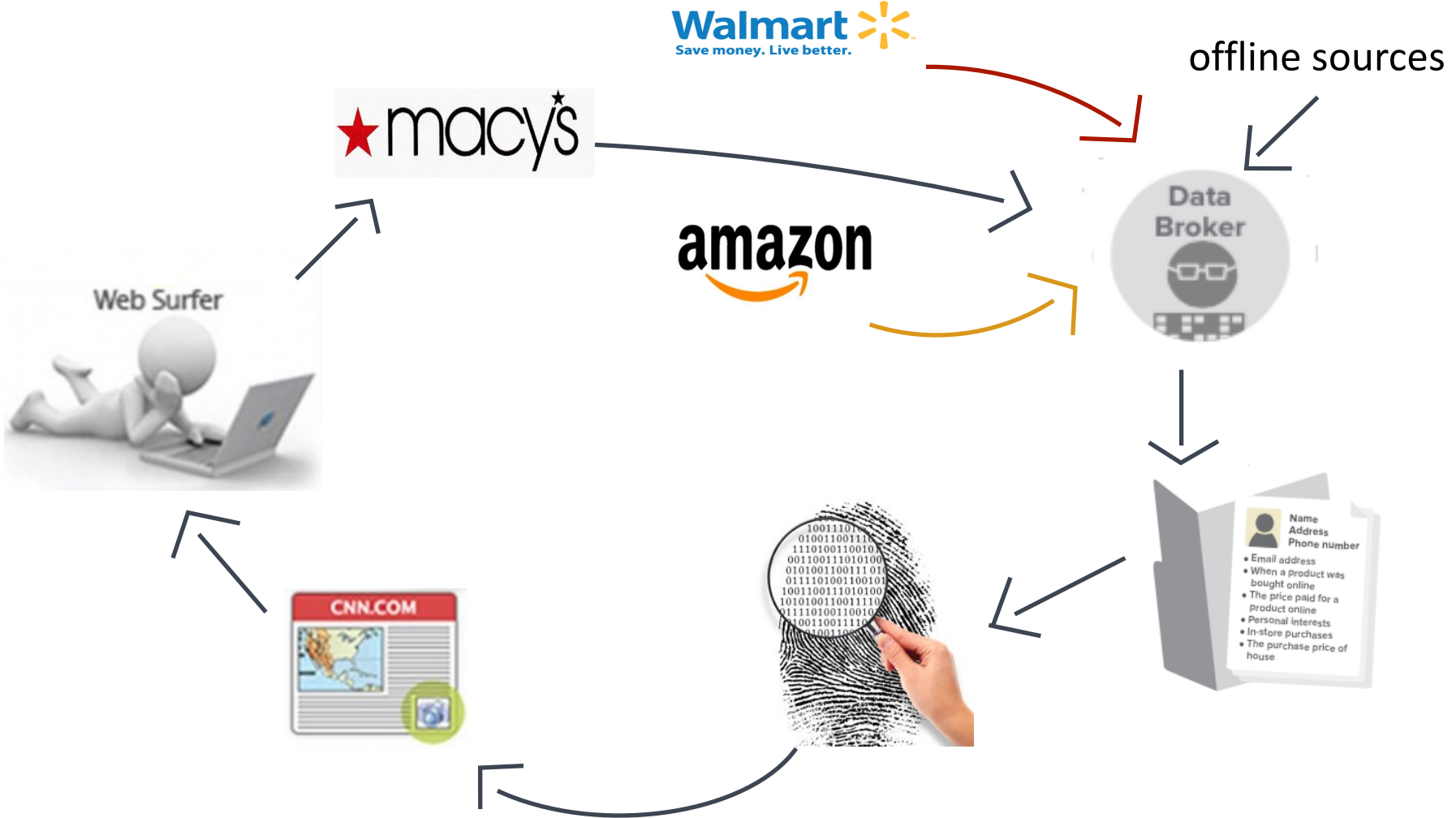


Raise the Curtains: The Effect of Awareness about Targeting on Consumers' Attitudes and Purchase Intentions

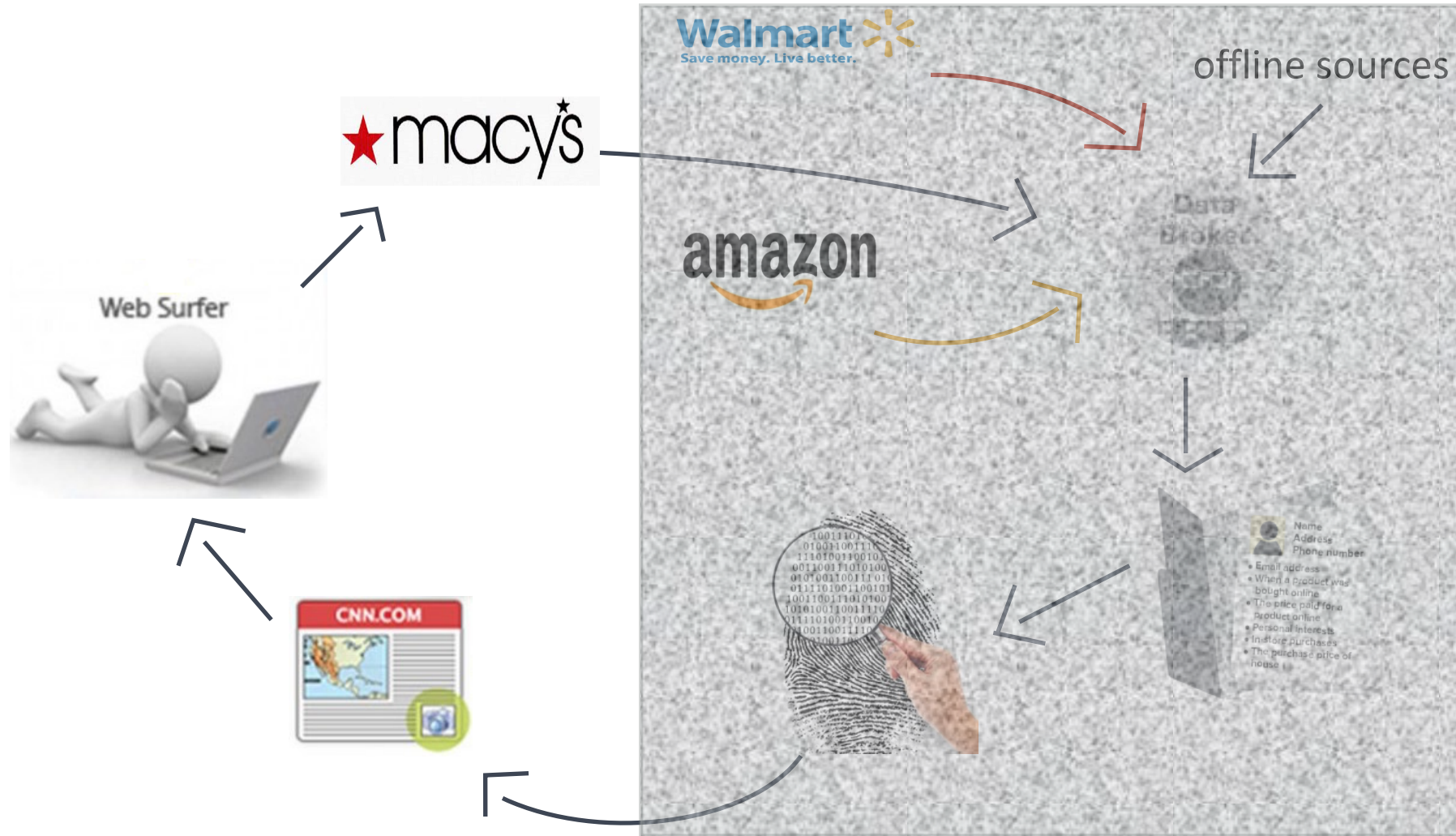
Sonam Samat, Alessandro Acquisti and Linda Babcock
Carnegie Mellon University

This research has been supported by the National Science Foundation under grants 1012763, 1514192, and 1327992, and by a Google Focused Research Award.

Targeted Advertising



Targeting happens behind the scenes



Raise The Curtains



Current Tools For Awareness

FTC recommendation to the ad industry: Provide notice to consumers
(FTC report, 2009)



Leon et al., 2012:

53% believe that more ads would pop up

45% believe the 'AdChoices' tagline was selling ad space

Contrasting Evidence From Literature

Awareness may increase purchase intentions

- Explanations help increase trust in recommendation systems (Herlocker et. al., 1999; Chen & Pu 2005)
- There may be a placebo effect (Cosley 2003, OkCupid, 2015)
- Targeted Ads act as social labels (Summers et. al., 2016)

Awareness may decrease purchase intentions

- Personalization can be creepy (Malheiros, 2012)
- Surveys suggest consumers do not like targeting (Turow et. al. 2009, 2012; Pew Research, 2016)

Contrasting Evidence From Literature

Awareness may increase purchase intentions

- Explanations help increase trust in recommendation systems (Herlocker et. al., 1999; Chen & Pu 2005)
- There may be a placebo effect (Cosley 2003, OkCupid, 2015)
- Targeted Ads act as social labels (Summers et. al., 2016)

Awareness may decrease purchase intentions

- Personalization can be creepy (Malheiros, 2012)
- Surveys suggest consumers do not like targeting (Turow et. al. 2009, 2012; Pew Research, 2016)

Contrasting Evidence From Literature

Awareness may increase purchase intentions

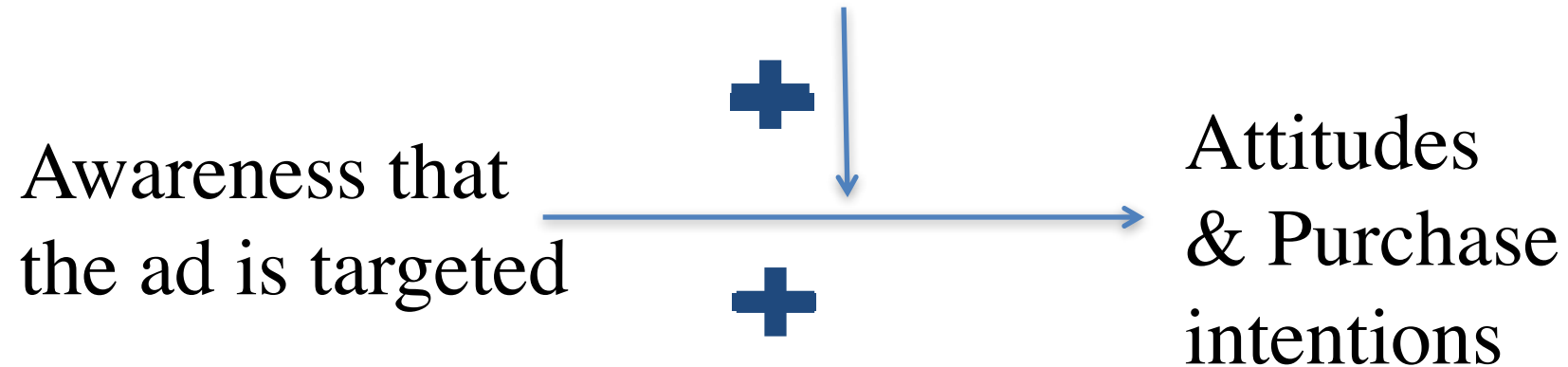
- Explanations help increase trust in recommendation systems (Herlocker et. al., 1999; Chen & Pu 2005)
- There may be a placebo effect (Cosley 2003, OkCupid, 2015)
- Targeted Ads act as social labels (Summers et. al., 2016)

Awareness may decrease purchase intentions

- Personalization can be creepy (Malheiros, 2012)
- Surveys suggest consumers do not like targeting (Turow et. al. 2009, 2012; Pew Research, 2016)

Our Hypothesis

Opinions towards targeting



Our Studies

- Study 1: Exploratory study
 - Build a scale to measure opinions about targeting
 - What are the different opinions people have towards targeting?
How prevalent are each of those opinions?
- Study 2: Validation study
 - Is the scale reliable?
- Study 3: Evaluation study
 - How does awareness about targeting impact attitudes and purchase intentions towards advertised product?
 - Does this effect depend on opinions about targeting?

Study 1: Exploratory Study

- Participants recruited from Mechanical Turk
- Shown hypothetical scenarios involving targeted ads
- Asked how they would feel if they experienced this scenario (open-ended)

Re-marketed Ad Scenario

Imagine that you are **looking to buy a new pair of shoes** online. You look into a few different websites that sell shoes. You **find a pair** of shoes that you like, on a website that you've never visited before. You spend some time looking at this particular pair of shoes and then move on to doing something else. You haven't decided whether or not you want to purchase this particular pair of shoes.

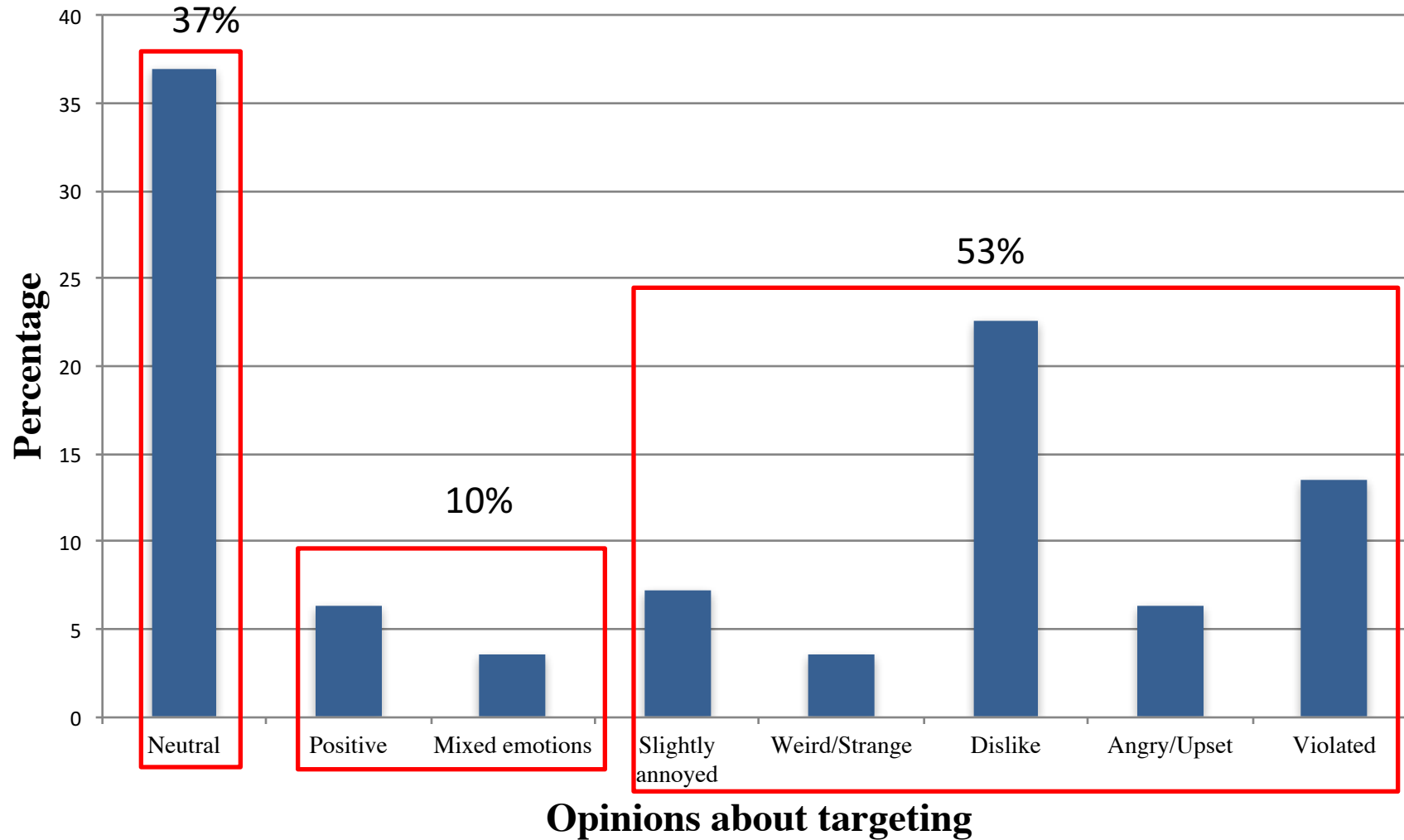
A few days later, you are reading an article on the New York Times website. You notice that the **advertisement next to the article is for the same pair of shoes** that you were looking at the other day.

You realize that your browsing history had been tracked and that it was being used to display an advertisement that has been specifically targeted to you.

Study 1: Results

- Sample size N=111
- Coding of open-ended responses
 - 2 independent coders
 - Cohen's kappa > 0.70

How would you feel if you experienced this scenario?



A scale to measure for opinions about targeting

Statement	Category
I would feel ok about this type of advertising	Neutral
I would feel indifferent about this type of advertising	Neutral
I would not be bothered by this type of advertising	Neutral
I would think this is clever advertising	Positive
I would be interested in products shown in this type of advertising	Positive
I would feel this type of advertising can be helpful to me	Positive
I would have mixed feelings (good and bad) about this type of advertising	Mixed
This type of advertising would make me feel worried but I can also see the benefit to me	Mixed
I would be annoyed by this type of advertising	Negative
I would feel creeped out by this type of advertising	Negative
I would not like this type of advertising	Negative
This type of advertising would make me feel like my privacy has been invaded	Negative
I would feel upset about this type of advertising	Negative
This type of advertising would make me feel violated and manipulated	Negative

Our Studies

- Study 1: Exploratory study
 - Build a scale to measure opinions about targeting
 - What are the different opinions people have towards targeting?
How prevalent are each of those opinions?
- Study 2: Validation study
 - Is the scale reliable?
- Study 3: Evaluation study
 - How does awareness about targeting impact attitudes and purchase intentions towards advertised product?
 - Does this effect depend on opinions about targeting?

Study 2: Validation Study

- Study 2a: 14-items scale
 - Consolidate scale
 - Exploratory factor analysis
- Study 2b: 6-items scale
 - Confirmatory factor analysis
 - Convergent and divergent validity
 - Test-retest reliability

Final Scale for Opinions about Targeted Ads

Statement	Category
I would feel ok about this type of advertising	Neutral
I would not be bothered by this type of advertising	Neutral
I would be interested in products shown in this type of advertising	Positive
I would feel this type of advertising can be helpful to me	Positive
I would be annoyed by this type of advertising	Negative
I would not like this type of advertising	Negative

Our Studies


- Study 1: Exploratory study
 - Build a scale to measure opinions about targeting
 - What are the different opinions people have towards targeting?
How prevalent are each of those opinions?
- Study 2: Validation study
 - Is the scale reliable?
- Study 3: Evaluation study
 - How does awareness about targeting impact attitudes and purchase intentions towards advertised product?
 - Does this effect depend on opinions about targeting?

Study 3: Evaluation Study

- Phase 1:
 - Participants recruited from Mechanical Turk
 - Measured opinions about targeting using our 6-item scale
- Phase 2:
 - Same participants invited to a new study after a two weeks
 - Randomized into one of two conditions:
 - Awareness vs. No Awareness
 - Measured attitudes and purchase intentions towards product

Shopping Task

- Light bulbs
- Laundry
- Notebooks
- Air purifier
- Dish soap
- Water filter



GE 25-Watt Tiffany Stained Glass Light Bulb

\$5.39



GE Reveal 53-Watt Halogen Clear A19 General Purpose Light Bulbs 2-ct.

\$7.99



GE Energy Smart 60-Watt General Purpose Light Bulbs 2-ct.

\$15.39



GE Energy Smart 13-Watt Soft White Light Bulbs 2-pk.

\$14.49

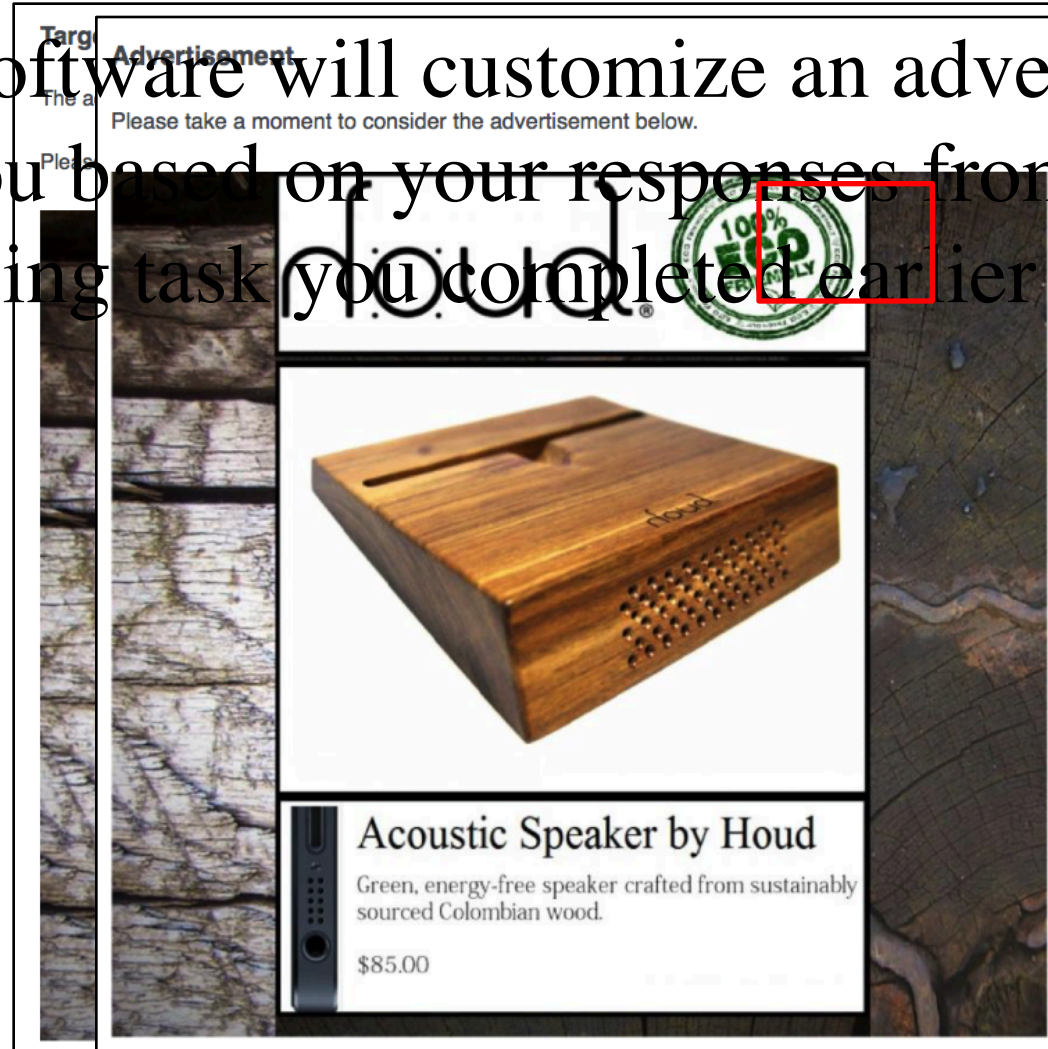
Advertisement Evaluation Task

New Awareness Condition:

Our software will customize an advertisement for you based on your responses from the shopping task you completed earlier.

Target Advertisement

Please take a moment to consider the advertisement below.

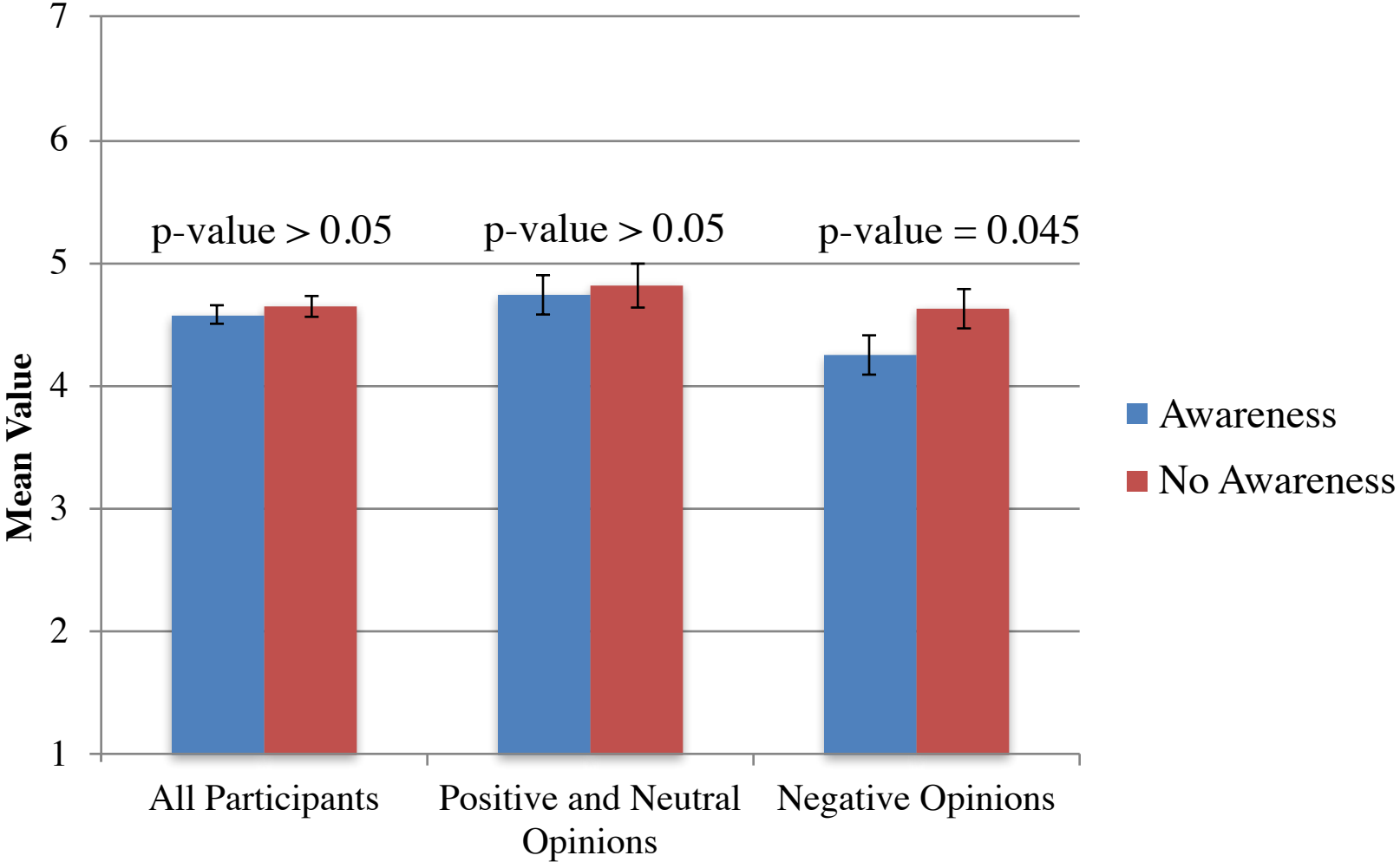


The advertisement is presented in a vertical rectangular frame. At the top, it says 'Target Advertisement' and 'Please take a moment to consider the advertisement below.' Below this is a '100% FSC' logo. The central image shows a square wooden speaker with a speaker grille on the front. Below the image, the text reads 'Acoustic Speaker by Houd', 'Green, energy-free speaker crafted from sustainably sourced Colombian wood.', and '\$85.00'. A red box highlights the '100% FSC' logo.

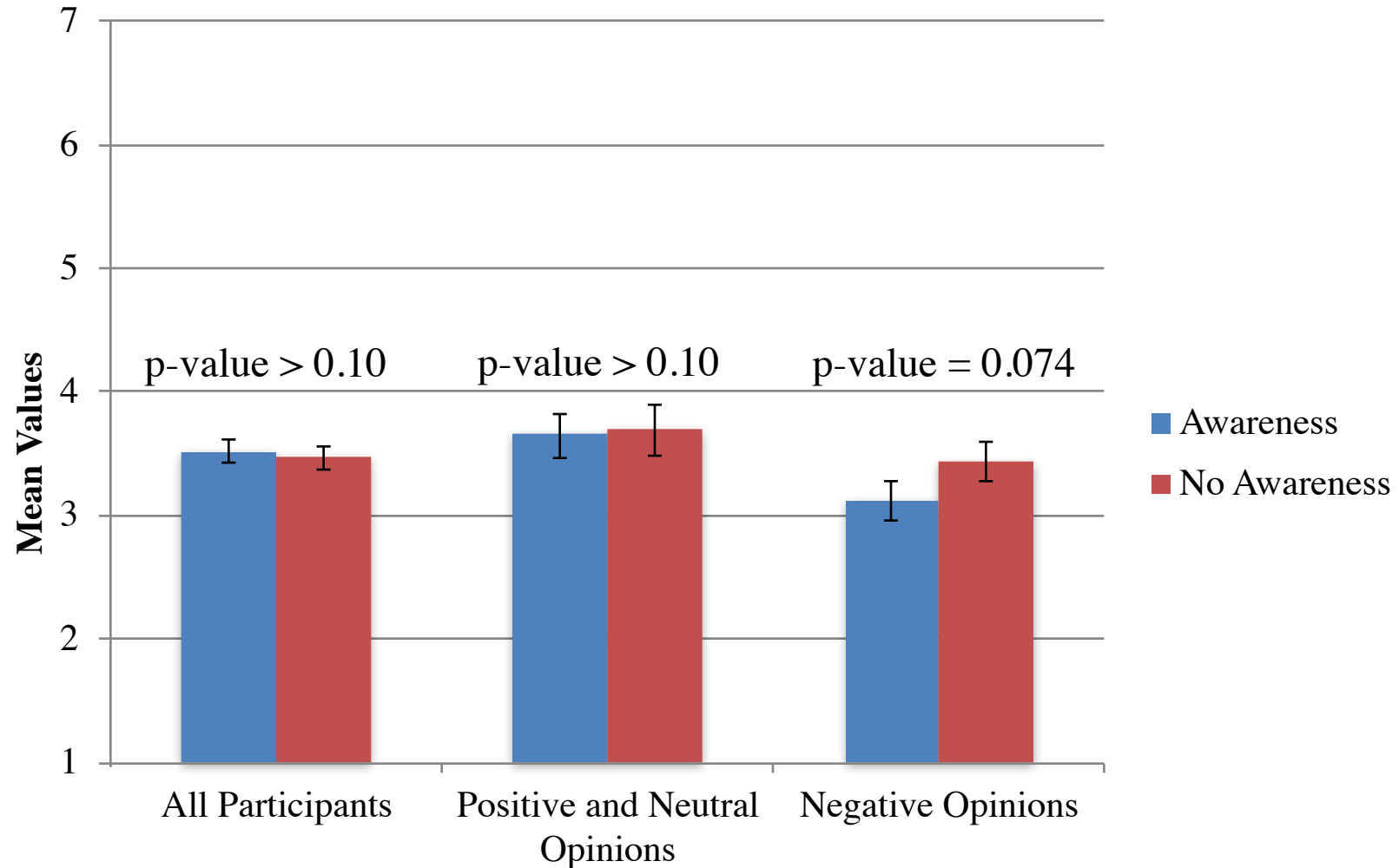
Measures

- Attitudes: How much do you like this product?
- Purchase intentions: How likely are you to buy this product?

Attitudes Towards Product



Purchase Intentions Towards Product



Why is this important?

- Revenue from online advertising was \$19.6 billion in the first quarter of 2017 (IAB Report, 2016)
- Several people have negative opinions about targeted advertising
 - Our research:
 - 53% had negative opinions (Exploratory Study)
 - Other researchers:
 - 66% do not want targeted ads (Turow et al., 2009)
 - 55% do not want targeted ads (McDonald & Cranor 2010)

Conclusion

- The self-regulated ad industry is **not incentivized** to make consumers aware about which ads are targeted to them
- Are FTC recommendations enough?
- We need regulations to help consumers make informed decisions

Thank You

Contact: sonamsamat@gmail.com