

BerkeleyHaas

Haas School of Business
University of California Berkeley

Mobile Technology in Retail

COER 2016

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How can retailers exploit the consumer trend towards mobile?

Mobile in Retail



Mobile
Commerce



Mobile
In-Store



Geolocated
Mobile
Promotions
(IoT)

Today's Talk:

Mobile Technology and Social Media in Retail: Decomposing the Value of Geolocation Information

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**Geolocated
Mobile
Promotions
(IoT)**

Geolocation in Retail – Examples

The New York Times

At Store After Store, a Pitch by Phone

Regent Street Becomes Leader in Retail Use of Beacon Technology

By MARK SCOTT DEC. 2, 2014



Regent Street's mobile program is part of a \$1.6 billion improvement project for the thoroughfare, which is owned almost entirely by the Crown Estate, the British government's property management organization.

Rick Friedman/Corbis

Geolocation in Retail – Examples



Target Launches Beacon Test In 50 Stores, Will Expand Nationwide Later This Year

Posted Aug 5, 2015 by Sarah Perez (@sarahintampa)

Mobile Commerce Daily Lord & Taylor expands iBeacon program to all US stores

Macy's rolls out retail's largest beacon installation

Macy's expects to complete the installation by early fall, just in time for the upcoming holiday shopping season.



By Natalie Gaglardi for Between the Lines | September 15, 2014 -- 15:15 GMT (08:15 PDT) | Topic: CXO



TECHNOLOGY

The Potential of Geolocation for Revolutionizing Retail

by Robert Haslehurst and Dan McKone

NOVEMBER 13, 2015

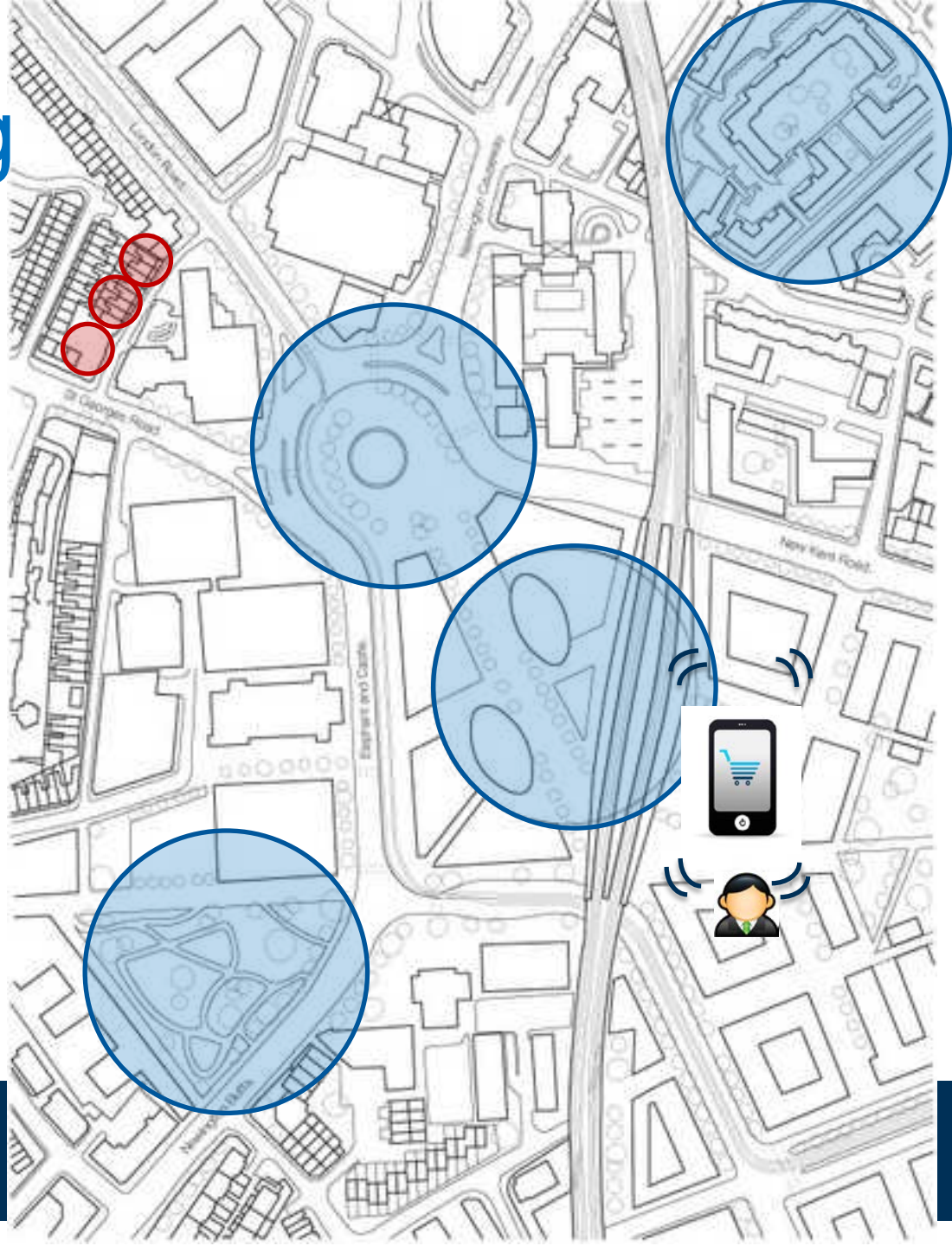
Many retailers, from Macy's to Walgreens, are already experimenting with location-sensing technologies, with most of the focus to date on navigation, location based promotional offers, and reviews of nearby products. However, this is just the tip

Research Setting

Novel dataset from a Mobile platform with +5MM messages sent.

Campaigns differ by several attributes:

- Product Category
- Duration
- Type
- Expiration
- Timing...

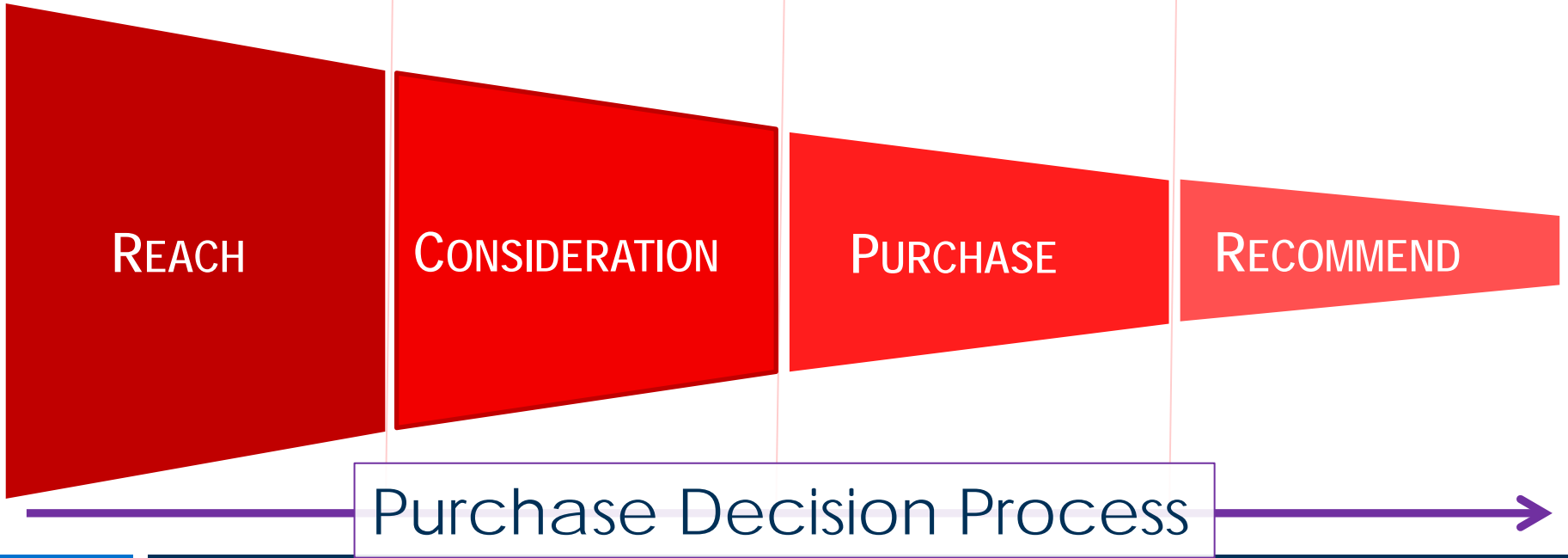


receive message

open

accept

recommend



Research Questions

1. How does the value of geolocation vary throughout the purchase decision process?
2. How does the effectiveness of geolocated promotions compare to other communication channels?
3. Which factors influence the effectiveness of geolocated promotions in different stages of the purchase decision process?

Previous Literature

- **Geolocated mobile promotions**
 - E.g., distance to consumer (Luo et al. 2014, Danaher et al. 2015, Molitor et al. 2015)
 - time of delivery (Luo et al. 2014, Baker et al. 2014, Danaher et al. 2015, Fang et al. 2015)
 - coupon value (Danaher et al. 2015), position of display (Molitor et al. 2015); can all have an impact on influencing consumer response to mobile-based communications.
- **Social media**
 - Iyer and Katona (2015), Tucker (2012), Lee et al. (2015), Li and Wu (2014)...
- **Conversion funnel**
 - Wiesel et al. 2011, Abhishek et al. 2014, Hoban et al. 2015...

We compare geolocated campaigns against similar promotions that don't use geolocation information

Geo

No
Geo



A fraction of the campaigns are sent to targeted customers regardless of their location (“Push”).

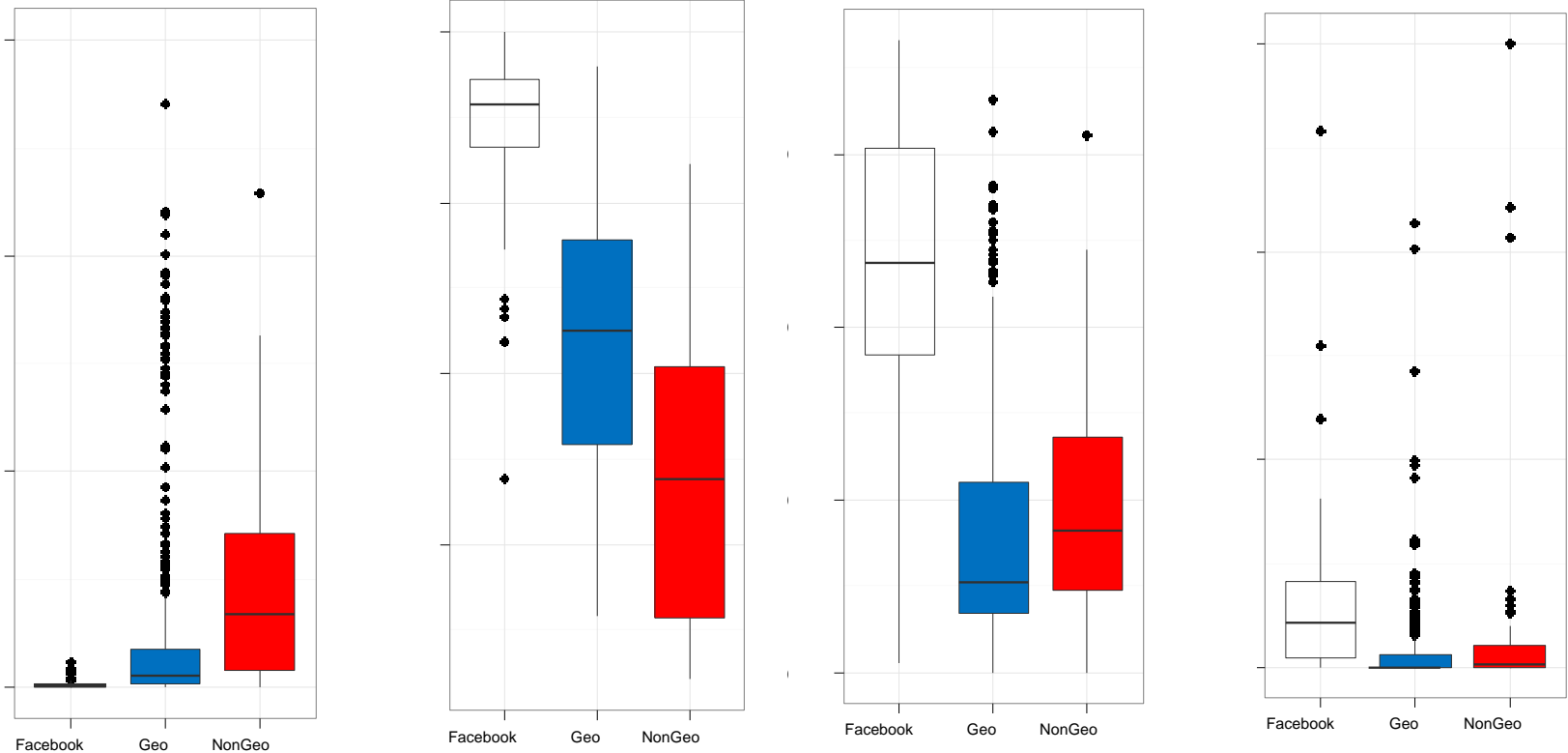
Face
book



A fraction of campaigns are triggered by liking them in the Facebook fanpage

Effectiveness: Model-Free Evidence

Hourly Reach Open rate Accept rate Recommend →



□ Facebook ■ Geolocated ■ Non geolocated

Estimation

- **Challenges:**

- Campaign heterogeneity: managers -> “no fixed rule to decide which campaigns are implemented in each communication channel”, but data show some observable differences
- Customer heterogeneity: customers opt-in for app, data show comparability

- **Methodology: Propensity score matching**

- Controls for observed differences in campaigns (timing, duration, discount, product category, customer profiles,...)



Results

- **Geo vs Non Geo:**
 - Geolocated campaigns are more effective overall
 - Difference driven by better opening rates; no important differences in conditional acceptance rates or recommendation behavior
 - Non-Geolocated campaigns have higher reach
- **Geo vs Facebook:**
 - Facebook campaigns are more effective overall
 - True for all stage-level metrics except reach
- **Drivers of effectiveness:**
 - Important differences across the purchase decision process

Concluding Remarks

- Effectiveness: **Non Geo** < **Geo** < Facebook

But coverage: **Non Geo** > **Geo** > Facebook

- Decomposing the value of geolocation throughout the purchase process: Mainly driven by better opening rates
 - Customers are more willing to hear about promotions when they are close to the stores, but acceptance depends on the value proposition
- Design features of a campaign have different impact throughout the purchase decision process