

# **MMM006-340161 Web Analytics**

## **Programme: Data Engineering**



JACOBS  
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Lecture 6: Pay Per Click (PPC), Email Analysis

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# Objectives

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- Review paid search analysis

# Introduction

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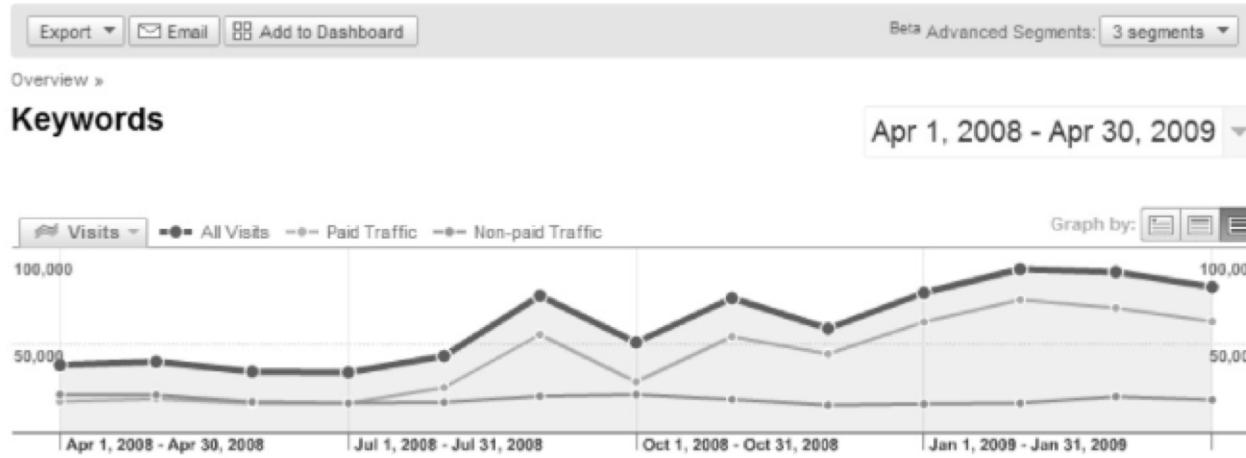
It is important to distinguish traffic from paid search and that from organic search

## Challenges

- Each search engine is unique and sends a unique referral string
- Each Web analytics tool has unique way to store referral string data
  - Make sure to put the tracking parameter in the proper place

# PPC performance analysis

Highlight long term trends for PPC campaigns



Source: (Kaushik, A., 2010)

What is the trend? Increasing or decreasing?  
Are there major shifts and what is the explanation?  
What is the business impact?  
How are PPC campaigns adding to the bottom line?

# PPC analysis: end-to-end view

Assess which keywords bring traffic to your site

- how does each keyword performs in terms basic metrics?

Example:

Site Usage		Goal Conversion	Ecommerce	Clicks	Views:				
Visits	?	Pages/Visit	?	Avg. Time on Site	?	% New Visits	?	Bounce Rate	?
<b>830</b>		<b>5.40</b>		<b>00:03:13</b>		<b>92.77%</b>		<b>18.80%</b>	
% Site Total: 0.97%		Site Avg: 3.91 (37.96%)		Site Avg: 00:02:14 (43.96%)		Site Avg: 90.72% (2.26%)		Site Avg: 53.44% (-64.83%)	
	Ad Content	None		Visits ↓	Pages/Visit	Avg. Time on Site	% New Visits	Bounce Rate	
1.	Icky Toys			209	6.41	00:03:41	96.17%	28.71%	
2.	C3000 Chemistry Kit Sale			191	4.99	00:03:05	92.67%	14.14%	
3.	Marshmallow Shooter Fun			134	4.66	00:02:25	90.30%	17.91%	
4.	C1000 Chemistry Kit Sale			121	4.66	00:03:07	91.74%	11.57%	
5.	C2000 Chemistry Kit Sale			50	4.20	00:02:51	86.00%	14.00%	
6.	Perfume Science Kit Sale			50	4.46	00:02:20	94.00%	16.00%	
7.	Give Smiles & Smarts			38	6.89	00:04:33	92.11%	23.68%	
8.	Who gave you that toy?			37	8.30	00:04:57	94.59%	18.92%	
9.	Smarter Smiling Toddlers			0	0.00	00:00:00	0.00%	0.00%	
10.	Trainmech at BrainWaves			0	0.00	00:00:00	0.00%	0.00%	

Source: (Kaushik, A., 2010)

- the initial assessment shows how each keyword performs

# PPC analysis: end-to-end view

Next steps:

- combine different sets of data to get an end-to-end view

Site Usage		Goal Conversion		Ecommerce		Clicks		Views:			
Visits	830	Impressions	253,170	Clicks	934	Cost	\$551.53	CTR	0.37%	CPC	\$0.59
% of Site Total:	0.97%	% of Site Total:	100.00%	% of Site Total:	100.00%	% of Site Total:	100.00%	Site Avg:	0.37% (0.00%)	Site Avg:	\$0.59 (0.00%)
RPC	\$1.07	ROI	81.02%	Margin	44.76%						
						Site Avg:	\$32.53 (-96.71%)	Site Avg:	5,408.41% (-98.50%)	Site Avg:	98.18% (-54.41%)
	Keyword	Visits	Impressions	Clicks	Cost	CTR	CPC	RPC	ROI	Margin	
1.	educational toys	267	234,118	275	\$172.99	0.12%	\$0.63	\$0.83	31.61%	24.02%	
2.	marshmallow shooter	95	3,434	117	\$59.97	3.41%	\$0.51	\$2.02	294.40%	74.64%	
3.	chemistry kits	70	468	80	\$48.45	17.09%	\$0.61	\$0.00	100.00%	0.00%	
4.	chem c1000	57	354	59	\$44.66	16.67%	\$0.76	\$7.53	895.16%	89.95%	
5.	chemistry kit	55	624	63	\$37.57	10.10%	\$0.60	\$0.00	100.00%	0.00%	
6.	perfume science	43	855	50	\$29.34	5.85%	\$0.59	\$1.08	83.88%	45.62%	
7.	chem 1000	42	510	54	\$30.58	10.59%	\$0.57	\$0.00	100.00%	0.00%	
8.	chem c3000	34	287	33	\$23.17	11.50%	\$0.70	\$0.00	100.00%	0.00%	
9.	chem c2000	29	216	35	\$16.47	16.20%	\$0.47	\$0.00	100.00%	0.00%	
10.	chem 3000	20	269	26	\$8.94	9.67%	\$0.34	\$0.00	100.00%	0.00%	

Source: (Kaushik, A., 2010)

3 different data sets

- middle box: data from search engine (e.g., AdWords)

# PPC analysis: end-to-end view



The dashboard displays the following key performance indicators:

Visits	Impressions	Clicks	Cost	CTR	CPC	RPC	ROI	Margin
830	253,170	934	\$551.53	0.37%	\$0.59	\$1.07	81.02%	44.76%

Below the summary, a detailed table shows the performance of three keywords:

Keyword	Visits	Impressions	Clicks	Cost	CTR	CPC	RPC	ROI	Margin
1. educational toys	267	234,118	275	\$172.99	0.12%	\$0.63	\$0.83	31.61%	24.02%
2. marshmallow shooter	95	3,434	117	\$59.97	3.41%	\$0.51	\$2.02	294.40%	74.64%
3. chemistrv kits	70	468	80	\$48.45	17.09%	\$0.61	\$0.00	... ..	0.00%

Source: (Kaushik, A., 2010)

## Middle box

- shows the performance of advertisements via
  - a) the number of **impressions**
  - b) clicks
  - c) cost
  - d) click-through rate (CTR)
  - e) cost per click (CPC)

# PPC analysis: end-to-end view

Site Usage	Goal Conversion	Ecommerce	Clicks	Views:					
Visits <span style="color: #ccc;">?</span> <b>830</b> % of Site Total: 0.97%	Impressions <span style="color: #ccc;">?</span> <b>253,170</b> % of Site Total: 100.00%	Clicks <span style="color: #ccc;">?</span> <b>934</b> % of Site Total: 100.00%	Cost <span style="color: #ccc;">?</span> <b>\$551.53</b> % of Site Total: 100.00%	CTR <span style="color: #ccc;">?</span> <b>0.37%</b> Site Avg: 0.37% (0.00%)	CPC <span style="color: #ccc;">?</span> <b>\$0.59</b> Site Avg: \$0.59 (0.00%)	RPC <span style="color: #ccc;">?</span> <b>\$1.07</b> Site Avg: \$32.53 (-96.71%)	ROI <span style="color: #ccc;">?</span> <b>81.02%</b> Site Avg: 5,408.41% (-98.50%)	Margin <span style="color: #ccc;">?</span> <b>44.76%</b> Site Avg: 98.18% (-54.41%)	
<hr/>									
Keyword <span style="font-size: small;">▼</span>	Visits <span style="color: #ccc;">?</span>	Impressions	Clicks	Cost	CTR	CPC	RPC	ROI	Margin
1. educational toys	267	234,118	275	\$172.99	0.12%	\$0.63	\$0.83	31.61%	24.02%
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Source: (Kaushik, A., 2010)

## First box

- shows the number of visits
  - a) during a session, a visitor could click  $n$  different ads
  - b) This would imply: clicks =  $n$ , visit = 1

# PPC analysis: end-to-end view

Site Usage	Goal Conversion	Ecommerce	Clicks	Views:					
Visits <b>830</b> % of Site Total: 0.97%	Impressions <b>253,170</b> % of Site Total: 100.00%	Clicks <b>934</b> % of Site Total: 100.00%	Cost <b>\$551.53</b> % of Site Total: 100.00%	CTR <b>0.37%</b> Site Avg: 0.37% (0.00%)	CPC <b>\$0.59</b> Site Avg: \$0.59 (0.00%)	RPC <b>\$1.07</b> Site Avg: \$32.53 (- 96.71%)	ROI <b>81.02%</b> Site Avg: 5,408.41% (- 98.50%)	Margin <b>44.76%</b> Site Avg: 98.18% (- 54.41%)	
<hr/>									
Keyword	Visits ↓	Impressions	Clicks	Cost	CTR	CPC	RPC	ROI	Margin
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Source: (Kaushik, A., 2010)

## Third box

- shows the **business impact metrics**
  - a) revenue per click (RPC)
  - b) return on investment (ROI)
  - c) margin (computed as revenue – campaign costs)
- helps to understand if PPC campaign has a positive / negative impact on business

# PPC analysis: Ad position

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How PPC works

- a) make payment
- b) bid goes into auction
- c) others bid and compete with your bid
- d) algorithm is applied
- e) ad listed on the search engine results page based on:

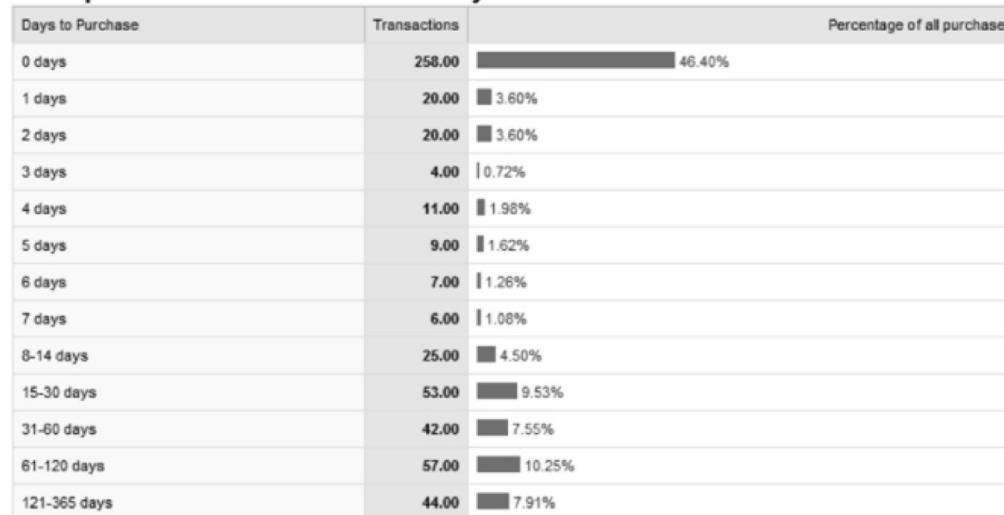
algorithm + competition + bid

The analysis shows the number of clicks the ad gets depending on position. See next page

# PPC analysis: customer behavior

It is important to focus on customer  
Measure how long it takes the customer to convert

**Most purchases occurred after: 0 days**



**Source: (Kaushik, A., 2010)**

Most customers purchase on same day that they visit (travel agent)

Email marketing can be one of the most important acquisition channels

The analysis can be broken down into three

- Campaign response
- Website behavior
- Business outcomes

# Email campaign analysis: campaign response

Captures the initial part of the customer experience

- Key metrics to be analyzed will come from the email service provider

Metrics:

- delivery rate:

$$\# \text{of emails sent} - \# \text{of bounce backs} / \# \text{emails sent}$$

The following two metrics allow to measure website behavior

- **bounce rate:**

#of emails campaign visits with single page view/  
#emails campaign visits

– is website delivering what the promised in the email campaign?

- **length of visit:**

percent of email campaign visits that last longer than xx seconds

# Email campaign analysis: business outcomes

The following key metrics to use for the business outcomes analysis

- **conversion rate:**

#of orders / # of emails campaign visits

- if site is none-eCommerce, then measure # downloads, # of RSS sign-ups etc

- **average revenue per email sent:**

total revenue / # of emails sent

# Email campaign analysis: business outcomes

The following key metrics to use for the business outcomes analysis

- email campaign profitability:

(revenue generated – campaign cost – cost of goods sold) / # of emails sent

- if site is none-eCommerce, then measure # downloads, # of RSS sign-ups etc

# Email campaign analysis: event tracking

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The following key metrics to use for the business outcomes analysis

- email campaign profitability:

(revenue generated – campaign cost – cost of goods sold) / # of emails sent

- if site is none-eCommerce, then measure # downloads, # of RSS sign-ups etc

# References

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Kaushik, A. (2010) Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity. Wiley Publishing, Inc.