Agenda

- Introduction
- Who we are!
- What is Predictive Analytics?
- Who needs Predictive Analytics?
- How to build Predictive Models?
- Demonstration: IBM SPSS
- Success Stories
- Questions and Answers
Why MindStream Analytics

Windstream was awarded the 2014 ProformaTECH Award for Excellence, for the Most Effective Adaption of Technology by a Finance Organization.
Putting a smile on executives face!

MindStream helps guide executives; integrating data from different sources and extracting value from it.

Leveraging our Analytics technology partnership with IBM reduces our customers’ risk, while providing high value, award winning projects that take a direct line to bottom line value.
What is Predictive Analytics?

- Empirically-derived models used for predicting future outcomes

Better predict customer behavior, increasing profits and revenue
Goals of Predictive Analytics

- Bring key business insights into our decision-making processes
- Solution to our biggest challenges with data mining
- Integration of predictive analytics with data driven decision making
- Positive ROI and superior outcomes
Goals of Predictive Analytics

Customer
- Advanced client segmentation
- Leveraging customer sentiment analysis
- Reducing customer churn

Finance
- Enabling continuous planning and forecasting
- Automating financial and management reporting
- Improving visibility, insight and control

Risk
- Making risk-aware decisions
- Managing financial and operational risks
- Reducing the cost of compliance

Operations
- Optimizing the supply chain
- Deploying predictive maintenance capabilities
- Transform threat & fraud identification processes
Goals of Predictive Analytics

**Customer**
- Banking
  - Increase account profitability
- Insurance
  - Retain policy holders with better service & marketing
- Retail
  - Understand sales patterns
- Telecommunications
  - Reduce churn with custom retention offers

**Finance**
- Government
  - Effective budget management
- Retail
  - Develop dynamic merchandise plans
- Industrial
  - Plan and forecast sales & operations

**Operations**
- Industrial
  - Predict maintenance issues before they occur
- Retail
  - Improve store performance with P&L reports
- Telecommunications
  - Understand & manage network traffic
- Banking
  - Measure branch performance
- Insurance
  - Streamline claims process
- Government
  - Reduce fraud and waste

**Risk**
- Banking
  - Align risk strategy and financial planning
- Improve compliance & regulatory response
- Insurance
  - Improve compliance & regulatory response
Who needs Predictive Analytics?

• Companies that need to:

  1. secure their competitiveness
  2. increase sales and grow customer base
  3. manage fraud
  4. meet customer’s expectations
  5. improve core business capacity
How to build Predictive Models

CRISP-DM
6 Phases
1. Business Understanding
2. Data Understanding
3. Data Preparation
4. Modeling
5. Evaluation
6. Deployment
• Not strictly ordered
  - Several possible entry points into the loop
• Reflects iterative nature of data mining
Demonstration: IBM SPSS

• **Analyze**: Cognos Workspace
• **Forecast**: SPSS Statistics
• **Mine, Model, Predict**: SPSS Modeler
• **Plan**: Cognos TM1
• **Visualize & Decide**: Cognos Insight and SPSS Decision Management
SPSS Modeler

• High-performance data mining and text analytics
• Utilizes structured and unstructured data
• Creates predictive analytics for data driven decision making
• Enables superior outcomes and positive ROI
SPSS Modeler

- Easy-to-use, interactive interface without the need for programming
- Automated modeling and data preparation capabilities
- Access ALL data – structured and unstructured – from disparate sources
- Natural Language Processing (NLP) to extract concepts and sentiments in text
- Entity Analytics ensures the quality of the data and results in more accurate models
SPSS Modeler
SPSS Modeler
SPSS Decision Management

### What If...

<table>
<thead>
<tr>
<th>Simulation Data Source</th>
<th>Simulation Date</th>
<th>Claim Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>sdbank claims data</td>
<td>2010-04-26 10:42:37</td>
<td>Auto</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Combine matrix</th>
<th>Model actions</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Refer</td>
<td>Standard</td>
</tr>
<tr>
<td>Refer</td>
<td>Refer</td>
<td>Refer</td>
</tr>
<tr>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Fast Track</td>
<td>Fast Track</td>
<td>Fast Track</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Action</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Track</td>
<td>710</td>
<td>91.03%</td>
</tr>
<tr>
<td>Refer</td>
<td>3</td>
<td>0.38%</td>
</tr>
<tr>
<td>Standard</td>
<td>67</td>
<td>8.59%</td>
</tr>
</tbody>
</table>

Total Simulation Records: 975

<table>
<thead>
<tr>
<th>Display</th>
<th>Count</th>
<th>Number of runs retained: 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast Track</td>
<td>680</td>
<td>Run 1: 680, Run 2: 710</td>
</tr>
<tr>
<td>Refer</td>
<td>62</td>
<td>Run 1: 62, Run 2: 3</td>
</tr>
<tr>
<td>Standard</td>
<td>38</td>
<td>Run 1: 38, Run 2: 67</td>
</tr>
<tr>
<td>Total</td>
<td>780</td>
<td></td>
</tr>
</tbody>
</table>

Simulations and “what-if” scenarios compare and test the best outcomes.
XO Communications

Challenges
- Telecommunications companies need to control churn
- Numerous small or mid sized customers to manage
- Higher propensity to churn than large customers
- Inefficient to reach out to each customer
- No clear reliable means to identify customers at risk

376% return on investment

5 Months
The time it took to pay back the investment

$3M Average annual benefit
XO Communications

Results using Predictive Analytics

• Customers are scored on likelihood to churn per month
• Through the BI web interface, client service managers access predictive data and customer profiles based on territory and prioritize customer outreach

376%
return on investment

5 Months
The time it took to pay back the investment

$3M
Average annual benefit
HCDE

Challenges

• Increase its high school graduation rate
• Intervene with at-risk students early enough to prevent them from dropping out
• Analyze 23,000 text-based surveys and other data
• Provide the right data to make daily decisions that will help their students achieve a brighter future

10% the increase in graduation rates

25 hours cut off the workload of creating each report
Benefits from using Predictive Analytics

• Teachers and administrators can now identify at-risk students and constructively intervene with personalized assistance
• Predict which intervention activities will have the optimal impact on students
• Produces year-over-year improvements in behavior and attendance

10% the increase in graduation rates

25 hours cut off the workload of creating each report
Centerstone Research Institute

Challenges

• Want to ensure that patients actually receive the benefits of new breakthroughs
• Patients receive correct diagnoses and treatment less than 50 percent of the time on first pass through system
• Want to use emergent analytics technologies to connect researchers and healthcare providers

42% improvement in patient outcomes

58% anticipated reduction in cost per unit of outcome change
Benefits from Predictive Analytics

• Created predictive models to assess the effectiveness of various treatment options based on thousands of patients
• Foresight into how treatment would work over time
• Improved operating costs, productivity within clinics and insurance reimbursements

42% improvement in patient outcomes

58% anticipated reduction in cost per unit of outcome change
Conclusion

Magic Quadrant for Business Intelligence & Analytics Platforms
Conclusion

By the end of the day, you should be prepared to answer these questions:

- Have you planned your journey? Or are you just letting it happen?
- Are you deciding on capabilities rather than products?
- Do you think of analytics in a holistic way?
- Is your current approach sustainable and cost effective?
- Will you be ready to support your business teams’ demands?
### Recent Clients

<table>
<thead>
<tr>
<th>Pharmaceuticals</th>
<th>Media / Telco</th>
<th>Financial Services</th>
<th>Consumer</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer HealthCare Consumer Care</td>
<td>verizon</td>
<td>vantiv</td>
<td>StanleyBlack&amp;Decker</td>
<td>IBM</td>
</tr>
<tr>
<td>gsk</td>
<td>CABLEVISION</td>
<td>AgFirst</td>
<td>Chiquita</td>
<td>salesforce</td>
</tr>
<tr>
<td>Bayer HealthCare Pharmaceuticals</td>
<td>Time Warner Cable</td>
<td>ING DIRECT</td>
<td>Avon</td>
<td>brightcove</td>
</tr>
<tr>
<td>Bayer HealthCare Animal Health</td>
<td>windstream</td>
<td>FirstMarblehead</td>
<td>CHANEL</td>
<td>OPERA software</td>
</tr>
<tr>
<td>Associated Press</td>
<td>AP</td>
<td>VISA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Energy</th>
<th>Industrial</th>
<th>Education</th>
<th>Healthcare</th>
<th>Real Estate / REIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATCO</td>
<td>tyco</td>
<td>Penn</td>
<td>Boston Scientific</td>
<td>SIMON Property Group, Inc.</td>
</tr>
<tr>
<td>HESS</td>
<td>CNH</td>
<td>University of Pennsylvania</td>
<td>Catholic Health Partners</td>
<td>Taubman</td>
</tr>
<tr>
<td>noble energy</td>
<td>BARRICK</td>
<td>University of Phoenix</td>
<td>Cigna</td>
<td>IRON MOUNTAIN</td>
</tr>
<tr>
<td>KCP&amp;L</td>
<td>EXAL</td>
<td>CHICAGO PUBLIC SCHOOLS</td>
<td>Brookdale Senior Living</td>
<td>HEALTHCARE REIT</td>
</tr>
</tbody>
</table>
Thank You!

Del Rogers  
VP of Sales  
MindStream Analytics  
Cell: 214.417.4613  
drogers@mindstreamanalytics.com

Cuong Nguyen Tien  
Business Intelligence Consultant  
MindStream Analytics  
917-294-3417