Predictive Marketing: No PhD in Statistics Required!
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#AdobeSummit  
#Measure
Today's agenda

1. Adobe’s predictive marketing strategy
2. What is predictive marketing, really?
3. Adobe's product roadmap – predictive marketing solutions
4. Product association & segmentation
5. Customer retention modeling
6. Forecasting & marketing budget allocation
7. An industry analyst's point of view
"Any company can generate simple descriptive statistics about aspects of its business … but analytics competitors … use **predictive modeling** to identify the most profitable customers - plus those with the greatest profit potential [and then these companies act]...."

- Thomas Davenport, *Competing on Analytics*, Harvard Business Review
Despite the relatively nascent state of predictive analytics in football, clubs like AC Milan have successfully implemented it to predict player injuries.

“The problem we're trying to solve is that there are rich teams and there are poor teams, then there's fifty feet of crap, and then there's us. It's an unfair game.”

– Billy Beane (Brad Pitt), Moneyball
When “Moneyball” collides with digital marketing

Within your industry (or even within your own organisation), there are competing marketing budgets and fierce competition.

“There is an epidemic failure within the game to understand what is really happening and this leads people who run major league baseball teams to misjudge their players and mismanage their teams.”

– Peter Brand (Jonah Hill), Moneyball
When “Moneyball” collides with digital marketing

Within your industry (or even within your own organisation), there are competing marketing budgets and fierce competition.

“There is an epidemic failure within digital marketing to understand what is really happening and this leads people who run digital marketing programs to misjudge their customers and mismanage their businesses.”

– John Bates, Adobe Systems
Adobe & the Digital Marketing Suite – leading predictive marketing

While predictive analytics can be applied to many different fields, Adobe is the industry leader in the application of predictive analytics to digital marketing.

Predictive marketing

Empower digital marketers with intelligent, forward-looking decisions.
What is predictive marketing, really?

Marketing

Data mining

Predictive analytics

Descriptive analytics
Moving beyond techniques towards solutions

- **Customer identification**
  - Segmentation & clustering
  - Fraud detection
  - Recommendations

- **Customer attraction**
  - Marketing mix modeling
  - Pricing optimisation
  - Social/mobile performance

- **Customer development**
  - Content creation scoring
  - Content half-life decay
  - Community reaction

- **Customer retention**
  - Propensity scoring
  - Personalisation
  - 1:1 marketing

- **Predictive marketing**

- **Sequence discovery**

- **Classification**

- **Clustering**

- **Association**

- **Forecasting**

- **Regression**

- **Visualisation**
Benefits of Adobe's predictive marketing solution

Predictive marketing provides value to everyone from analysts to technology experts to web content managers in all industries.

<table>
<thead>
<tr>
<th>Digital Marketer</th>
<th>Challenges Solved with Predictive Marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertiser</td>
<td>Which audience variables are most predictive of increasing CTR?</td>
</tr>
<tr>
<td>Publisher</td>
<td>How much advertising inventory is forecasted for next week?</td>
</tr>
<tr>
<td>Web experience manager</td>
<td>How long should a new article be on the homepage?</td>
</tr>
<tr>
<td>Analyst</td>
<td>Which customer website actions are most predictive of conversion?</td>
</tr>
<tr>
<td>Technology expert</td>
<td>Which variables should be tracked for future predictive modeling?</td>
</tr>
<tr>
<td>Social media manager</td>
<td>What is the forecasted sentiment of a specific Twitter post?</td>
</tr>
<tr>
<td>CRM manager</td>
<td>Which customers are most likely to respond to a cross-sell offer?</td>
</tr>
</tbody>
</table>

Industries:
- Retail
- Media
- Travel & hospitality
- Telecommunications
- Manufacturing
- Finance
- Technology
- Consumer goods
Valuable predictive marketing solutions

Predictive marketing & data mining for marketers, publishers and merchandisers

Anomaly detection & correlation
Marketing segment identification
Customer response scoring
Social performance forecasting
Marketing mix modeling

Empower digital marketers with intelligent, forward-looking decisions

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Product association & segmentation

Is your daughter pregnant?
- ask TARGET!
Product association & segmentation

- Habits control half of the life of your prospects
- Timing is everything

Segment: pregnant woman

- Pregnancy prediction score
Don’t get creepy – Get sneaky
Customer retention modeling

Focus on retention
Customer retention modeling

Indicators
- unsubscribe newsletter
- close bank account
- terminate insurance
- no purchase in 3 months
- etc....
Customer retention modeling

$\rightarrow x \rightarrow y \rightarrow z \rightarrow$

Retain $\downarrow$

Warning

Forecasting & marketing budget allocation

This will happen...
Forecasting & marketing budget allocation

ARIMA forecasting model

Back-testing of model shows 98.9% accuracy

Weeks before Black Friday / Cyber Monday the model forecasts a 20% decline in year-over-year traffic
Forecasting & marketing budget allocation

Statistically optimised spend

Input Media Mix

- SEM
- Social
- Affiliates
- Email
- Display

Optimum Media Mix

- SEM
- Social
- Affiliates
- Email
- Display

<table>
<thead>
<tr>
<th>Category</th>
<th>Budget</th>
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<tbody>
<tr>
<td>Affiliates</td>
<td>$13,784</td>
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<tr>
<td>Email</td>
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<tr>
<td>Display</td>
<td>$-</td>
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<tr>
<td>SEM</td>
<td>$3,741</td>
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<tr>
<td>Social</td>
<td>$507</td>
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<tr>
<td>Total</td>
<td>$37,419</td>
</tr>
</tbody>
</table>
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Bill Gassman | Gartner Industry Analyst | @bgassman | #AdobeSummit

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If past history was all there was to the game, the richest people would be librarians.

— Warren Buffett; Investor

It's far better to foresee even without certainty than not to foresee at all.

— Henri Poincare; Mathematician, Philosopher

It ain’t what you don’t know that gets you in trouble; its what you know for sure that ain’t so.

— Mark Twain; Author
Digital marketing is standing on the shoulder of giants
Growing Business Complexity Requires More Scalable Analytics
What can predictive analytics tell you?

- Location
- Channel
- Customer ID
- Purchases
- Payment
- Date and time

- Needs and wants
- Attitude to privacy
- Channel preference
- Timing preference
- Brand loyalty
- Price sensitivity
More data = better predictions

Social + Search + Clickstream + Call center + Data aggregators + Location = Score
The modeling complexity spectrum

Data mining workbenches

- Flexible
- Extensive
- Rigorous
- Accurate
- Subtle
- Flexible

Problem understanding

- Pre-defined
- Predetermined
- Automated
- Automated
- Automated
- Seamless

Packaged analysis

Data preparation

- Automated
- Rapid

Deployment

- Rapid
- Seamless
Action to outcome: validating the models

Tactic-based

- Did the customer receive the offer?
- Did the customer opt out?

Objective-based

- What did the customer do?
- Was there a conversion?

Goal-based

- What was the impact on the customer’s value?
- What is the customer doing six months later?

Questions:

- Did we make forecast?
- Do audience segments act as predicted?
- What if we test the minority report?
- Which model works best for which segment?
Stages of analytics maturity

What happened and why?

Information
- Who are my most valuable customers?
- Why is my attrition rate so high?

What will happen?

Insights
- Which customers are most likely to respond to my next offer?

What should I do?

Decisions
- Which offer should I make to each customer?
- What if...?

For example

Descriptive & diagnostic analytics
- For example, who are my most valuable customers?
- Why is my attrition rate so high?

Predictive analytics
- For example, which customers are most likely to respond to my next offer?

Prescriptive analytics
- For example, which offer should I make to each customer?
- What if...?
Context-aware marketing

By 2015, context will be as influential to consumer services and relationships as search engines are to the Web.

- Suggestion
- Proactive
- Real-time
- Multichannel
- Hyperpersonalised
- Social, intent-driven
- Informed consent
- Ensemble interactions
- Federated content providers

In closing

1. You can change your future by using forecasts to be proactive
2. Technology is useful across many roles
3. Detect anomalies, identify market segments, score visitor response, forecast social performance, model marketing mix
4. Timing is everything: don’t get creepy, get sneaky
5. Know the power – and the limits (trust but verify)
6. Packaged predictive analysis solutions trade scope for accessibility and relevance
7. The value of predictions is in the action taken. Mix forecast with context to increase relevance
8. Adobe offers predictive marketing in its Digital Marketing Suite
Thank you!

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www.CMO.com

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