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ANNUAL MEETING



Explainability and Preference Manipulation of Algorithmic Nudge

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Motivation

Amazon's Choice has become controversial and drawn public concerns since 2019

More than 10 social medias published articles questioning this:

- *“Amazon's Choice” Does Not Necessarily Mean A Product Is Good* (BuzzFeed, Jun 2019)
- *“Amazon's Choice” Isn't the Endorsement It Appears* (WSJ, Dec 2019)
- *What Does “Amazon's Choice” Actually Mean?* (Reader's Digest, Apr 2021)
- *Amazon Puts Its Own “Brands” First* (The Markup, Oct 2021)
- *Amazon copied products and rigged search results to promote its own brands, documents show* (Reuters, Oct 2021)

Recommendation Badge -- Nudge

Nudge: a choice architecture (Thaler and Sunstein 2009)

- Alters individual's behavior in a predictable way
- Preserves all the available options
- Keep the same economic incentive



The Decoy Effect:

Introduction of a third option into the choice set that helps to "nudge" customers toward selecting a particular product by making one option look better than the others.

Large: \$7.99

Medium: \$6.99


Small: \$3.99



Nudge people to use stairs (anchoring and reminding)

- “Best Seller” on Amazon.com
- “Amazon Choice” on Amazon.com
- “Our Picks For You” on Dsw.com
- “Best Delivery” on Yelp.com
- “Top pick” on Bestbuy.com
- “Only @Best Buy” on Bestbuy.com
- ...

Best Seller




Portable-Charger-Power-Bank - 40000mAh Power Bank PD 30W and QC 4.0 Quick Charging Built-in LED Display 2 USB...

★★★★☆ ~ 1,815

\$49⁹⁹

✓prime Overnight
FREE delivery Overnight 4 AM - 8 AM

Amazon's Choice



UYAYOHU Portable-Charger-Power-Bank - 15000mAh 2 Pack Power Bank Dual USB Output 5V3.1A Fast Charging Portable...


★★★★☆ ~ 819

\$25⁹⁹

Save 20% with coupon

✓prime
FREE delivery Thu, May 25


Our Picks For You



• • • +2 colors

Birkenstock
Arizona Slide Sandal - Women's
\$109.96


★★★★★ (1072)



• • • +19 colors

Off-White
Out of Office Sneaker - Men's
\$249.99


QUICK ADD



• • • +2 colors


Off-White
Low Vulcansized Canvas Sneaker...
\$149.99
Comp. value \$300.00

★★★★★ (30)



Dr. Scholl's
Time Off Platform Sneaker
\$69.99
Comp. value \$100.00

★★★★★ (402)



• • • +3 colors

Birkenstock
Arizona Essentials Slide Sandal
\$49.96 - \$54.96
Comp. value \$55.00

★★★★★ (723)



Only @ Best Buy

Energizer - Ultimate Lithium 20,000mAh 20W Qi Wireless Portable Charger/Power Bank QC 3.0 & PD 3.0 for Apple, Android, USB Devices - Black

Model: QE20007PQ SKU: 6498854

★★★★☆ (389)

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Ambiguous vs. Specific Recommendation Badge

Ambiguous badge is generated by AI/ML algorithms. (i.e., *Amazon's Choice*)

- inner workings are NOT fully transparent and explainable; consumers don't know the features driving the placement of the badge.
- can be adjusted in real-time
- placement is unpredictable

Specific badge is generated with specified and traceable attributes. (i.e., *Best Seller*)

- Inner workings are fully explainable; consumers can fully understand the generation process and trace the information source.
- even though it can be adjusted in real-time, the placement is predictable.

Research Model and Method

Between-subject randomized experiment with survey instrument

Fixed-effect logit & OLS model

Bootstrapping mediation model (Hayes 2009)

