

# Privacy economics, attitudes, and behavior

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September 5, 2013

8-533 / 8-733 / 19-608 / 95-818:  
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# Human subjects research

# Institutional Review Board

- Reviews human subjects research to make sure it is ethical and human subjects are protected
- Takes time and lots of paperwork
- Before submitting paperwork to IRB, you must complete human subjects training
- <http://www.cmu.edu/research-compliance/human-subject-research/>

# IRB approval

- Research involving human subjects requires IRB approval
- Surveys are exempt, but you must ask IRB for exemption
- Exempt and low-risk IRB approval usually happens within 2 weeks
- High risk usually takes about a month, but may be longer
- Whenever possible, design study so participants sign informed consent form up front
  - You will have to convince IRB that there is a good reason not to
- Submit your IRB form as early as possible
  - You can submit an amendment later

# Ethical considerations

- Sometimes tests can be distressing
  - users have left in tears
- You have a responsibility to alleviate
  - make voluntary with informed consent
  - avoid pressure to participate
  - let them know they can stop at any time
  - stress that you are testing the system, not them
  - make collected data as anonymous as possible

# Privacy attitudes

# Consumer surveys

- Westin/Harris surveys
  - Privacy fundamentalist, pragmatist, unconcerned (marginally concerned)
- TRUSTe surveys
  - <http://www.truste.com/us-mobile-privacy-index-2013/>
- Academic research
- Does it matter what consumers think?

# Privacy concerns seem inconsistent with behavior

- People say they want privacy, but don't always take steps to protect it
- Many possible explanations
  - They don't really care that much about privacy
  - They prefer immediate gratification to privacy protections that they won't benefit from until later
  - They don't understand the privacy implications of their behavior
  - The cost of privacy protection (including figuring out how to protect their privacy) is too high



# Smart, Useful, Scary, Creepy: Perceptions of Behavioral Advertising

Blase Ur, Pedro G. Leon,  
Lorrie Faith Cranor, Richard Shay,  
and Yang Wang  
*SOUPS 2012*

# Research goals

- Gain insight into what users think about online behavioral advertising (OBA)
- Identify how participants' mental models correspond with notice and choice mechanisms

# Methodology

- 48 participants
- Recruited from the Pittsburgh, PA region
  - Non-technologists
  - Interested in testing privacy tools
- Combination semi-structured interview and usability study
- Part way through interview showed WSJ video to inform participants about OBA

# Participants unaware of OBA

- Participants believed ads were tailored, but only based on context or on a single site

amazon

Blase's Amazon.com | Today's Deals | Gift Cards | Help

Shop by Department ▾

Search

All ▾

Go

Your Amazon.com

Your Browsing History

Recommended For You

Amazon Betterizer

Improve Your Recommendations

Your Profile

Learn More

## Your Amazon.com



**New Release**

Elixir Strings Acoust...

~~\$31.98~~ \$12.67

[Why recommended?](#)



**New Release**

Kyser 6 String Capo,...

~~\$24.95~~ \$15.16

[Why recommended?](#)



Planet Waves Pro Wind...

★★★★☆ (153)

~~\$13.99~~ \$6.99

[Why recommended?](#)



Elixir Strings Acoust...

★★★★☆ (39)

~~\$30.00~~ \$12.12

[Why recommended?](#)



Elixir Strings Electr...

★★★★☆ (34)

~~\$22.00~~ \$8.64

[Why recommended?](#)



Snark SN-2 All Instru...

★★★★☆ (546)

~~\$39.00~~ \$11.20

[Why recommended?](#)

> See all recommendations in Musical Instruments

# Participants unaware of OBA

- Participants believed ads were tailored, but only based on context or on a single site
- Thought it was only hypothetical
  - “I guess if they were monitoring what I did on the Internet...But I’d hope they weren’t...”

# Didn't recognize OBA icon

- Not sure what would happen if they clicked on icon
  - Express interest in product
  - Purchase your own ads
  - Go to product's website
  - See related ads



# Mixed opinion about OBA

- Recognized benefits
  - Advertisers can reach consumers interested in their products
  - Consumers find things they're interested in and don't get ads for things they're not interested in
- Concerned about privacy

# Beliefs about OBA

- Advertisers collect information including name, financial information, and address
- This information, along with browsing history, is stored in cookies

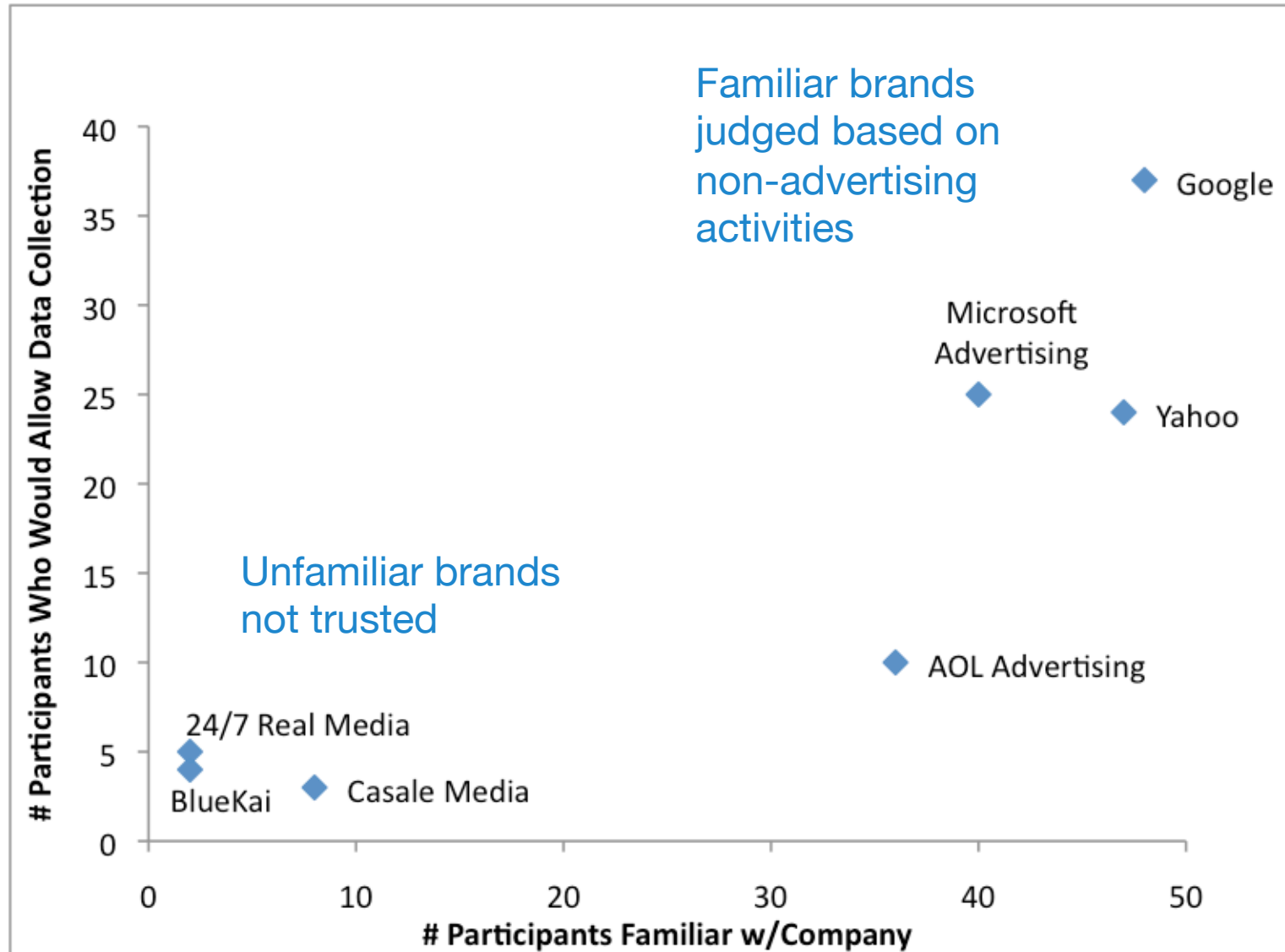


# Participants' impressions: available choice mechanisms

- Deleting cookies
- No options
- Antivirus software suites
- Web browser



# Familiarity and trust are important



# Takeaways

- Opinions about OBA mixed – both useful and creepy
- Participants did not understand OBA technologies
- Some of the worst fears based on misconceptions
- Participants did not know how to effectively exercise choice

# Economics of privacy

# Transactions

- Buyer and seller example [Varian 1996]
  - Buyers want sellers to know what they want so they can reduce their search costs
  - Buyers do not want sellers to know their maximum willingness to pay
  - Buyers don't want to be annoyed by sellers and don't want to spend time hearing about products they don't want (excess search costs)
  - Sellers don't want to waste time pitching products to people who don't want them

# Externality

- The actions of a mailing list buyer impose costs on individuals on that list, but the seller of the list ignores those costs
  - Costs could be mitigated through choice

# Incentives

- Sometimes it is not to buyer's advantage to reveal personal characteristics (health insurance example)

# Contracts and markets for info

- What if we had property rights in information about ourselves?
  - We could contract to allow information to be used for only specified purposes
  - We could buy and sell these property rights
    - National Information Market [Laudon 1996]
  - What about transaction costs?



# Public interest in personal information

- Public records
  - Court records
  - Tax assessments
  - Salaries of public officials
- What happens when information goes online and transaction costs approach zero?



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