SUMMIT
THE DIGITAL MARKETING CONFERENCE
May 14-15, 2014 | ICC ExCel, London
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#AdobeSummit
Leveraging Analytics Data for Large-scale Ad Optimisation

Dr. Abhishek Pani  |  Sr. Principal Scientist, Adobe
Data sparsity in big data era

E.g. Ad Optimisation

Leverage user behavior data from web analytics tools
Abhishek Pani
Sr. Principal Scientist, Adobe
Agenda

1  |  Adobe Media Optimizer (AMO) and Adobe Analytics Integration

2  |  Data in Ad Optimisation

3  |  Why and how to leverage Analytics data in AMO

4  |  Examples and results
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1 | Adobe Media Optimizer (AMO) and Adobe Analytics Integration

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4 | Examples and results
Tell the story of what's happening in your business through data using high-performance, real-time analytics across online and offline marketing channels.

**Focus on:** How Media Optimizer leverages user behavior data from Analytics to enhance ad optimisation.

- **Site Behavior Data** (Site Engagement and Conversion Metrics)
- **Ads Data** (Search Engine Metrics)

Optimise your ads with best of breed portfolio and rules based ad management, intelligent campaign forecasting, and targeted ad delivery for data optimised advertising.
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Types of Ads AMO optimises

- Search Ads (SEM)
- Display Ads
- Social Media Ads
Bid optimisation problem in Search Engine Marketing (SEM)

<table>
<thead>
<tr>
<th>CPG Bid</th>
<th>Expected Clicks</th>
<th>Expected Cost</th>
<th>Expected GPG</th>
<th>Expected Position</th>
<th>Expected Revenue</th>
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<td>254.73</td>
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<td>2.89</td>
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<td>70.63</td>
<td>0.42</td>
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<td>2.64</td>
<td>142.35</td>
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<td>2.72</td>
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<td>2.41</td>
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<td>3.21</td>
<td>11.61</td>
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<tr>
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<td>33.66</td>
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<td>26.77</td>
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<td>1.83</td>
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<td>5.29</td>
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<td>1.67</td>
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<td>16.09</td>
<td>0.25</td>
<td>6.25</td>
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<td>1.53</td>
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<td>0.24</td>
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<tr>
<td>1.40</td>
<td>44.33</td>
<td>9.75</td>
<td>0.22</td>
<td>8.73</td>
<td>4.27</td>
</tr>
</tbody>
</table>

- Bid $4.55, Pay $0.64
- Bid $2.89, Pay $0.42
- Bid $2.41, Pay $0.36
Ad Optimisation Workflow

Data Collection

Publishers (e.g., search engines)
Tracking cookies
Advertisers
3rd party

Predictive Models

Impressions
Positions
Click Through Rate (CTR)
Clicks
Cost Per Click (CPC)
Conversion Rate
Revenue Per Click

Optimisation Engine

Optimizer

Constraints (budget, min bid, max bid, etc.)

Optimal Decisions (bids, budgets, ads targeting)
Ad Optimisation Workflow

Data Collection

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Ad Optimisation Workflow

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3rd party

…….

Optimizer

Constraints (budget, min bid, max bid, etc.)

Optimal Decisions (bids, budgets, ads targeting)

Data is...

1. Ultimate source of signals and premise of everything in ad optimisation

2. More Data beats Complicated Algorithms

3. Scalable Algorithms – Low Computational Complexity
Available to Media Optimizer through integration with Analytics:

- Tracked by Search Engine Marketing (SEM) vendors
- And/or feeds from the advertisers

Usually not available to SEM vendors
Data availability: Integrated vs. Non-integrated

Adobe

Others

Site behavior

Powered by Adobe Analytics®

The Differentiator

Engagement Metrics

N/A
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Q: Which "long tail" keyword has a higher revenue per click prediction?

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Keyword No.1</th>
<th>Keyword No.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clicks</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Site behavior</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Conversions</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Example of engagement metrics available through analytics

- Total time spent on the site over multiple visits
- Bounces
- Total page views across multiple visits
- Page views in the first visit
- Time spent on the site in the first visit
How to use the data in the predictive models

Existing hierarchical revenue prediction model in Media Optimizer

Revenue prediction model based on Adobe Analytics data

Ensemble revenue prediction model

Site behavior and engagement data from Adobe Analytics

Extracting conversion and revenue signal

PATENT PENDING WITH APP. NO. 14,177,385
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Better forecasting: Adobe on Adobe (Closer to 100% is better)

Accuracy (100% is the best)

Portfolio

82.26% Accurate

92.03% Accurate

old model
new model
Better RPC and ROI: Adobe on Adobe

* * Daily spends are controlled in the analysis. Performance changes may also be partially attributed to other uncontrolled factors, such as seasonality, trending, special event (e.g., promotion, new product announcement), portfolio composition changes, and etc.

** Effects of seasonality and other factors are partially adjusted through performances of similar portfolios in the same periods.
How the new model promote promising tail keywords ("photoshop cost")
Travel site in Asia-Pacific

Post (14 days) vs. Pre (14 days)
New model switched on Jan 22, 2014

<table>
<thead>
<tr>
<th></th>
<th>% Change (Post vs Pre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost</td>
<td>-18%</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>+11%</td>
</tr>
<tr>
<td>Return On Advertising</td>
<td></td>
</tr>
<tr>
<td>Spend (ROAS)</td>
<td>+36%</td>
</tr>
</tbody>
</table>
Post (7 days) vs. Pre (7 days)
New model switched on Oct 21, 2013

<table>
<thead>
<tr>
<th></th>
<th>% Change (Post vs Pre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROAS</td>
<td>+27%</td>
</tr>
<tr>
<td>Revenue-Generating</td>
<td>+13%</td>
</tr>
<tr>
<td>Keywords</td>
<td></td>
</tr>
</tbody>
</table>

Two control portfolios had no performance changes
Performance Analysis – Pre v/s Post

65 clients; 380 portfolios
Post (14 days) vs. Pre (14 days)

<table>
<thead>
<tr>
<th></th>
<th>Mean change</th>
<th>Lower bound of 95% CI</th>
<th>Upper bound of 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROAS</td>
<td>+15.5%</td>
<td>+12.4%</td>
<td>+18.7%</td>
</tr>
<tr>
<td>Revenue per click (RPC)</td>
<td>+6.5%</td>
<td>+3.5%</td>
<td>+9.5%</td>
</tr>
<tr>
<td>Revenue-generating keywords</td>
<td>+5.1%</td>
<td>+2.5%</td>
<td>+7.6%</td>
</tr>
</tbody>
</table>

* Daily spends and client differences are controlled in the analysis. Performance changes may also be partially attributed to other uncontrolled factors, such as seasonality, trending, special event (e.g., promotion, new product announcement), portfolio composition changes, and etc.
Performance Breakdown by Domain

Average ROI Lift (%)

- Automotive
- Ecommerce
- Education
- Finance
- Lifestyle & Entertainment
- Retail
- Technology
- Travel
Key benefits of the integrated approach

- Significant accuracy lift
- Guided learning
  - Discovering “hidden treasures” with limited learning budgets
- Improving RPC and ROAS
- Managing portfolio risk
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Key Takeaways

1. Site behavior data is highly valuable for ad optimisation

2. Adobe leverages those data through integration and algorithms

3. $1 ⊕ 1 >> 2$
Call to Action

1  |  Ensure you have the ability to access site behavior data in your ad optimisation system

2  |  Leverage those data through either automated predictive modeling or insights generation
Questions and Answers
Go HERE, do THIS, and you could **WIN!**

**Summit EMEA**

Download the App

Give us feedback
It takes less than a minute

Win a MeCam
Record every minute

Win an iPad Air

Every Session

Survey available immediately after the session

Eight to win

Complete 8 surveys to enter the prize draw
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