



## Wharton Interactive Media Initiative Research Opportunity



ORGANIC DISPLAY AND SEARCH ADVERTISING DATA



# INTRODUCTIONS



**Heather Tepper**

Director, Marketing Intelligence

**Paul Wezner**

Senior Analyst, Marketing Intelligence



**Steve Ennen**

Managing Director, Wharton Interactive Media Initiative

**Eric T. Bradlow**

K.P. Chao Professor

Professor of Marketing, Statistics, and Education

Vice-Dean and Director, Wharton Doctoral Programs

Co-Director, Wharton Interactive Media Initiative

**Peter S. Fader**

Frances and Pei-Yuan Chia Professor

Professor of Marketing

Co-Director, Wharton Interactive Media Initiative

**Elea McDonnell Feit**

Research Director, Wharton Interactive Media Initiative

# BACKGROUND

## WHARTON INTERACTIVE MEDIA INITIATIVE

- Brings a passionate **data-driven perspective** to media businesses (content distribution and information acquisition).
- Distinguishes itself with a **tight focus on the interaction between content provider and user**, capitalizing on the wealth of individual-level data that is exploding at the crossroads of commerce, technology, and entertainment.
- Is dedicated to bringing **world-class research rigor** to better understand these complex interactions in order to drive new business strategies and tactics that will reshape the media landscape.

# BACKGROUND

## WIMI RESOURCES FOR RESEARCHERS

- Research opportunities with corporate partners
- Data warehousing and preparation for modeling
- Research funding
- Promotion of research results among academics
  - Conferences
  - Working paper series
- Promotion of results & methods among practitioners
  - Ongoing updates for corporate partners
  - Conferences
  - White papers
  - On-site tutorials and seminars

# BACKGROUND

## ORGANIC BY THE NUMBERS

1 Very big goal... Transforming the Nature of Marketing.

16 Years working towards it.

500+ Employees.

4500 Client projects since 1993.

100+ Awards recognizing our efforts in 2005-2009.

7 Integrated skill sets.

65+ Clients on our roster.

2007, 2009 We were named a Web Design leader.

6 Places we call home - SFO / LA / DET / TOR / NYC / LON

# BACKGROUND

## ORGANIC CLIENTS

### Automotive



### Teleco.



### Retail



ESTÉE LAUDER



COACH

VOGUE



ETHAN ALLEN

### Finance

Bank of America



WaMu

### Energy



### Consumer Electronics

SONY

SAMSUNG

NetApp



### Entertainment



iVillage

### Travel



### CPG



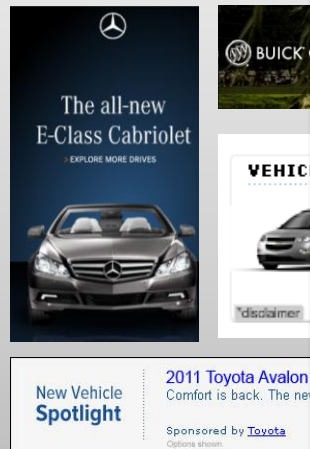
Kimberly-Clark

P&G

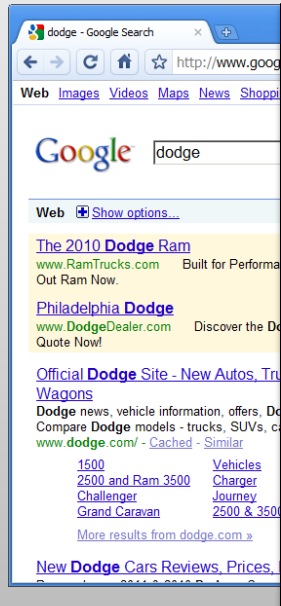
# CONTEXT

## ORGANIC DEVELOPED AND MANAGED A COMPLETE DIGITAL MARKETING STRATEGY FOR THE CLIENT, A NEW CAR MANUFACTURER

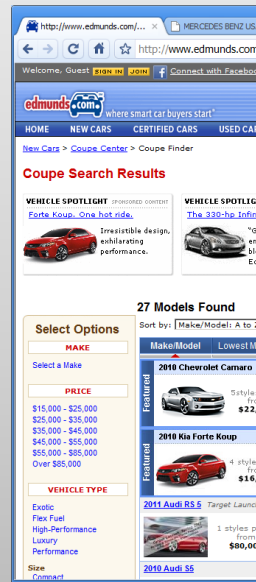
Display advertising on media sites



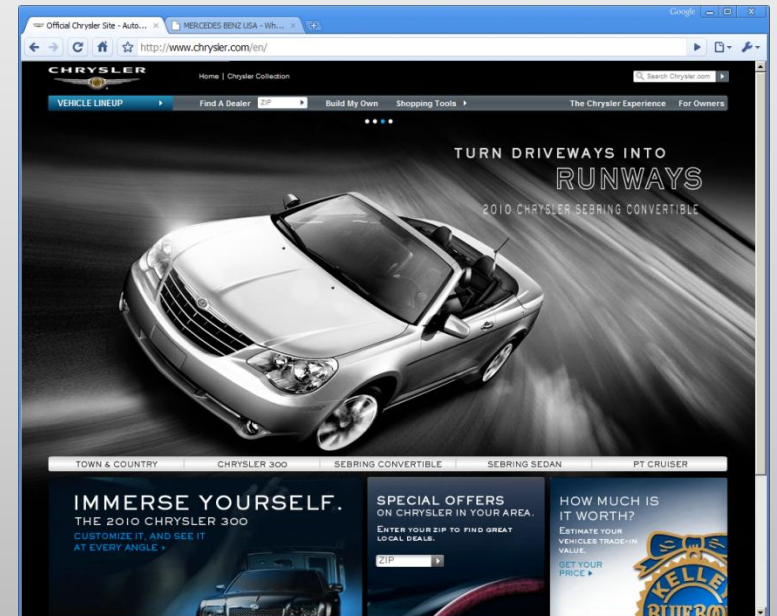
Sponsored search



Shopping sites



Advertiser sites



# CONTEXT

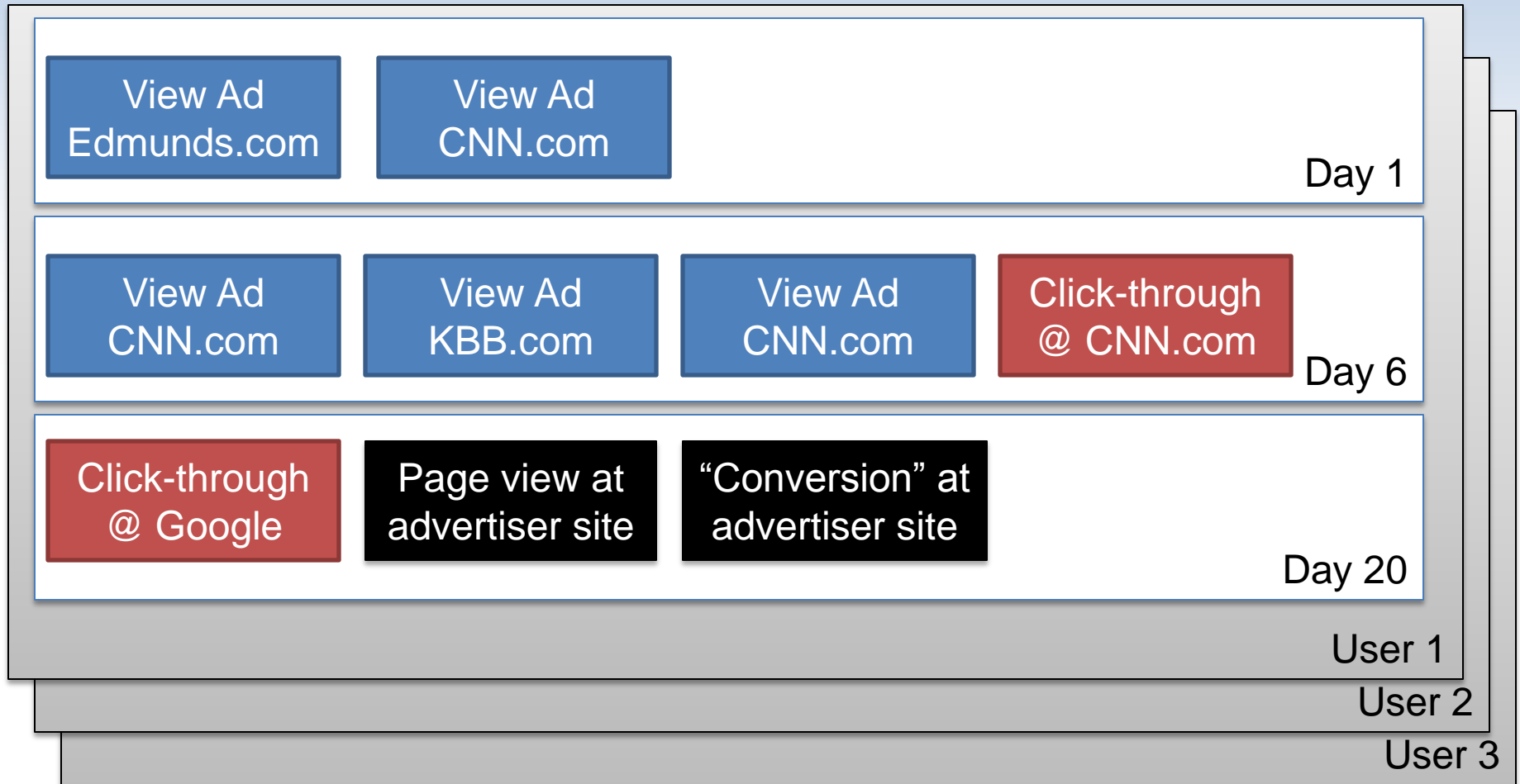
## RESEARCH CHALLENGES

- Organic seeks a data-driven understanding of how the digital advertising that a particular user is exposed to affects the conversion of that user.
- Potential research questions include:
  - How should a successful conversion be attributed back to the different ads a user saw?
  - Is seeing an ad on a particular advertising site (or sequence of sites) more likely to result in conversion ?
  - What is the relative contribution of display advertising and search advertising to conversion?
  - How long does the effect of impression or click last?
  - How should digital advertising campaigns be structured to maximize conversion?



# DATA

## DIGITAL ADVERTISING “PATHS” FOR NEW CAR SHOPPERS (HYPOTHETICAL)



# DATA

## EXAMPLE USER PATH

user_id	date	site_ID	event_type
1122528406	05JUL2009:22:08:44	472808	ad impression
1122528406	07JUL2009:22:29:41	472808	ad impression
1122528406	07JUL2009:22:29:41	472808	ad impression
1122528406	27JUL2009:19:13:01	472808	ad impression
1122528406	27JUL2009:19:24:31	472808	ad impression
1122528406	27JUL2009:23:05:23	472808	ad impression
1122528406	27JUL2009:23:06:02	472808	ad impression
1122528406	28JUL2009:12:07:40	358854	search click through
1122528406	28JUL2009:12:09:12	358854	search click through
1122528406	28JUL2009:12:09:30		advertiser site activity
1122528406	28JUL2009:12:07:41		advertiser site activity
1122528406	28JUL2009:12:08:36		advertiser site activity
1122528406	28JUL2009:12:08:36		advertiser site activity
1122528406	28JUL2009:12:09:13		advertiser site activity

# DATA

## AVAILABLE FIELDS

### Display advertising impressions

- user
- date & time
- advertiser organization (i.e., brand)
- media buy name
- site where ad was displayed  
(28 sites)
- user's country, state & area code  
(based on IP)

### Click-throughs

- user
- date & time
- advertiser organization (i.e., brand)
- media buy name
- site where ad was displayed
- ad id number  
(no info on ad content)
- user's country & state code  
(based on IP)

### For each activities at the advertisers site (including conversions)

- user
- date and time
- type of activity
  - “conversion” or “success” activities
  - search inventory
  - find a dealer
  - build & price
  - get a quote
  - other activities
- user's state & area code (based on IP)
- whether the conversion occurred in the  
same session as a click-through

# DATA

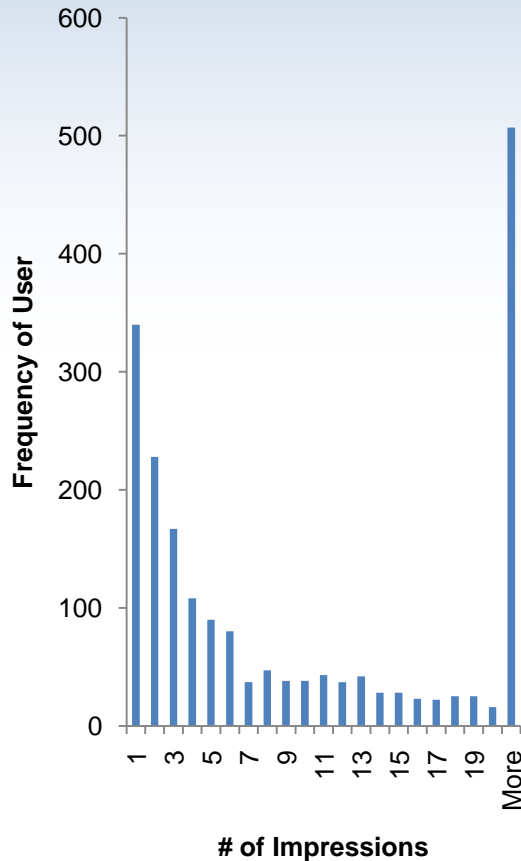
- Users were drawn at random from all observed users.
- Users are observed from June 8 to August 23.

Users	3,239
Average number of activities observed for each user	9.36
Display ad impressions	51,521
Display click-throughs	387
Search click-throughs	883
Success events	21,060
Number of users that have and impression, a click-throughs and activities on the advertisers website	560

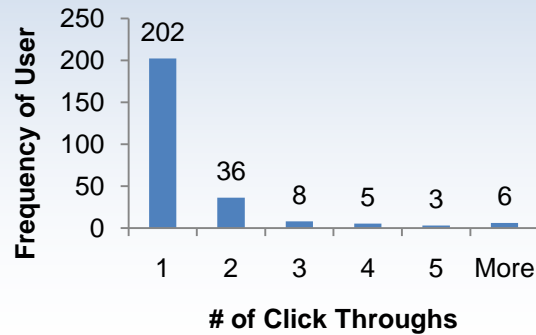
# DATA

## THERE IS WIDE VARIATION IN EXPOSURE AND RESPONSE

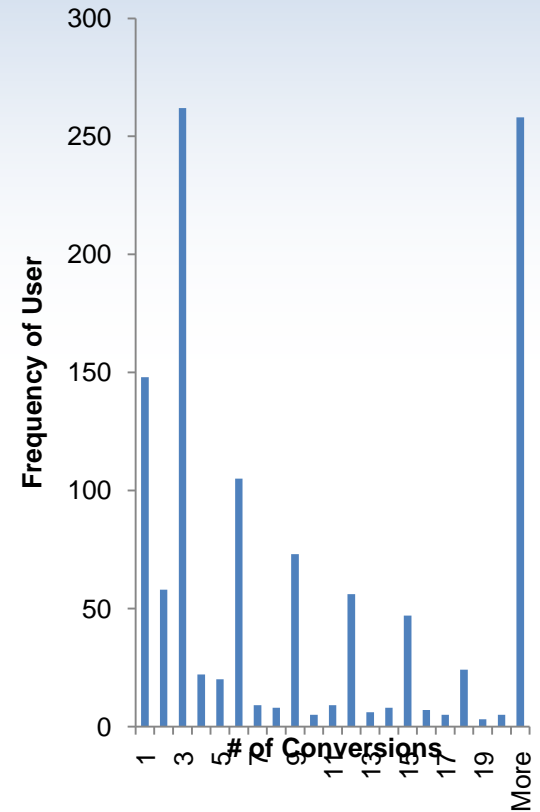
### Impressions by User



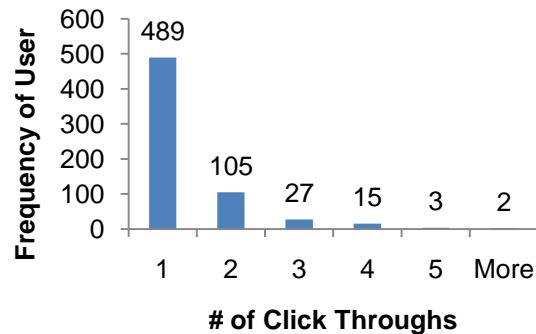
### Display Click-Throughs by User



### Conversions by User

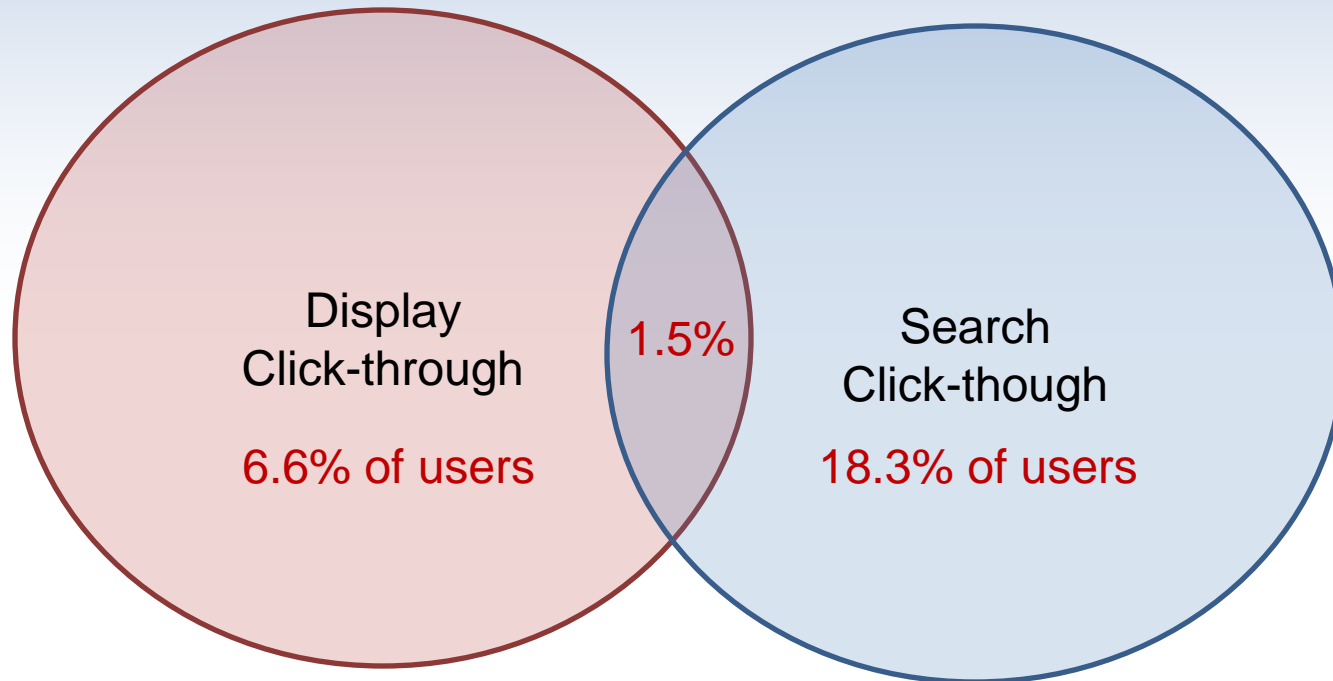


### Search Click-Throughs by User



# DATA

## USERS ARE EXPOSED TO BOTH SEARCH AND DISPLAY



# DATA

## ADVERTISING EXPOSURE CAN BE TRACKED TO SPECIFIC SITES

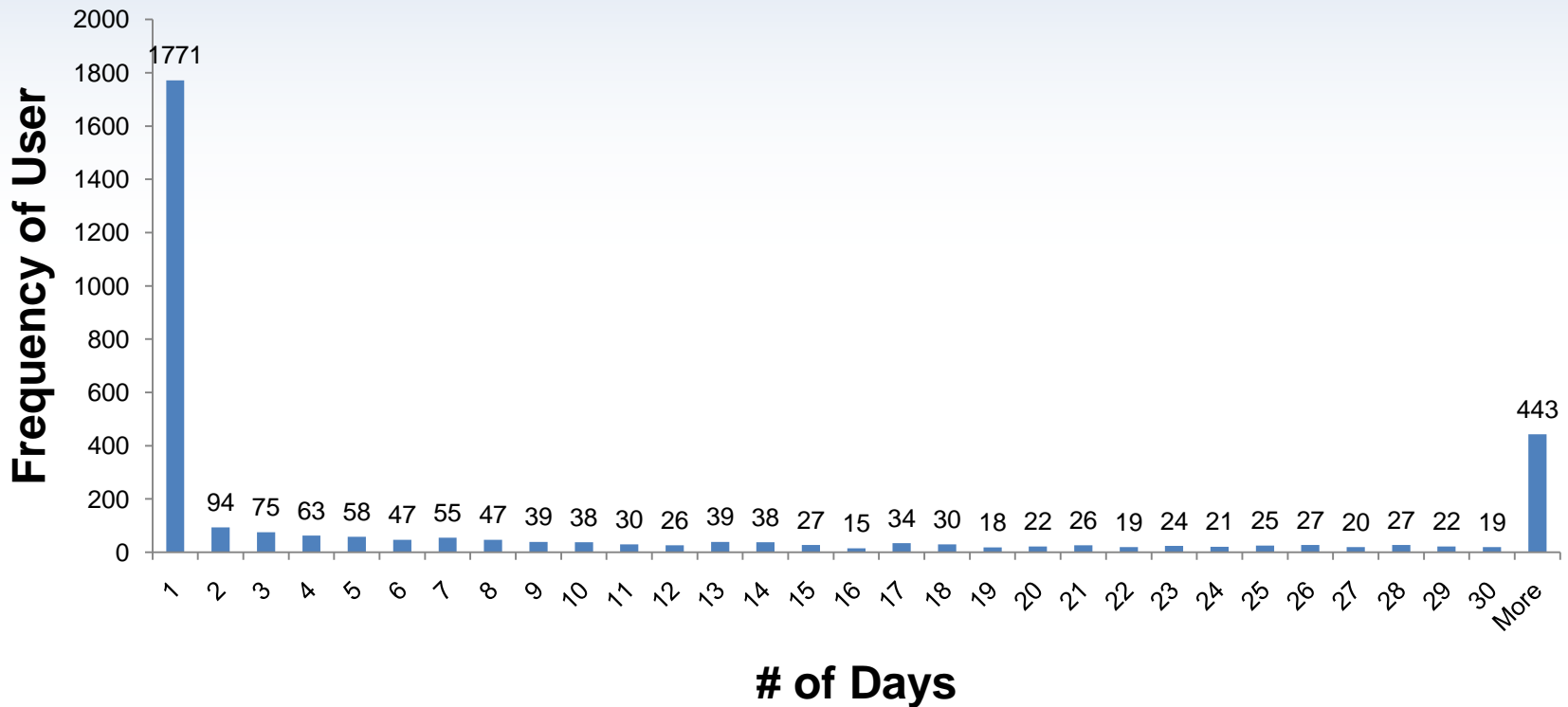
Site	Impressions	Click-Throughs	Conversions
Autotrader	15918	43	220
SpecificMedia	6390	21	67
KBB	5320	44	213
Edmunds	4670	49	263
Yahoo! Network	3163	9	37
sourceinterlink	2481	7	58
Jumpstart	2296	13	42
Yahoo! Autos	2207	37	64
MSN DRIVEpm	1911	2	11
Cars.com	1635	14	178
PHD/MSN	935	27	83
AutoByTel	541	13	15
AOL Autos	499	21	177
Yahoo!	459	12	16
Platform A	436	2	46
internetbrands.com	431	22	300

Site	Impressions	Click-Throughs	Conversions
yahoo.com	400	2	14
Collective Media	334	4	18
AutoMedia	292	1	0
MSN	248	1	0
Undertone	229	1	1
Revenue Science	201	0	5
Newsday.com	159	2	1
Facebook.com	154	4	0
Vibrant	143	36	23
autoweek --SD6471-2434	53	0	0
ARSNOnline	9	0	0
Goairforcefalcons.com	7	0	0
Search	0	656	1264
Search	0	64	120
Search	0	163	282

# DATA

**MANY USERS ARE OBSERVED OVER A SHORT TIME (<1 DAY),  
HOWEVER, THERE ARE SUBSTANTIAL NUMBERS WHO ARE  
OBSERVED OVER DAYS OR WEEKS**

**Duration over which users are observed**





# NEXT STEPS

## TO PURSUE THIS RESEARCH OPPORTUNITY:

- Submit a brief proposal to [efeit@wharton.upenn.edu](mailto:efeit@wharton.upenn.edu) by June 15, 2010
  - Research team
  - Objectives & contribution
  - Proposed methods
  - Timeline
  - Potential for managerial insights & impact
  - Preferred data format
  - Funding requests (if any)
- WIMI and Organic will evaluate the proposals and choose a team
- Clean data can be in your hands by the end of June!

# NEXT STEPS

## THERE ARE MANY OTHER WAYS TO GET INVOLVED

- E-mail [efeit@wharton.upenn.edu](mailto:efeit@wharton.upenn.edu) to get information about:
  - Future Research Opportunities
  - Future Calls for Proposals
  - Other ways to get involved with WIMI
- MSI/WIMI Conference on Modeling Multichannel Consumer Behavior
  - December 9-10, 2010 at Wharton
- Sign up for the WIMI mailing list at [www.whartoninteractive.com](http://www.whartoninteractive.com)

# More About Organic

# BACKGROUND

## WHAT DO WE MEAN BY MARKETING INTELLIGENCE?

We listen and we watch. We find insight by observing behavior in data and real life interaction. We look in the details to identify habits and transform them into opportunities. This drives our ideas.

**The Organic methodology yields a PREDICTIVE approach**

- **Holistic** analytics approach
- **Maximize** marketing performance
- **Insights** that are data driven
- **Custom ROI models** that drive business results

## OUR APPROACH

### **Econometric Modeling & Media Optimization**

- Sales predicting
- Media mix optimization

### **Online Behavior Analysis**

- Utilizing external and internal data sources for key online activity and market trends

### **Reporting Infrastructure**

- Performance Management System (weekly reports, monthly reports, etc)

### **Site Testing – (Website Efficiency)**

- Demographic/Psychographic messaging on website
- DMA targeting (on and off site)
- A/B Testing of messaging, look & feel, content, targeting, etc
- Multivariate Testing

### **Consumer Sentiment Tracking Survey**

- Conduct quarterly consumer quantitative survey (through CY2010)
- Reporting & Analysis
  - Consumer brand sentiment
  - Site Usability

## ANALYTICS: BEST PRACTICES

Continuous improvement yields optimization

- What is the value of every marketing dollar spent?
- What will I get in return for each dollar?
- Where is the best place to spend each dollar?

