - E.g. Should a claim be 'fast tracked' or evaluated more closely based on a calculated risk score?



Maximizes the impact of analytics in your operation

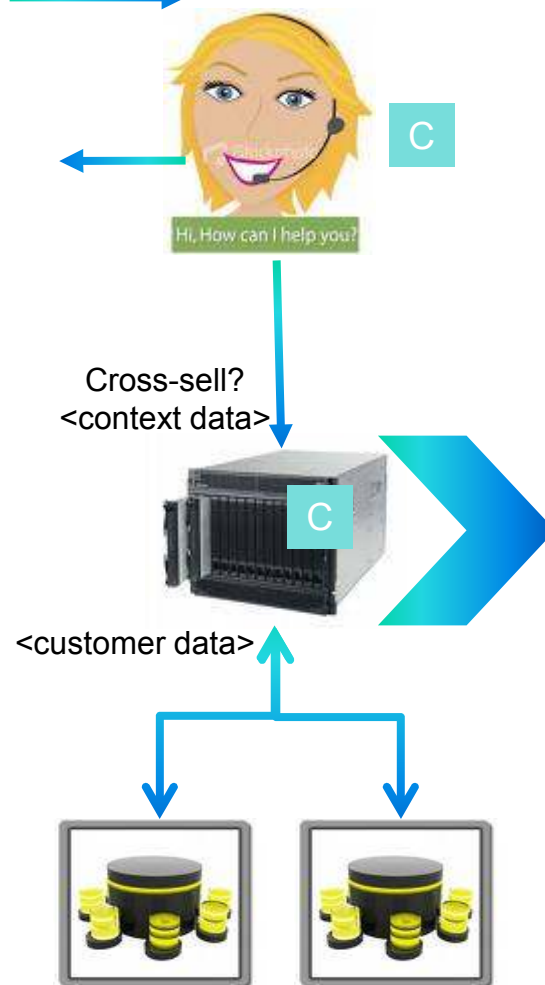
# Predict: Developing a Predictive Model





# Decision Management in Action

## *Leveraging Service Calls as Sales Opportunities*



Potential Campaign	Business Rules Exist	Margin	Response Probability	Expected Value
A	No			
B	Yes	90	54%	49
C	Yes	200	32%	64

# SPSS Enables New Solution Value for IBM Cognos Customers

***How are we  
doing?***

***Why are we  
on/off track?***

***What should  
we do next?***

**Addition of KPPs  
(Key Performance  
Predictors)**

**Broad distribution  
of statistical  
results**

**Time series  
forecasting**

**New customer  
insight through  
Data Collection**

**Predictive analytics for  
deeper understanding  
of the data**



**Executive**



**Business  
Manager**



**Casual  
Business User**



**Line  
Manager**

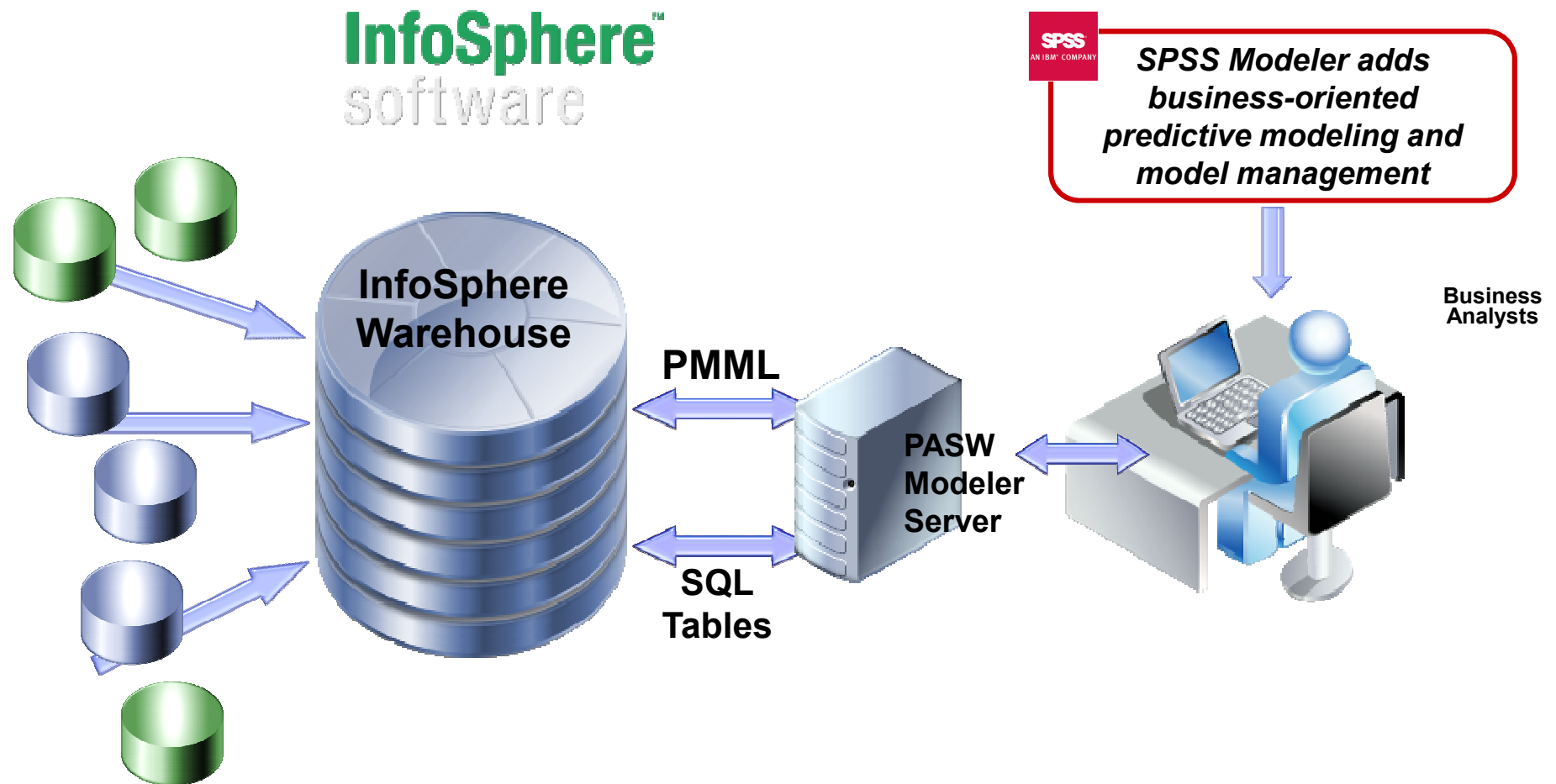


**Business  
Analyst**

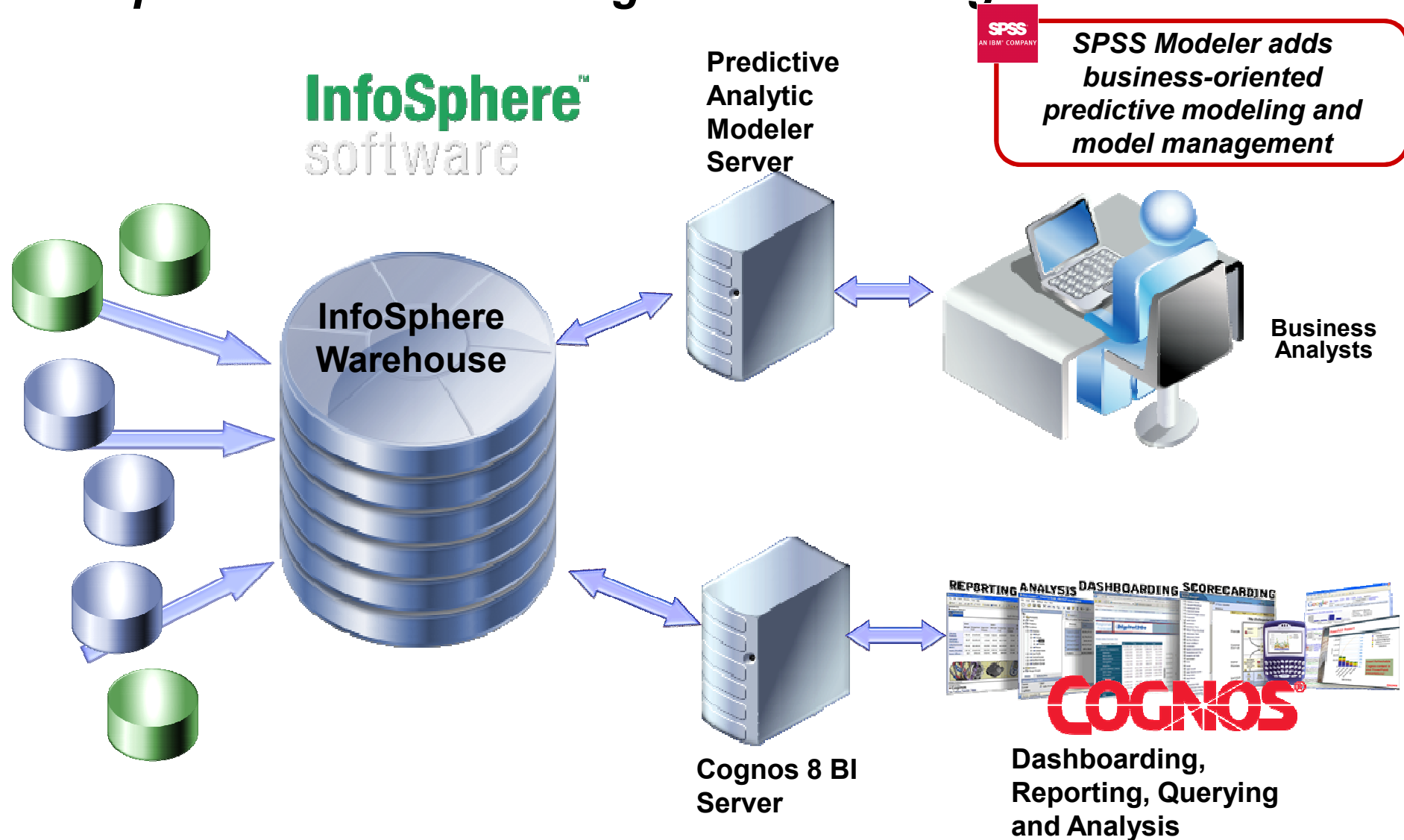


**Financial  
Analyst**

## ***SPSS' Modeler is Complementary to InfoSphere Warehouse***



# InfoSphere Warehouse-Cognos-SPSS Integration








## Breadth of Applications

- **Campaign Response Prediction**
- **Customer Churn Modelling**
- **Profiling and Segmentation**
- **Fraud and Anomaly Detection**
- **Credit Scoring**
- **Demand Prediction/Forecasting**
- **Basket Analysis**
- **Text Analysis**

# How SPSS will “catch” your opportunities

## Industry Plays to Accelerate SPSS Opportunities

<u>Play</u>	<u>ASP</u>	<u>Description</u>
 <b>Crime Insight and Prevention</b>	<b>\$100k - \$250k</b>	<i>To analyze crime statistics, predict future activity rates and locations and to facilitate collaboration within and across policing departments</i>
 <b>Telco Predictive Churn</b>	<b>\$100k - \$500k</b>	<i>For early detection of churn candidates BEFORE they churn by leveraging sophisticated predictive modelling based on past performance AND by using real-time detection methods</i>
 <b>Retail Market Basket Analysis</b>	<b>\$100k - \$250k</b>	<i>For detection of product associations in transaction data, and enables users to easily interact with the market basket analysis information</i>
 <b>Banking Campaign Insight and Optimization</b>	<b>\$100k - \$500k</b>	<i>To significantly improve a bank's marketing campaigns by increasing lead generation while at the same time reducing costs to run and implement the campaign</i>
 <b>Insurance Customer Retention and Growth</b>	<b>\$100k - \$500k</b>	<i>For better understanding of customer and channel profitability to reduce customer churn, and improve up/sell cross sell opportunities</i>

*Note: Each play is also expected to drive \$0.5-\$3M in services revenue*



# How SPSS will “catch” your opportunities

## Horizontal Plays to Accelerate SPSS Opportunities

### Play

### ASP

### Description

#### Customer Intimacy

[Link: SPSS Customer Intimacy Play](#)

\$125k -  
\$750k

For analyzing and understanding customers in order to increase satisfaction, retain, and grow the most profitable customers

#### Demand Marketing Optimization

[Link: SPSS Marketing Optimization Play](#)

\$50k -  
\$100k

For analyzing and identifying optimal campaign targeting to maximize ROI, and for testing marketing offers to determine optimal campaign mix

#### SPSS Statistical Workbench for Business Intelligence

[Link: SPSS Statistical Workbench Play](#)

\$50k -  
\$100k

For advanced analysis using statistical algorithms (for regression, correlation, segmentation etc.), and display of those results

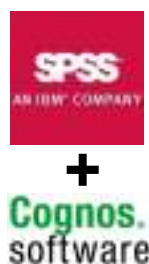
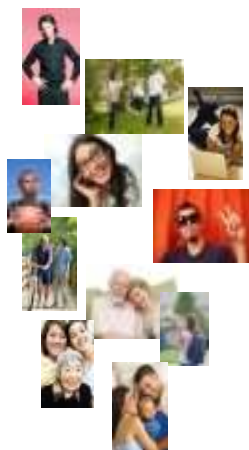
#### SPSS Modeler for InfoSphere Warehouse

[Link: SPSS Modeler for InfoSphere Play](#)

\$125K -  
\$750k

To enable business analyst-level modeling and data preparation through predictive techniques – using algorithmic analysis of data to determine key factors

**Note: Each play is also expected to drive \$0.5-\$3M in services revenue**



## How to Make Money with SPSS

### **Typical Deal Sizes**

- **Typical Department/Single Business Unit Deal Size**
  - \$200k – \$750k
- **Enterprise Deal Size**
  - \$1M – \$2M+

### **Initial Target Customers**





1. **Cognos Install Base or New Deals**
  - *Provide new insights into customer data and add Predictive Capabilities*
2. **Infosphere Warehouse Customers**
  - *Adds business-oriented predictive modeling and model management*
3. **Maximo Install base**
  - *Add predictive maintenance capabilities to proactively determine maintenance needs*
4. **SAS Customers**
  - *SPSS has strong solutions which can be sold around SAS, positioning SPSS for future take-out opportunities*
5. **IBM Customers**
  - *Where there are business issues ripe for predictive analytics*

# A Business Scenario Example







## Some Customer Success Stories

## Public Sector Successes

<i><b>Department</b></i>	<i><b>Agency</b></i>	<i><b>Need</b></i>	<i><b>Results</b></i>
<i><b>Treasury</b></i>	 <b>Internal Revenue Service</b>	<i><b>Profiling Audit Targets</b></i>	<i><b>Streamlined audit selection and closure process</b></i>
<i><b>DHHS</b></i>		<i><b>Coordinating Disease Information</b></i>	<i><b>Multi-modal data collected on E. Coli outbreaks, post-Katrina diseases</b></i>
<i><b>DHHS/OIG</b></i>		<i><b>Detection/Prevention of Medicaid and Medicare Fraud</b></i>	<i><b>Identified fraudulent providers</b></i>
<i><b>Homeland Security</b></i>		<i><b>Container Security</b></i>	<i><b>Detected suspicious inbound cargo</b></i>

## Commercial Sector Successes

Sector	Company	Need	Results
Retail	 <b>Advance Auto Parts</b> <i>Keep the wheels turning.</i>	<b>Market Mix Analysis</b>	<i>Improved availability, overall profitability, higher propensity to move SKUs at stores</i>
Insurance	 <b>INFINITY</b>	<b>Insurance Abrogation</b>	<i>Found overpayments and collected millions</i>
Consumer Goods	 <b>P&amp;G</b>	<b>Product Design &amp; Customer Sensitivity</b>	<i>Researched key product features to drive increased retail penetration and differentiation</i>
Telecommunications	 <b>cablecom</b>	<b>Customer Intimacy</b>	<i>Reduced customer churn from 19% to 2%</i>



# IBM SPSS Unique Values

## *SPSS, an IBM Company Uniquely Offers You...*



### **Value of analytics across your organization**

- Highly productive, business-friendly predictive modeling, collaboration and deployment services
- Based on the convergence of analytics, architecture and business processes



### **Open SOA that seamlessly fits your existing environment**

- Componentized, enabling it to easily fit within your existing environment, immediately adding value without the need for a “rip and replace” of information infrastructure
- Natural part of a user’s normal activity versus a separate, disconnected application



### **Deep domain expertise with 40 years experience analyzing data about people**

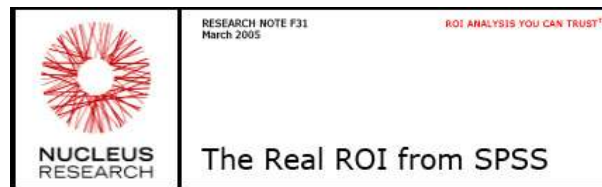
- Ability to dynamically capture attitudes, attributes and behaviors and improve people interactions

## Customers Experience a Measurable ROI

- **94% of customers achieved a positive ROI, average payback in 10.7 months**
- **Over 90% of users attributed an increase in productivity to SPSS**
- **81% of projects were deployed on time, 75% on or under budget**

**“This is one of the highest ROI scores Nucleus has ever seen in its Real ROI series of research reports”**

***Rebecca Wettemann, VP of Research, Nucleus Research***



## Question & Answer

**Alex Lee**  
*IBM SPSS Technical Sales Lead  
Rest of Asia Pacific*

*leeyma@sg.ibm.com*



**Chih-Feng Ku**  
*Technical Manager, Asia Pacific  
Business Analytics*



***Please visit [www.spss.com](http://www.spss.com) for more information and product demo.  
Thank you for your time.***