I know I’m wasting half of my ad budget. I just don’t know which half.

2010 Global Ad Spend

$448 Billion

The Great Divide

Brand

- Emotions
- Indirect benefits
- Banners, TV, stadiums

Direct Response

- Transactions
- Gross profits
- Search, coupons, 1-800, radio, mail
Conversion Funnel

Ad Impressions
Clicks
Conversions
Revenue

Monetizing Traffic

Monetizing Traffic

Share of Voice Costs $$$

Cost Per Action vs. Reach

Conversion Funnel

Conversion Potential vs. Price

Real World Example
Real World Example

- Impressions: 4.4M
- Clicks: 2078
- RegClick: 69
- Registrations: 29

CTR = 0.0469%
CPC = $0.65
eCPM = $0.31
CPRegClick = $19.69
CPReg = $46.76

Bid Management

<table>
<thead>
<tr>
<th>Term</th>
<th>Clicks</th>
<th>CPC</th>
<th>Pos</th>
<th>CR</th>
<th>Leads</th>
<th>CPA</th>
<th>RegPrice</th>
<th>Revenue</th>
<th>Spend</th>
<th>GM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing School</td>
<td>5,000</td>
<td>$1.00</td>
<td>1</td>
<td>5%</td>
<td>250</td>
<td>$20.00</td>
<td>$7.50</td>
<td>$1,875</td>
<td>$5,000</td>
<td>63%</td>
</tr>
<tr>
<td>Nursing Schools</td>
<td>5,000</td>
<td>$2.00</td>
<td>3</td>
<td>20%</td>
<td>1,000</td>
<td>$10.00</td>
<td>$30.00</td>
<td>$30,000</td>
<td>$10,000</td>
<td>200%</td>
</tr>
<tr>
<td>Total</td>
<td>10,000</td>
<td>$1.50</td>
<td>2</td>
<td>12.5%</td>
<td>1,250</td>
<td>$12.00</td>
<td>$25.50</td>
<td>$31,875</td>
<td>$15,000</td>
<td>113%</td>
</tr>
</tbody>
</table>

Optimized
| 8,000 | $2.43 | 1   | 22%  | 1,760 | $11.05 | $30.00 | $52,800 | $19,440 | 172% |

Industry Structure

- RPV Optimization: Problems with Sort by CPC

<table>
<thead>
<tr>
<th>Ad Title</th>
<th>Univ of Phoenix Online MBA</th>
<th>Univ of Washington MBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad Body</td>
<td>100% online university. Fully accredited. Top 30 ranked.</td>
<td>Foster School of Business. Top 30 ranked.</td>
</tr>
<tr>
<td>CPC</td>
<td>$10.00</td>
<td>$0.50</td>
</tr>
<tr>
<td>CTR</td>
<td>0.01%</td>
<td>4%</td>
</tr>
<tr>
<td>Position</td>
<td>81</td>
<td>412</td>
</tr>
<tr>
<td>RPV</td>
<td>$0.0010</td>
<td>$0.0005</td>
</tr>
</tbody>
</table>
**Keyword Opacity**

<table>
<thead>
<tr>
<th>Keyword/Ad</th>
<th>Imp</th>
<th>CTR</th>
<th>Clicks</th>
<th>CPC</th>
<th>CR</th>
<th>Leads</th>
<th>CPA</th>
<th>Spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing School</td>
<td>100,000</td>
<td>5%</td>
<td>5,000</td>
<td>$1.00</td>
<td>5%</td>
<td>250</td>
<td>$20.00</td>
<td>$5,000</td>
</tr>
<tr>
<td>Nursing Schools</td>
<td>10,000</td>
<td>50%</td>
<td>5,000</td>
<td>$2.00</td>
<td>20%</td>
<td>1,000</td>
<td>$10.00</td>
<td>$10,000</td>
</tr>
<tr>
<td>Total</td>
<td>110,000</td>
<td>9%</td>
<td>10,000</td>
<td>$1.50</td>
<td>12.5%</td>
<td>1,250</td>
<td>$12.00</td>
<td>$15,000</td>
</tr>
<tr>
<td>MatchDriver</td>
<td>110,000</td>
<td>9%</td>
<td>10,000</td>
<td>$2.00</td>
<td>12.5%</td>
<td>1,250</td>
<td>$16.00</td>
<td>$20,000</td>
</tr>
</tbody>
</table>

**Landing Page Analysis**

What?? No "Christmas"

**Industry Structure**

End Users

Don’t bug me

Unless I like what you have to offer

Better Matching

- Context detection
  - GPS, location
  - App vs. content
  - In-game
  - Info seeker vs. transactor
  - Calendars/schedules/events
  - Social networks/status
  - Twitter - now
  - Behavioral – esp. w/knowledge of specific site behaviors
- Contextual
  - Privacy
  - Google “AOL search data”
**Context?**

- Flowers
- Mentos gum
- Trial Prep
- Credit score
- Cosmetics
- Hampton Inns
- Trial Prep
- WebMD
- WebMD
- Colon Cleanse – Warning
- My Teeth Aren’t Yellow
- Classmates.com

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**Testing**

- Try Again
- Idea
- Pick Winner
- Test
- Analyze

---

**A/B Split Test**

1. Control: Existing System
2. Treatment: Existing System with Feature X

---

**Sample Size Problems**

- So many ideas, so little to sample...
  - Disproportionate advantage to scale
- Multivariate testing
  - Taguchi Method
    - Method for calculating signal-to-noise ratio of different parameters in an experimental design
    - Allows optimization with A/B test of each cross-product

---

**Testing**

Sample Size, margin of error, confidence

\[ x = \frac{Z^2}{100}r(100-r) \]

\[ n = \frac{N\cdot N}{\left(\frac{N-1}{2}\right)^2 + x} \]

\[ E = \sqrt{\frac{N \cdot n \cdot x}{N(N-1)}} \]
We observed an immediate 30% increase in conversion rates.

### Fact Sheet Design

<table>
<thead>
<tr>
<th>Existing Schools (n=1,428)</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best</td>
<td>51.1%</td>
</tr>
<tr>
<td>Worst</td>
<td>0.4%</td>
</tr>
<tr>
<td>Average</td>
<td>11.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test</th>
<th># Schools</th>
<th>CR Lift</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional photo</td>
<td>1</td>
<td>30%</td>
</tr>
<tr>
<td>More RFI buttons</td>
<td>3</td>
<td>21%</td>
</tr>
<tr>
<td>Marketing voice, more programs listed</td>
<td>1</td>
<td>28%</td>
</tr>
<tr>
<td>Photos + Marketing voice, more programs listed</td>
<td>1</td>
<td>50%</td>
</tr>
</tbody>
</table>

### Opportunities Today

- Conversions
  - Low-RPV
  - Waste
  - Simplicity
- Risk
  - Scaling local, hyperlocal
  - Data exchanges
  - Under-monetized sites
- Context
Summary

- Conversions
- Risk
- Context
- Testing