Using Analytics to Drive Customer Profitability

Dr Colin Linsky
WW Predictive Analytics Retail Leader
IBM SPSS Industry Solutions Team
Agenda

- Business Analytics – The Competitive Advantage
- Business Analytics in Action
  - Customer Analytics
  - Market Basket Analysis
  - Next Best Action
- The Analytics Centre of Excellence
- Harvesting and Actioning Consumer Insight
1. Business Analytics – The Competitive Advantage
Business Analytics

From Sense and Respond to Predict and Act
Predictive Analytics – What is it?

- A true analytics process is the one that transforms raw data into actionable insights, the true transformation from "So What?" to "Now What?".

- Business Analytics is the process that transforms raw data into actionable strategic knowledge to guide decisions aiming to increase market share, revenue and profit.

- Drive your business by making informed decisions based insights derived from analyzing one of your most valuable company assets, data.

- Analytics takes data and translates it into meaningful, value-added options for leadership decisions.

- Actionable, statistically supported insights from data that help drive competitive advantage.

- “By 2014, 30% of analytic applications will use proactive, predictive and forecasting capabilities” Gartner Forecast, 2011

Key Moments of Truth

- Research and Browse
- Browsing and cart use
- Pre-purchase
- Checkout and payment
- Delivery
- Multi-Channel use
- Sign-up to a Loyalty Program
- Response to a campaign or promotion
- Credit application
- Complaint
- Claim
- Customer Service Request
- Warranty registration
- Blog/Twitter
- Social Media
- Product out-of-stock
- Destruction of perishables
- Low velocity product sales
- Demand forecast
Consolidated Data Sources
Driving Smarter Business Outcomes

Capture
Enabling a complete view of the customer combining enterprise and social media based data

Predict
Understand customers micro-behavior across channels, predict their next move and make the next best offer

Act
Deploy predictive analytics within business processes, across access platforms, maximizing operational impact

Data Collection

Text Mining
Data Mining
Statistics
Platform

Pre-built Content

Attract
Up-sell
Retain
2. Business Analytics in Action
Customer Life Cycle – Customer Experience Framework

Research
Product

Advocate
Product

Up/Cross
Sold

Purchase
Product

Get Customer
Service

Use
Product

Product

Up/Cross
Sold
Customer Life Cycle – Customer Experience Framework

- Social Intelligence
- Research Product
- Advocate Product
- Up/Cross Sold
- Purchase Product
- Use Product
- Get Customer Service
- Feedback Management
- Support/Services
- Marketing
- Sales
Customer Life Cycle – Case Studies
Customer Life Cycle – Customer Experience Framework

- **Social Intelligence**
  - 71,000 responses analysed and online buzz increased by over 400%

- **Research Product**
  - Cost of e-mail marketing as a cost percentage of revenue (CPR) was cut almost by half

- **Purchase**
  - Analyzes 30 to 40 data points per customer to deliver actionable insights, giving in a 3.1% boost in response rate

- **Product Use**
  - Delivers preventive health information to individuals in a format that motivates them to take action

- **Get Customer Service**
  - More easily identify potentially fraudulent claims, increasing customer profitability by 20%

- **Support/Services**
  - Decreased churn from 19% to just under 2%
Example: Predictive Analytics and merchandising

- **Capture**: POS Transaction Data
- **Predict**: Association detection
- **Act**: In-store promotion decisions
Example: Predictive Analytics and marketing

- **Capture**
  - POS Transaction Data
  - Demographics
  - Interactions
  - Attitudes

- **Predict**
  - Association detection
  - Customer Analysis
    - Segments
    - Profiles
    - Scoring models
    - ...

- **Act**
  - In-store promotion decisions
  - "Blanket" marketing
  - Targeted marketing
Example: Loyalty, targeting, promotions and incentives

Promotional Display
Buy X get Z for only $1.49!

Special Offer – This Week Only
10% off on any of these combinations: A + B…G + H….

Market basket insights
• If A then B
• If C then D
• If E and F then G
• If H, then H then I

Persisting Insights

Transactions from all customers

Domain Expertise

Predictive Models

Transactions from this customer

Offers

1. Gillette razors
2. L’Oreal shampoo
3. House brand shampoo
4. House brand hair color
5. Colgate toothpaste
6. Nivea skin care
7. Men’s fragrance
8. Woman’s fragrance
9. House brand sun care
10. Optician
11. Feminine hygiene
12. Online photo service
13. Family planning
14. Pampers diapers
15. House brand diapers

Descriptive
• Age
• Gender
• Family situation
• Zip code

Interactions
• Web registration
• Web visits
• Customer service contacts
• Channel preference

Attitudes
• Satisfaction scores
• Shopper type
• Eco score

Statement insert

Statement insert

456 6636

773 9245

Statement insert

Statement insert

Business Analytics software
It’s not just about marketing - what should we do for these customers?
Example: Next Best Action

Capture ➔ Predict ➔ Act

Customer

Business Rules

Predictive Model Scoring

Analytical Decision Management

Inventory

Supply Chain

Customer Engagement

y = β + ϵ

Domain Expertise

Predictive Model Scoring

Products

Transactions

Browsing

Association

LTV

Propensity

Classification

Segmentation

3rd Party, CSR, Social Media, Survey ...
The Largest Online Shopping Mall in Japan

- Merchants: over 37,000
- Customers: over 80 million
- Top page PV: 8 million / day
- # of orders: 500,000 / day
- Gross Merchandise Sales (GMS): 3 billion yen
- GMS growth: +18% YoY
3. The Analytics Centre of Excellence
The vital ingredients...

- **Predictive Expertise**
  - Models predict customer segment and category affinity
  - Customer Segmentation (Funnel)
  - Market Basket Analysis (Prior sales)
  - Category Affinity (Products and activity – Browse/Purchase)
  - Current Interaction history (What’s happening during the interaction)
  - Price Sensitivity Calculations and Offers
  - Inventory Based Suggestions

- **Decision Management**
  - Combine predictive intelligence with business know-how
  - Prioritize offers based on profitability and propensity to respond.
  - Deliver recommendations and personalizations to a website or point of sale

- **Business Intelligence**
  - Understand your current state and your potential state
  - Monitor results and fine-tune your business
  - Inform strategy with a view into the future

- **Synthesis of data sources and data types**
  - Overlay browsing history onto purchase history to profile customers
  - Use profile to drive better recommendations, offers and actions
Customer analytics scenario

Data Sources

3rd Party Data Sources

Multi-Channel Deployment

Campaigns

ECommerce

Sales Tools

POS

Customer Services

Customer Performance Reporting

Ad hoc Queries

Data Driven Segmentation and Profiling

Targeting Models

Customer LTV Measurement

Single View of the Customer

Data Quality

Infrastructure

Modelling

Measurement

Deployment

Governance

Feedback
Analytics Centre of Excellence: 
*Best practices, governance and production*

- **Collaboration**
  - Analysts
  - Best Practice
  - Recycling
  - Consumers

- **Model Management**
  - Strategic Asset
  - Test & Production
  - Governance

- **Automation and Scheduling**
  - Analytics as part of business process: event or time based
  - Back-office actions

- **Scoring**
  - Batch
  - Real (Right?) Time

- **Integration**
  - Seamless integration into existing systems and business processes
  - Open, flexible and customizable
4. Harvesting and Actioning Consumer Insight
Social Media data is here to stay....
Voice of the Customer Platform - Capabilities

Crowd Sourcing
Recruiting panelists (customers and prospects) using multiple channels:
- Social
- Portal
- Mobile
- Email
- Store
- Dmail

Capturing
Capturing permission based customer profile data through online surveys and 3rd party data:
- http://Survey...

Interacting
Seeking continuous Customer input through portal, social media and online research:
- Social
- Portal
- Mobile
- Email
- Store
- Chat

Integrating
Expanding panelist profiles with existing data:
- Market Basket
- Customer Profile
- Contact Data
- Campaign Response
## Relationship Matrix – Hotwords and Topics

<table>
<thead>
<tr>
<th>Concepts</th>
<th>ARIEL</th>
<th>DAZ</th>
<th>FAIRY</th>
<th>PERSIL</th>
<th>SURF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLERGY</td>
<td>32</td>
<td>15</td>
<td>101</td>
<td>80</td>
<td>26</td>
</tr>
<tr>
<td>COLOURS</td>
<td>33</td>
<td>14</td>
<td>86</td>
<td>65</td>
<td>24</td>
</tr>
<tr>
<td>ENERGY</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>ENVIRONMENT</td>
<td>24</td>
<td>6</td>
<td>23</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td>HYGIENE</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>34</td>
<td>1</td>
</tr>
<tr>
<td>INNOVATION</td>
<td>15</td>
<td>1</td>
<td>11</td>
<td>90</td>
<td>25</td>
</tr>
<tr>
<td>SMELL</td>
<td>73</td>
<td>16</td>
<td>115</td>
<td>90</td>
<td>62</td>
</tr>
<tr>
<td>STAINS</td>
<td>157</td>
<td>17</td>
<td>193</td>
<td>69</td>
<td>57</td>
</tr>
</tbody>
</table>

**Affinity Scale**
- Low
- Medium
- High

*Note: The matrix illustrates the relationship between concepts with numbers indicating the strength of the relationship.*
<table>
<thead>
<tr>
<th>Date</th>
<th>Snippet</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/07/2011</td>
<td>&quot;As most laundry labels suggest washing at 40 degrees, I have probably been cutting down on wash times anyway, ...</td>
</tr>
<tr>
<td>09/07/2011</td>
<td>Persil have done the maths and reckon that if you use just one normal cycle ...</td>
</tr>
<tr>
<td>08/30/2011</td>
<td>What I like about it is that in 2 years I create 2% less packaging waste and you save money as you're only buying 1 product ...</td>
</tr>
<tr>
<td>08/31/2011</td>
<td>shopbop.com and with the NZ dollar currently so strong against the US, I have managed to convince myself that I am ...</td>
</tr>
<tr>
<td>08/03/2011</td>
<td>com – If you want to buy one in cheaper, we also recommend you buy it from there – you might also get fast free shipping ...</td>
</tr>
<tr>
<td>07/29/2011</td>
<td>is made from recycled materials. My normal wash is a 30 degree 90 minute wash Persil have spent a lot of time and ...</td>
</tr>
<tr>
<td>07/28/2011</td>
<td>New Zealand's #1 laundry detergent launches plan to halve the environmental impact of doing laundry Auckland, Ne ...</td>
</tr>
</tbody>
</table>

**Positive Sentiment Terms:** achieve, is working

**Negative Sentiment Terms:**

**Snippet:** New Zealand's #1 laundry detergent launches plan to halve the environmental impact of doing laundry Auckland, New Zealand (PRWEB) July 27, 2011 Persil has announced a commitment to achieve a 50% reduction in energy usage across the entire lifecycle of Persil products by 2020. The goal is part of Persil's Cleaner Planet Plan, which is working towards reducing the environmental impact of its laundry products from raw materials sourcing through to consumer use and disposal. The Cleaner Planet Plan is being fronted by well-known Kiwi mum Greer Robinson-Ack, who is encouraging New Zealanders to make some small changes in the laundry to create big change.

**Type:** BRAND

**Concept:** NESTLE

**Noteworthy:** Environment

**Sentiment:** positive

**FeedShot:** NESTLE

**FeedShotURL:** http://www.reuters.com

**Date:** 07/28/2011

**Language:** English

**Title:** Persil Cleaner Planet Plan Saving Energy At Home


<table>
<thead>
<tr>
<th>Date</th>
<th>Snippet</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/29/2011</td>
<td>That's 500 million opportunities to take small steps at home to save water, energy and packaging that can mean a big ...</td>
</tr>
<tr>
<td>07/21/2011</td>
<td>Persil has announced a commitment to achieve a 50% reduction in packaging waste across the entire lifecycle of Persil ...</td>
</tr>
<tr>
<td>07/21/2011</td>
<td>Not only this but reduced packaging has also led to 150 delivery trucks being taken off the road annually, which is ...</td>
</tr>
<tr>
<td>07/14/2011</td>
<td>Unfortunately he didn't know that tents didn't go through the wash, and didn't want to spoil the surprise by asking ...</td>
</tr>
<tr>
<td>07/14/2011</td>
<td>The removal of phosphates began in 2008 across the Persil liquid range, with the brand's washing powders now phosphates ...</td>
</tr>
<tr>
<td>07/06/2011</td>
<td>The Cleaner Planet Plan aims to halve the environmental impact of doing laundry across the product lifecycle by 2020 ...</td>
</tr>
<tr>
<td>07/06/2011</td>
<td>Persil Announces Cleaner Planet Plan New Zealand's #1 laundry detergent launches plan to halve the environmental impact ...</td>
</tr>
<tr>
<td>07/06/2011</td>
<td>That's 500 million opportunities to take small steps at home to save water, energy and packaging that can mean a big ...</td>
</tr>
<tr>
<td>07/06/2011</td>
<td>The Persil range now comes the Cleaner Planet Plan logo on pack, so consumers know they are purchasing a product ...</td>
</tr>
<tr>
<td>07/06/2011</td>
<td>Not only this but reduced packaging has also led to 150 delivery trucks being taken off the road annually, which is ...</td>
</tr>
<tr>
<td>07/06/2011</td>
<td>Persil Cleaner Planet Plan Turns Focus To Saving Water New Zealand's #1 laundry detergent launches plan to halve the ...</td>
</tr>
<tr>
<td>07/06/2011</td>
<td>The goal is part of Persil's Cleaner Planet Plan, which is working towards reducing the environmental impact of its ...</td>
</tr>
<tr>
<td>07/06/2011</td>
<td>That's 500 million opportunities to take small steps at home to save water, energy and packaging that can mean a big ...</td>
</tr>
</tbody>
</table>
Social Analytics Use Case – FIFA World Cup

- Tracking emerging topics helped to stay ahead of the issues and the competition
- Marketing spend is generating buzz and “share of voice” is solid
- Relationship Analytics confirms that the marketing messages and sponsorship investments are working
- The new product maintaining a good positive-negative ratio over time compared to competitors

Snippet 1:
- RT @Heather_SBFC: Coming home from training. Been wearing the new adizero 150 boots. They are awesome.
- Sentiment: positive
- Date: 07/07/2010
- Language: English
- Url: http://twitter.com/JacquePritchford/statuses/17923838881

Snippet 2:
- Who needs Superfly's? There are a ton of Vapor Fanboys out there that would simply buy the new Superfly II if them and a unicorn on the toe. I've never purchased a pair of Superfly's in my life because I truly believe they are overpriced. Money I make or what I spend on boots a year.
- Sentiment: negative
- Date: 07/06/2010
- Language: English
- Url: http://twitter.com/JacquePritchford/statuses/17923838881
Social analytics – Customer interaction

**Collect**
- User Information
  - ID
  - Demographics
- Psychographics
  - Brand Disposition
  - Interests, Likes, etc
- Social traffic
- Social media data appends

**Analyze**
- Social sentiment
- Social topic discovery
- Social affinity analytics
- Predicting propensity to advocate
- Email and web link data

**Decide**
- Social segmentation
- Social Influencer campaigns

**Deliver**
- Social broadcast and personalized messages
- Offers in Social widgets
- Traditional Channels

**Manage**
- Organize and plan social strategy
- Integrate social campaigns into master marketing calendars
- Create consistent offers across channels
Customer Analytics Delivers Insight to Multiple Lines of Business

- Customer Service
  - Customer Satisfaction
  - Early Warning Product Issues
  - CSR Training & Monitoring
  - Competitive Assessment

- Product Management
  - Identify Product Gaps
  - Monitor FAQs
  - Effective Promotions
  - Improve Self Service

- Service Management
  - Customer Satisfaction
  - Early Warning Product Issues
  - CSR Training & Monitoring
  - Competitive Assessment

- Marketing
  - Effective Promotions
  - Improve Self Service

- Suppliers
  - Early Warning Product Issues
  - CSR Training & Monitoring
  - Competitive Assessment

- Sales
  - Customer Satisfaction
  - Early Warning Product Issues
  - CSR Training & Monitoring
  - Competitive Assessment

- Customer Analytics
  - Search and Explore
  - Analyze and Visualize
  - Aggregate and Extract

- Data Sources
  - Transactional systems
  - CSR Logs
  - Third Party Data
  - Customer Surveys
  - Internal Docs and Reports
  - Social
  - Blogs
  - Email

Rapidly Derived Insights
Time to get involved…. Mission Control

http://www.youtube.com/watch?v=InrOvEE2v38
What have we covered?

- Business Analytics – The Competitive Advantage
- Business Analytics in Action
  - Customer Analytics
  - Market Basket Analysis
  - Next Best Action
- The Analytics Centre of Excellence
- Harvesting and Actioning Consumer Insight
Using Analytics to Drive Customer Profitability

Dr Colin Linsky
WW Predictive Analytics Retail Leader
IBM SPSS Industry Solutions Team