

# Inventory Showrooms and Customer Migration in Omni-channel Retail: The Effect of Product Information

Research Collaboration with **WARBY PARKER**

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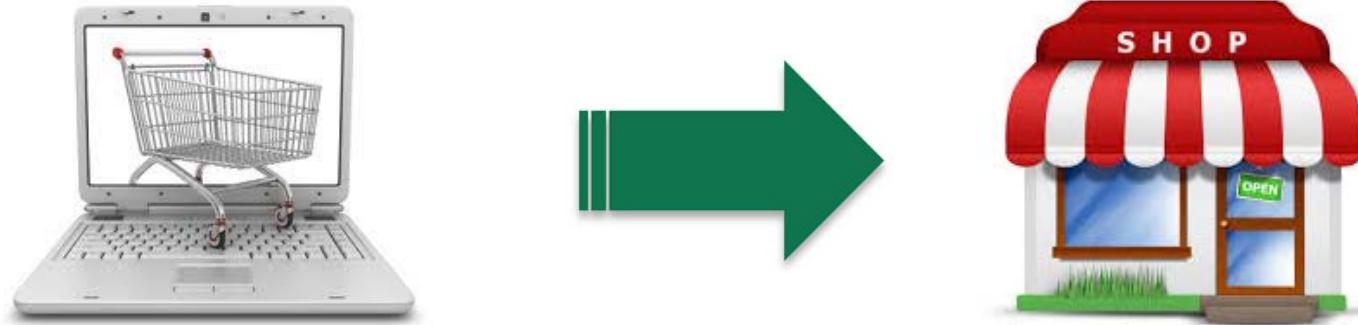
**BONOBOS**

# Our Research Goal



- Uncertainty pooling
- Centralized inventory management
- Hide Stock-outs
- Access to Product Information
- Engaging Service Experience
- Immediate Purchase

# Our Research Goal



What happens when an online retailer opens an “inventory showroom”?

- What happens to demand and customer behavior?
- What happens to fulfillment and returns?

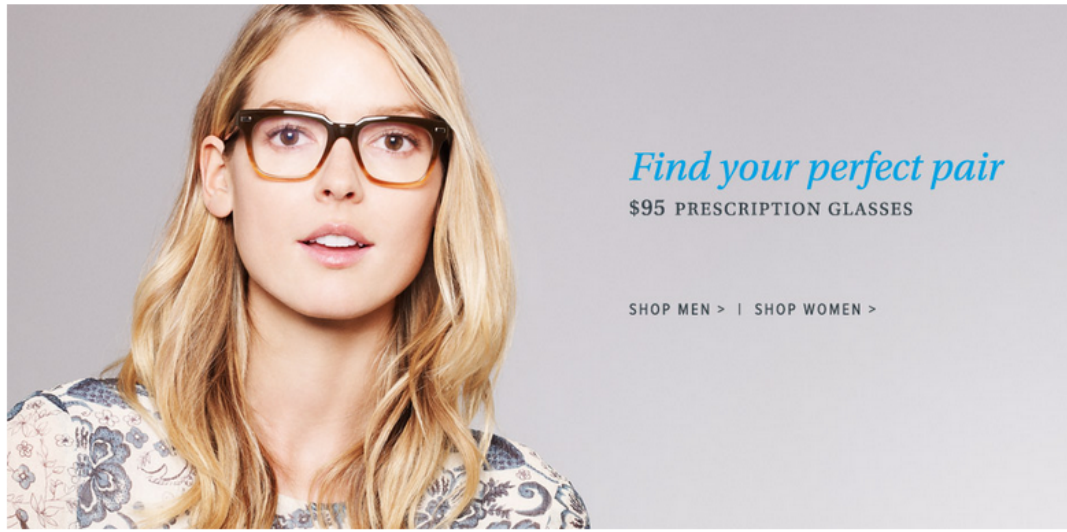


## WARBY PARKER



# WARBY PARKER

MEN WOMEN | BUY A PAIR, GIVE A PAIR OUR STORY MONOCLE HELP/FAQ



*Find your perfect pair*  
\$95 PRESCRIPTION GLASSES

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01

02

03

04



### VISIT OUR SHOWROOMS

See our glasses in person.

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5 pairs, 5 days, 100% free! Select five pairs to try on in the comfort in your own home. [GET STARTED >](#)



### WARBY PARKER x SUNO

Shop our limited-edition sunglasses designed in partnership with SUNO. [GET YOUR PAIR NOW >](#)

# \$95

PRICE POINT

*world class*

CUSTOMER SERVICE

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HELP/FAQ

HOME / MEN'S OPTICAL / QUINCY BRUSHED OPAL



VIEWS: 01 02 03 04

CLICK TO ENLARGE

AVAILABLE COLORS:



Brushed Opal



Brushed Ink



Brushed Bark

## Quincy BRUSHED OPAL

INCLUDES:

Anti-Reflective Prescription Lenses  
Free Shipping and 30-day Returns

+ ADD TO CART

TRY BEFORE YOU BUY

+ ADD TO HOME TRY-ON

VIRTUAL TRY-ON



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HOW TO TRY BEFORE YOU BUY ▼

# Home Try - On



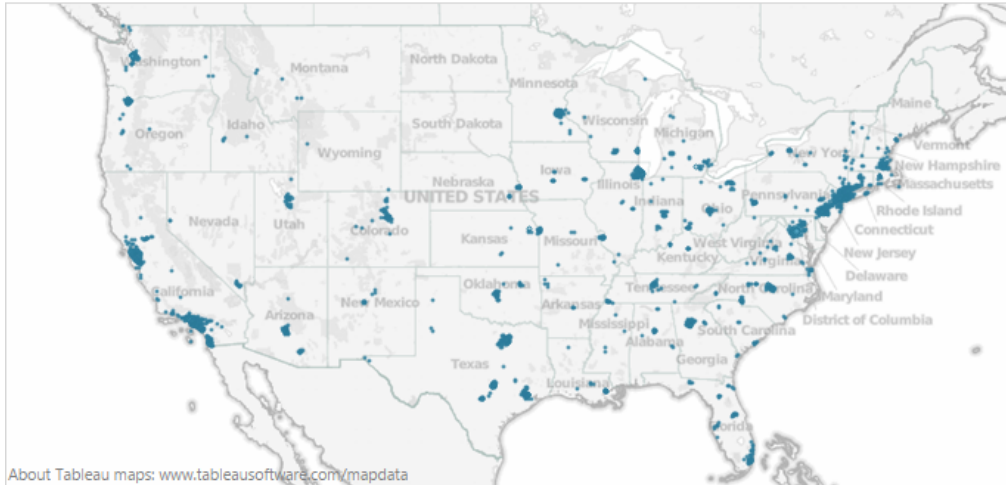
**5** DAYS

**5** FRAMES

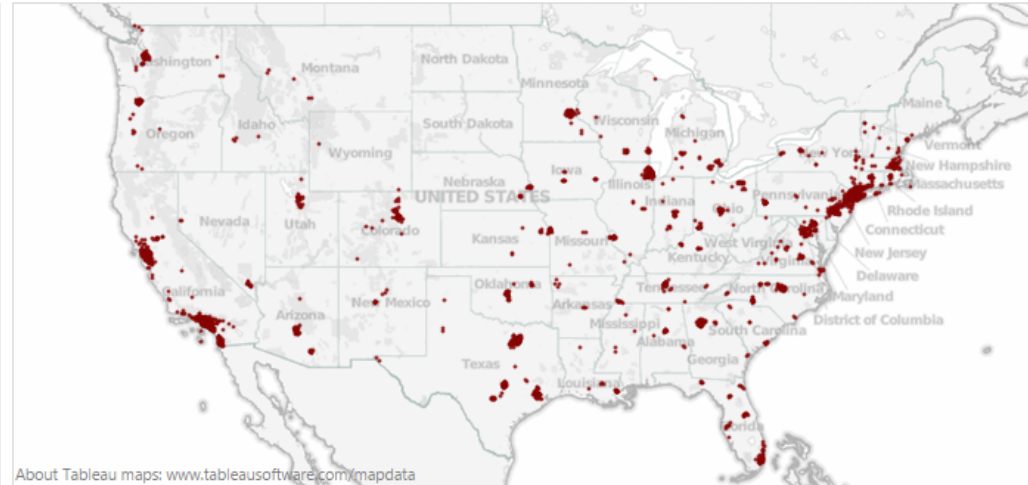
**100%** FREE

# Home Try - On

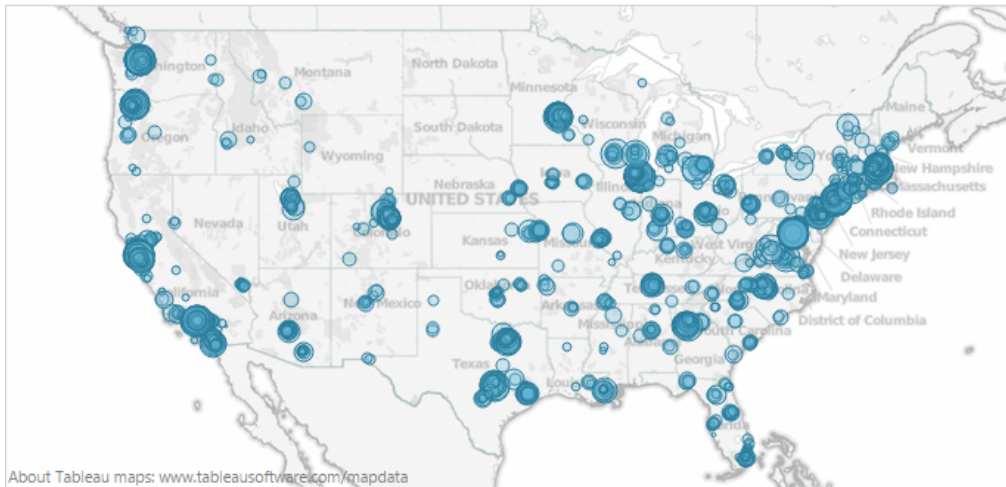
HTO 2010



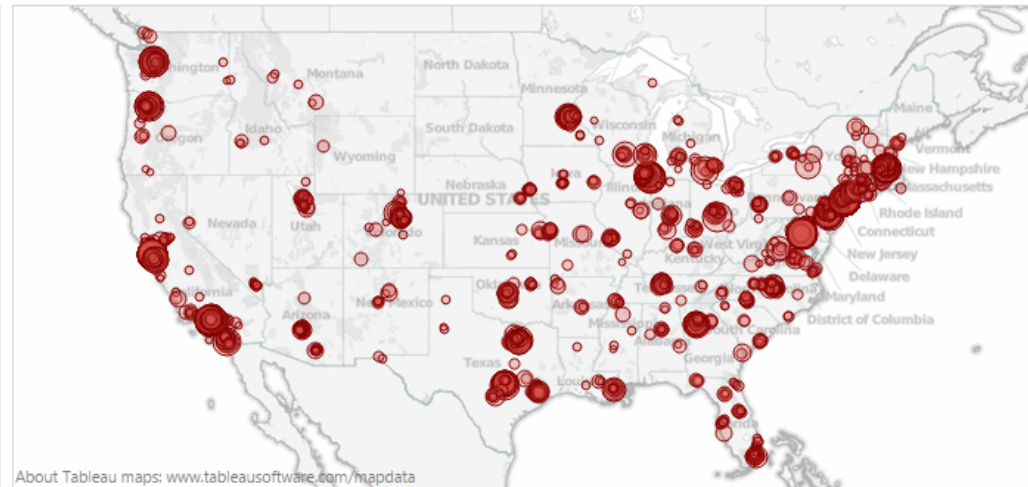
Sales 2010



HTO 2013



Sales 2013



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HOW TO TRY BEFORE YOU BUY ▼

# Showroom



## SHOWROOMS

LOS ANGELES, CA – LOS FELIZ

LOS ANGELES, CA –  
DOWNTOWN

SAN FRANCISCO, CA

PHILADELPHIA, PA

OKLAHOMA CITY, OK

CHICAGO, IL

MIAMI BEACH, FL

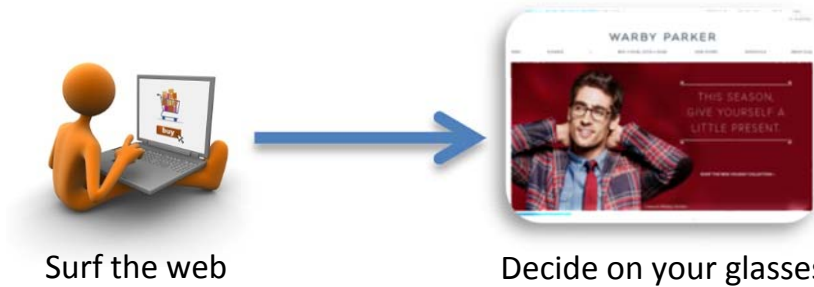
CHARLESTON, SC

NASHVILLE, TN

RICHMOND, VA

# 3 ways to interact with customers

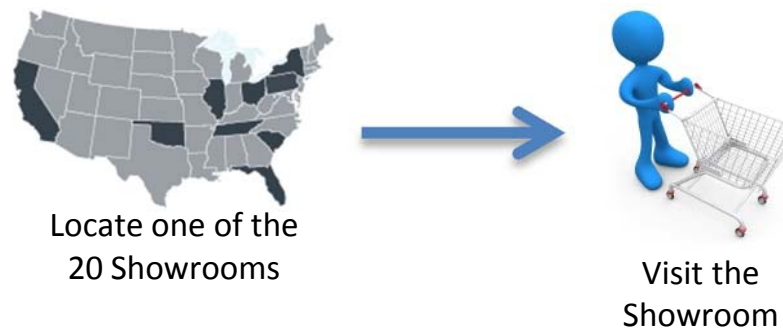
Traditional  
Online  
Retailing



Home  
Try - On  
Program



Visit a  
Showroom



# Data

## Sales and HTO information 02/2010—03/2013

- For sale transactions
  - Customer id, channel id, SKU, date(s)
  - ZIP Code
- For HTO transactions
  - Customer id, SKUs, date(s)
  - Conversion indicator (2-month window)
  - ZIP Code

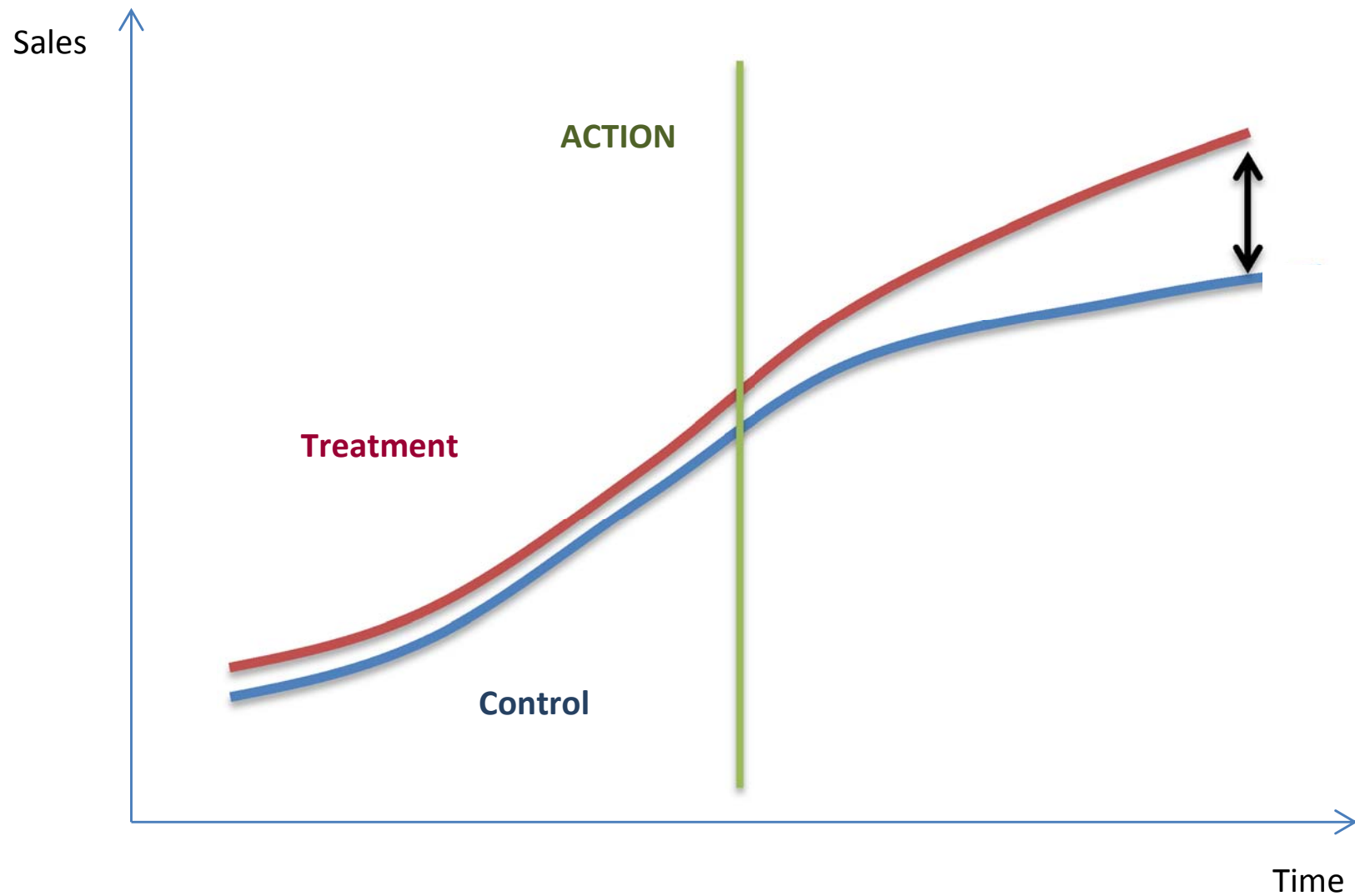
# Impact of Showrooms

- Naïve approach: compare online sales before and after opening a showroom at the showroom location
- DiD: use situations in which opening a showroom can be evaluated with a control group





# Difference in Differences



# Two definitions

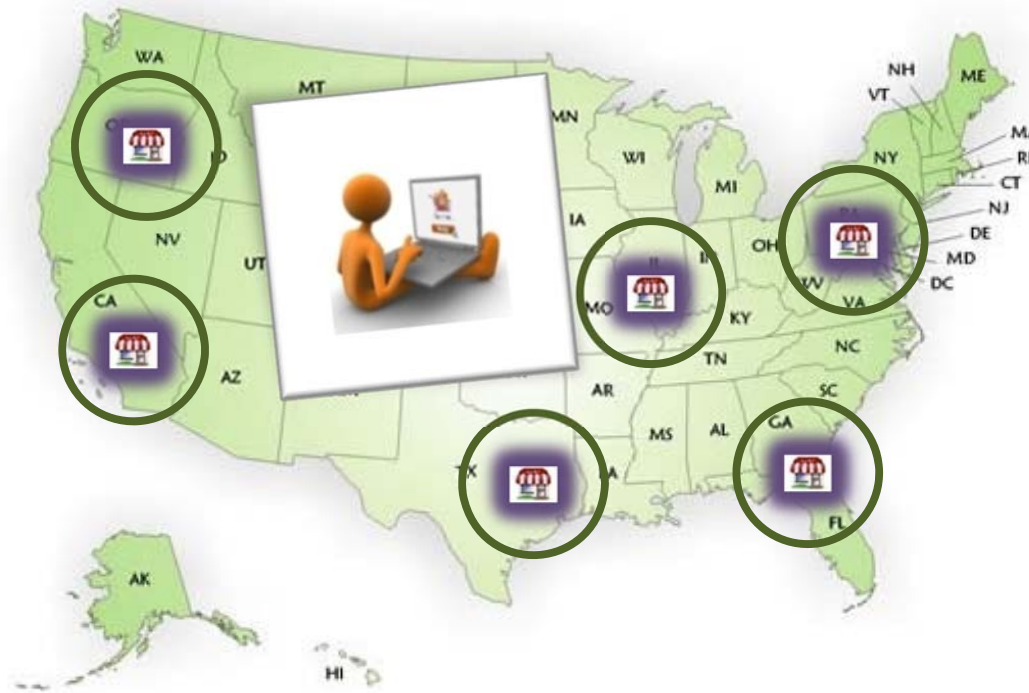
- Showroom influence area:
  - We defined the areas under the influence of a showroom by measuring the distance from each ZIP code to each WP showroom. We assume that ZIP codes within 30 miles of the showroom are under the showroom influence.
- Home Try – On conversion:
  - WP provided the identification for those HTO that converted into a sales



WP identification

# Constructing Control Groups

Compare the lift in sales after opening a Showroom between ZIP codes that are close to a Showroom and ZIP codes that are not.



2256 ZIP codes were included in the analysis; 921 ZIP codes have a showroom within 30 miles.

# Impact of Showrooms

We considered the following model to measure the impact of opening a showroom on sales:

$$\text{Log\_Sales}_{it} = \beta_0 + \beta_1 \cdot \text{Showroom\_Open}_{it} + \text{Controls} + \epsilon_{it}$$

- Log\_Sales<sub>it</sub>* Is the logarithm of the total sales ZIP code *i* on week *t*.
- Showroom\_Open<sub>it</sub>* Indicates if at location *i* on week *t* there was a showroom open.
- Controls* Fixed effects for each ZIP code *i* and for each week *t*

We used a similar approach to look at the impact of online sales and HTO.

# Impact of Showrooms



Expected since a new channel is being added



Suggests an increase in awareness that drives additional sales



Are some customers shifting channels?

# Product Information



Traditional Online Retailing



Home Try - On Program



Visit a Showroom

# Mechanism Analysis



Larger than decrease in sales  $\sim 5.0\%$ . Hence, HTO conversions increase



Improves HTO Efficiency



Improves Web Efficiency (No impact in HTO)

# Implications

- When a showroom opens, the amount of information in the market changes
  - new customers are added and others migrate.
- Customers differ in their tolerance for fit uncertainty
  - the discrepancy between what they know about a product before buying it and what they learn when it is delivered.
- Therefore ...

The inventory showroom facilitates a better matching between customers and channels (selecting on need for information) and results in a reduction in operational cost to serve customers.



# Information and Fulfillment

- Online retailers benefit from centralized fulfillment, but can “suffer” from limited ability to deliver information
- Conjecture
  - Vertical Retailers with unique products—working on informational dimension (Showrooms)
  - Generalists Retailers with commodity products—working on the fulfillment dimension (focus on delivery innovation)

