Predictive Analytics in the Cloud

James Taylor, CEO
Your presenter – James Taylor

- CEO of Decision Management Solutions
- Leading expert on Decision Management Systems
- Works with clients to improve their business by applying analytics and analytic technology to automate and improve decisions
Predictive Analytics and Cloud

Predictive Analytics
- Automatically discover patterns in data
- Predict trends or likely future behavior
- Identify population segments

Cloud Computing
- Computing resources delivered as a service
- Multi-tenancy and shared resources
- Usage pricing and location transparency
The study

- Multi-client, multi-stage study
- 200+ survey responses

Deliverables:
- decisionmanagementsolutions.com/predictive-analytics-cloud
- Position paper
- Webinars
- Survey results
- Podcasts
The value proposition

Make predictive analytics more scalable, more pervasive and easier to deploy using cloud technologies
5 Areas of Opportunity

- Pre-packaged cloud based solutions
- Cloud based predictive analytics for SaaS
- Cloud based Predictive analytics for on premise
- Predictive modeling with data in the cloud
- Elastic compute power
Pre-Packaged Cloud Based Solutions

- Solution not infrastructure
- Embedded predictive analytic models
- Focus on decision-making

**Value**
- Focused on a specific business problem
- Packaged so complexity is minimized

**Intersection**
- Decisions as a Service
- Cloud-based “push” of new analytic models
## Case study: Mobile Operator

<table>
<thead>
<tr>
<th>Business challenges</th>
<th>Solution</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M Subscribers</td>
<td>Pre-packaged cloud based solution</td>
<td>Average response rate 9.65% - 6x</td>
</tr>
<tr>
<td>Call center, SMS and 800 retail outlets</td>
<td>Predictive analytics, marketing rules engine, batch decisioning</td>
<td>Two campaigns broke records – 16% and 21% response rates</td>
</tr>
<tr>
<td>1.5% response rate for marketing</td>
<td>Pilot campaigns in just 3 days</td>
<td>Create, test and launch campaigns in hours</td>
</tr>
<tr>
<td>Too slow to market with new campaigns</td>
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</table>

Pilot campaigns in just 3 days

Average response rate 9.65% - 6x

Two campaigns broke records – 16% and 21% response rates

Create, test and launch campaigns in hours
Predictive analytics for SaaS

- Cloud delivery of predictions to SaaS or cloud
- Usable in multiple systems
- Model development independence and flexibility

Value
- Enhance analytic horsepower of SaaS applications

Intersection
- SaaS applications need cloud-based analytics
## Case study: Chico’s

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<tr>
<td>More than 1,000 boutiques</td>
<td>Pre-packaged cloud based solution</td>
<td>Likely to buy get full-size, full-price catalog and mailings with new merchandise</td>
</tr>
<tr>
<td>Catalog and online channels</td>
<td>Segment customers for catalog mailings</td>
<td>Discount shoppers get slimmer liquidation catalogs and sale fliers</td>
</tr>
<tr>
<td></td>
<td>Differentiated promotional efforts</td>
<td>Online customers get e-mails geared to their buying habits</td>
</tr>
</tbody>
</table>
Predictive analytics for on premise

- Cloud delivery of predictions to on-premise
- Usable in multiple systems
- Model development independence and flexibility
- Value
  - Widespread deployment
  - Easy model deployment to range of legacy applications
  - Consistency across channels, partners
- Intersection
  - Cloud-based analytics for the extended enterprise
## Case study: Propensity Bank

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<td>$1.1B Community Bank</td>
<td>Pre-packaged cloud based solution; Predictive analytics for on-premise</td>
<td>Rapid decisions</td>
</tr>
<tr>
<td>18 banking offices</td>
<td>Cloud based predictive analytic models for loan risk assessment</td>
<td>Frees up staff to spend more time generating new business</td>
</tr>
<tr>
<td>Loan products arranged locally</td>
<td>Integrated into on-premise loan origination system</td>
<td>Consistency &amp; regulatory compliance without having to funnel applications through a single central office</td>
</tr>
<tr>
<td>Ensure profitability &amp; compliance in loan decisions</td>
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</tbody>
</table>
Case study: Pilot Flying J

Business challenges
- 550 interstate travel centers and plazas
- Restaurant business needed to minimize waste, schedule staff and identify non-compliance

Solution
- Elastic compute power for modeling
- Market basket association models
- Forecast sales by store by hour

Benefits
- Reduce overall costs
- Optimized staff schedule
- Reduced inventory wastage
- Identify outliers to investigate for non-compliance
Modeling with Big Data in the cloud

- Data needed for analytics is in SaaS
- “Big Data” is in the cloud
- Move analytic modeling to the data
- Value
  - More readily shareable
  - Data enrichment
- Intersection
  - Elastic storage
  - Cloud to cloud access
## Case study: Fitness Company

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<td>- Catalog, direct mail, internet, TV and retail channels</td>
<td>- Predictive analytics for on-premise; Modeling with data in the cloud; Elastic compute power for modeling</td>
<td>- Rank-ordered customers and inquirers based on likelihood to buy</td>
</tr>
<tr>
<td>- Catalog ships three times a year</td>
<td>- Cloud and internal data used</td>
<td>- 25% higher response rates</td>
</tr>
<tr>
<td>- High price point for equipment so targeting is key</td>
<td>- Developed buyer and inquiry response models</td>
<td>- 44% increase in buyer campaign ROI</td>
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<tr>
<td></td>
<td></td>
<td>- 174% increase in inquirer ROI</td>
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Elastic compute power for modeling

- Potentially infinite scaling
- Flexible response as modeling needs change
- Value
  - Supports large datasets or complex simulations
  - Rapid iterations leverage model resources
  - Easily provision resources

Intersection

- Elasticity of the cloud matches variability in modeling
## Case study: ShareThis

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<td>Sharing network supporting SMS, IM, email, social media and more</td>
<td>Modeling with data in the cloud; Elastic compute power for modeling</td>
<td>Quickly discover patterns and trends that single shifts in topics and influence</td>
</tr>
<tr>
<td>1.5TB of data/month</td>
<td></td>
<td>Identify what’s hot and what’s not</td>
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<tr>
<td>Need to offer rapid insight into sharing activity as a value-added service</td>
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These scenarios are gaining momentum
Early adopters get an edge

Very important

- More likely to have plans to do more
- Much less likely to have performance or privacy concerns
- More likely to embed predictive analytics in operational systems
- More likely to take advantage of “big data” from the cloud
Industries vary

- Retail banks, financial services
  - 2x Significant or Transformative impact
  - Much more likely to focus on credit risk and fraud
  - More likely to tightly integrate predictive analytics
  - Deployment agility more important
  - Pooled data more valued

- 67% of Telcos have specific plans to adopt

- 40% of Healthcare Delivery have no plans at all

- Privacy/security big in Financial Services and Telco
Pros and Cons
Pros

- Scalability
- Pervasiveness
- Deployment
- Agility

Move analytics to the data
Cons

- Complexity
- Privacy and Security
- Regulatory Issues
- Moving data to the cloud
Some Recommendations
Recommendations

- New to Predictive Analytics
- Expanding use of Predictive Analytics
- Established Predictive Analytic Factory
- Pre-packaged cloud based solutions
- Cloud based predictive analytics for SaaS
- Cloud based Predictive analytics for on premise
- Predictive modeling with data in the cloud
- Elastic compute power
Thank You

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More details:
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