FRICTIONS AND COMMERCE

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Overview

- Frictions in real world markets

- "Frictionless" commerce in the virtual world

- Introduction to online-offline interaction

the
everything store

JEFF BEZOS
AND THE AGE
OF AMAZON

BRAD STONE

Insight on Frictions

"I don't make money when I sell books. I make money when I help customers make better decisions."

Jeff Bezos, CEO of Amazon

(when all Amazon did was sell books)

Thought Experiment 1

- Imagine that you want to buy a big screen TV so you can watch the inaugural Rugby World Cup Final in Auckland, New Zealand.

- It's 1987 and the Internet can't help you.

- So, what do you do?

- [Side note: In 1987, The New Zealand All Blacks played France in Auckland, New Zealand and in 2011 the same two teams met again at the same venue (with the same outcome in both instances!)]
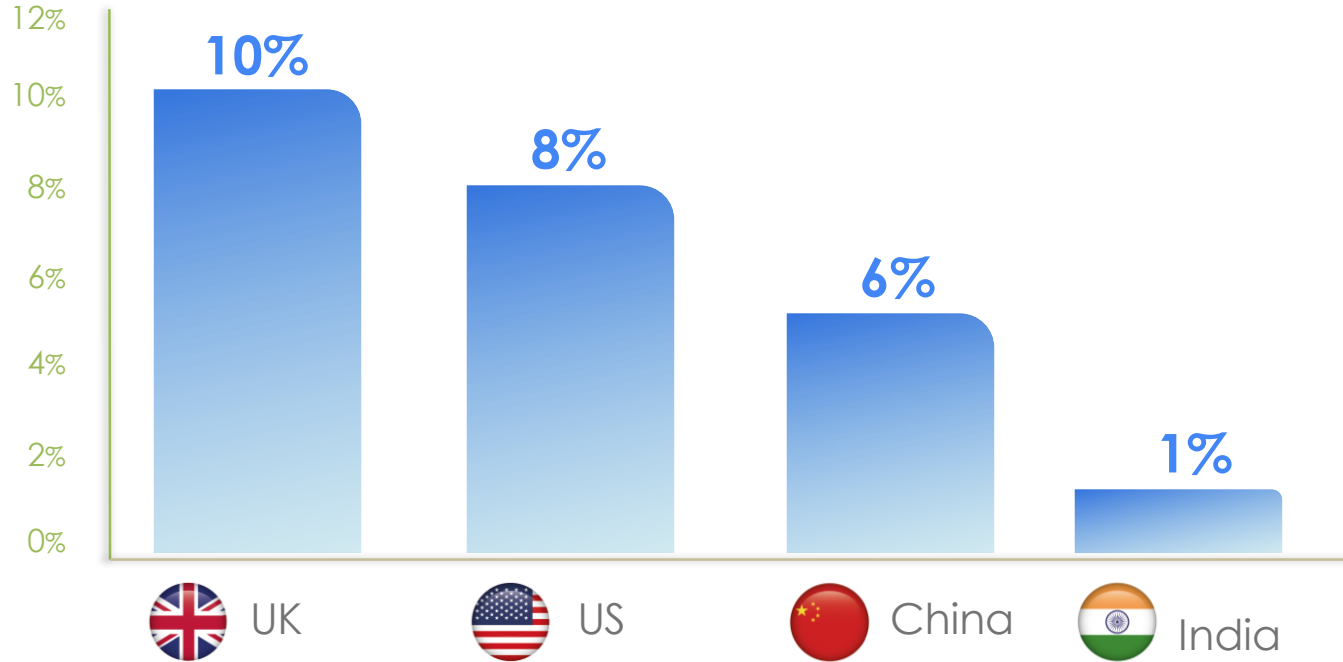
Two Key Frictions in the Real Economy

- **Search** friction
- **Geographic** friction

- However, the data on where dollars (or rupees) are spent illustrates that the most **transactions** occur offline

- What does this imply (Hint: "frictions" are involved)

Percentage of Commerce Transacted Online

Source: Euromonitor, Morgan Stanley Research; excludes travel

History

- Markets for information and goods were **local**. As a result, the opportunities available to consumers were limited by the size of the local market

- When it occurs, **agglomeration** (the "gathering together" of people with similar preferences) improves the consumption opportunities of the individual

Impact of the Internet

- The Internet and internet-connected devices level the playing field between "consumption rich" locations, e.g., New York City and more "consumption poor" locations, e.g., Iowa City.

- The effects of the Internet are, however, different for **goods** and **information**

Research on Goods and Information

- Globally, consumers who live **further** from offline commerce options are more likely to shop online for **goods**

- Furthermore, consumers who live in **large cities** are heavy consumers of **information** (another 50-60 "local sites" for every additional 1m residents)

Research on Goods and Information

- So, the Internet helps you access **goods** when you: (1) live in a small place, and / or (2) have preferences that are different to those of your neighbors

- And, the Internet **delivers information** that helps you to your environment when you live in larger city

Research Findings: (Some) Consumer Benefits

- Lower prices and lower search costs for items you wish to buy

- Higher resale values and more liquidity for items that you wish to sell

- More precise local information

- Increased convenience

Online-Offline Interaction (Variety)

- The online and offline economies compete differently for **popular** items versus **niche** items
- Example: Consider the following two books:
    - **Harry Potter and the Sorcerer's Stone**
    - **Ritchie McCaw: The Open Side**

Summary

- Real world markets impose two important frictions on consumers, **search** friction and **geographic** friction

- The Internet helps alleviate both, but helps consumers in large and small markets **differently**

- The Internet also imposes its own set of frictions (many new companies are starting up to eliminate them)

Global Online Commerce Percentages
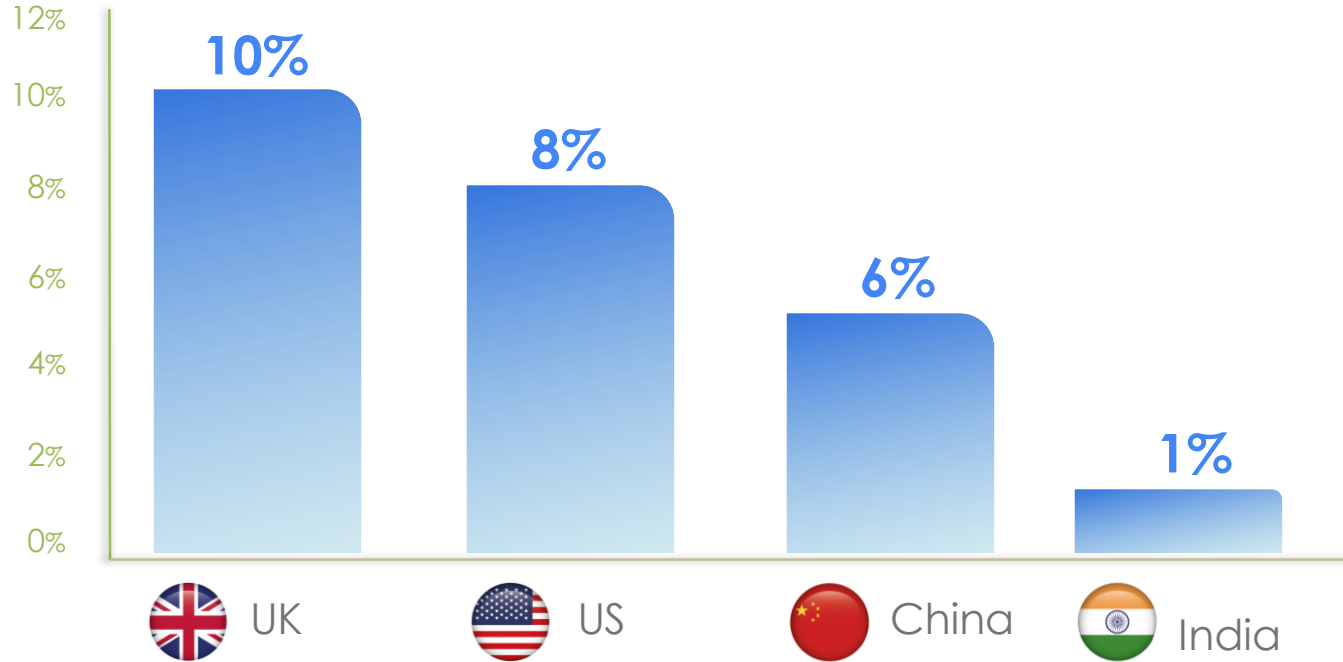
Source: Euromonitor, Morgan Stanley Research; excludes travel

Online-Offline Fundamentals

Information Drives Decisions
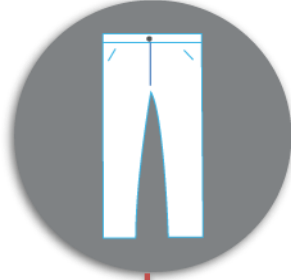
Online Needs Offline

Digital Versus Non-Digital

Mobile Changes Everything

Recap

- Value is created when customers can "make better decisions"

- Customers are present offline and online—business needs to be too

- Every product or service contains digital (D) and non-digital (ND) attributes—converting ND to D or eliminating uncertainty about ND is key

- The "computer in the pocket" of billions worldwide will touch every market (remember the Five Rules of Mobile)

OFFLINE-ONLINE (O2O)

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Overview

- O2O: Core functions of Information and Fulfillment

- Two research studies that leverage the online and offline worlds differently

Key Concepts

- The **online** environment is especially good for rapid communication of digital attributes of products and delivery of content

- The **offline** environment is especially good for brand building and communicating non-digital attributes

- Firms interact with customers through the core functions of **information** and **logistics**

- Information and logistics can be delivered **online** or **offline**

MITSloan
Management Review

How to Win in an Omnichannel World

By David R. Bell, Santiago Gallino and Antonio Moreno

Fulfillment

	Offline	Online
Offline	Real Economy Transaction	Showrooms
Online	BOPS and ROPO	Digital Economy Transaction

Information Delivered

Research Studies

- **BOPS** and **ROPO** research study using information from the offline-first brand Crate & Barrel (http://www.crateandbarrel.com

- **Showroom** research study using information from the digital-first brand Warby Parker (http://www.warbyparker.com

Treatment and Control Groups

Treatment Group
Crate & Barrel store
within 50 miles

Control Group
No Crate & Barrel
store within 50 miles

BOPS and ROPO Study

- **Treatment** group customers had **two options** when they went to the www.CrateandBarrel.com and placed an order:
  - First, they could have the products they bought shipped to them (offline fulfillment)
  - Second, they could go into the store and pick up their purchases (offline fulfillment)

- **Control** group customers had **only one option** when they went to www.CrateandBarrel.com—they had to have the product shipped

Findings

7% ▼
online
sales

1% ▲
cart
abandonment

6% ▲
store
sales

13% ▲
store
traffic

$95

PRICE POINT

world class

CUSTOMER SERVICE

http://www.cbsnews.com/videos/warby-parker-tops-fast-company-magazines-annual-list-of-most-innovative-companies-in-the-world/
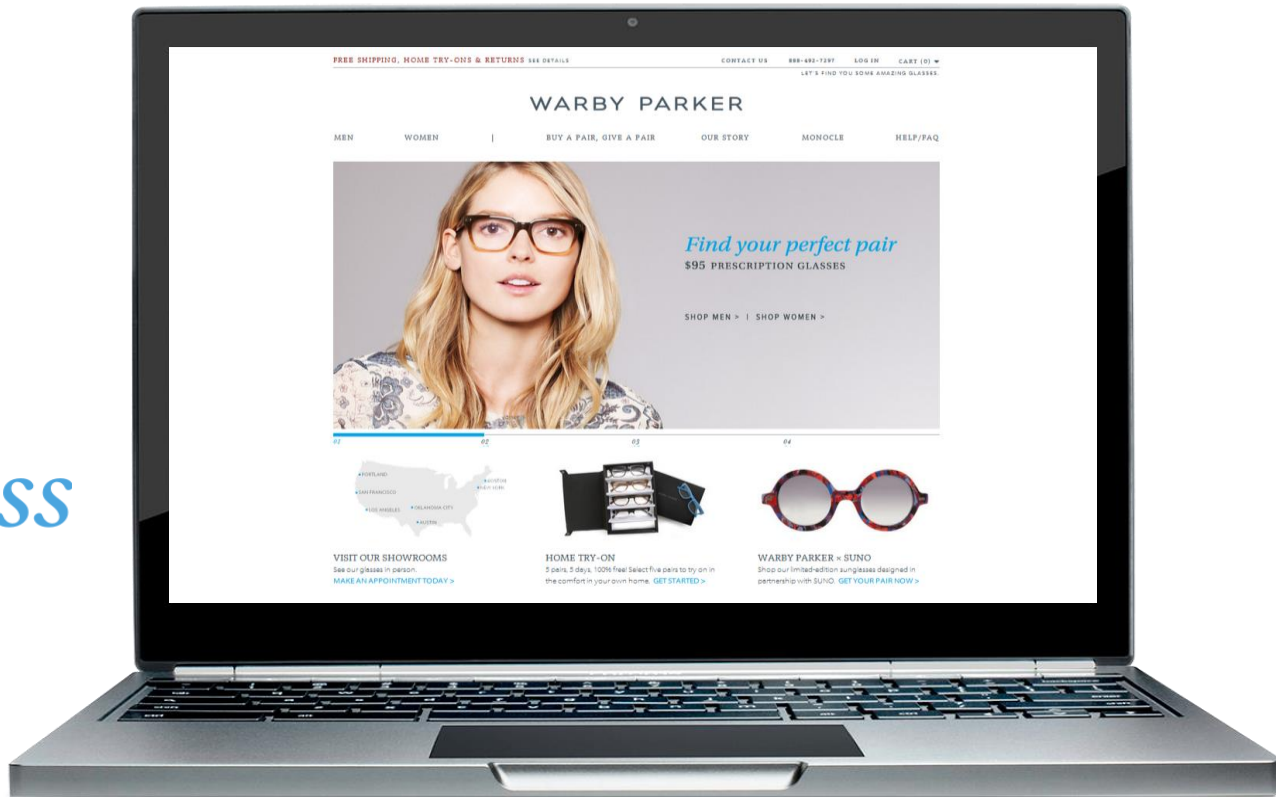
Showroom Study

- **Treatment** group customers had **three options** for how they acquired information about Warby Parker
  - First, they could go to the website (offline information)
  - Second, they could use the sampling program (offline information)
  - Third, they could go to the showroom (offline information)

- **Control** group customers had the first two options only

Channel 1: Online

Channel 2: Sampling

Channel 3: Showroom

WARBY PARKER
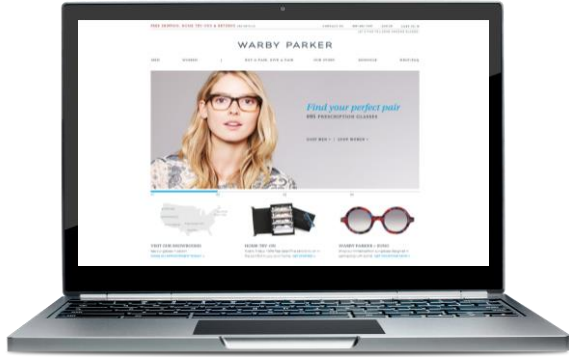
Online

Home Try-On

Showroom

Findings

8.8% ▲
Total Sales

3.5% ▲
Web Sales

5% ▼
Home
Try-On Sales

Findings

7.8%
Home
Try-On
Orders

1.5%
Home
Try-On Repeat

1.2%
Web
Returns

Exercise

- Consider the implications of our O2O framework for two different types of firms: (1) resellers of brands built buy others, and (2) vertical brands

Summary

- It helps to think of online-offline interaction through the lens of two core functions: **information** and **geographic** friction

- When deciding what **activity** to perform online or offline, always think about the "fit" of the activity to the channel

- Remember: consumers operate in all four cells of our O2O matrix so in most cases, firms need to as well

VARIETY AND THE DIGITAL ECONOMY

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Two Principles of Variety

- **Cost** Until relatively recently, it was relatively expensive to offer "more variety" to customers due to the cost of storage and distribution of goods and services

- **Winners** In most contexts the "80/20" or Pareto Principle held true

- However, the economics of creation and distribution of **goods** and **services** have been radically altered

Definition

"A Long Tail is just culture unfiltered by scarcity"

Chris Anderson

The Long Tail

Principles

- **Supply** Long tail businesses exist because **technology** has changed the economics of creation, storage and distribution

- **Demand** Long tail businesses succeed when customers have access to **recommendation and search tools** that allow they to discover and consume the variety that they want

Implications

- **I1** The ratio business contributed Niche : Hits is increasing
- **I2** More and more product categories are becoming "Long Tail Businesses" as hard goods and services are turned into soft ones (digital creation and distribution)
- **I3** Recommendations, reviews, and search tools are essential to the profitability of any Long Tail Business

Long Tail Businesses

- Fashion www.farfetch.com

- Education https://www.edx.org/

Research Findings: Catalogs vs. Internet

- When both channels offer the **same** products at the **same** prices, the Internet channel has a more **evenly distributed** sales distribution

- This was made possible by **recommendations** and **search functionality**

Summary

- The Long Tail has always been **latent** but just not produced (consumers have different preferences and want variety)

- The digital economy facilitates the **supply** of Long Tail products and services

- Long tails only "work" in practice when buyers have the necessary **tools of discovery**

Networks

"Pathways though which information, advice, and resources flow between people."

(Real world and virtual world)

Overview

- Features of networks and why they are so important

- Our two key "buzzwords" of **homophily** and **contagion** (patterns of influence)

- Our goal as (digital) marketers is to understand how to **create** networks for our products and services as well as **leverage** the preexisting and naturally occurring networks

- We'll also explore principles gleaned from research

- And we'll conclude with an exercise

Networks in Action

http://www.youtube.com/watch?v=pJfq-o5nZQ4
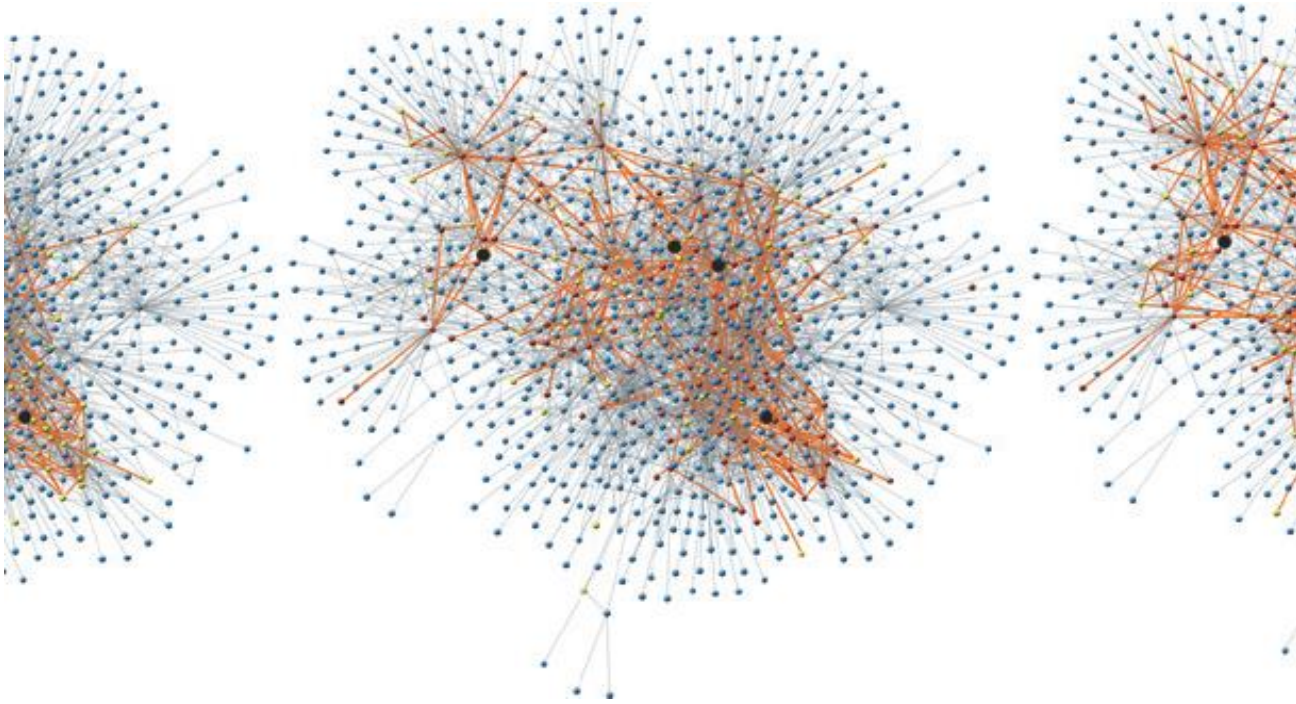
Review of Components

- As implied by the video, a "network" can be a simple as a dyad, e.g., two partners, or much more complex and encompass multitudes of individuals. Four key elements are
  - Nodes (people)
  - Connections (between people)
  - Dynamic behavior as ties form and break
  - Formation and operation with our without constraints (geography, socioeconomics, culture, etc.)

The Key Principles

- Networks typically exhibit **homophily** ("birds of a feather flocking together")

- Networks can facilitate **influence** (and potentially have "viral" properties—more about that in another lecture ☺)

- What does the research say?
    - Classic studies on connectivity, degrees, and influence
    - Wharton study I (online shopping)
    - Wharton study II (physicians)
    - UCLA study (online networks)
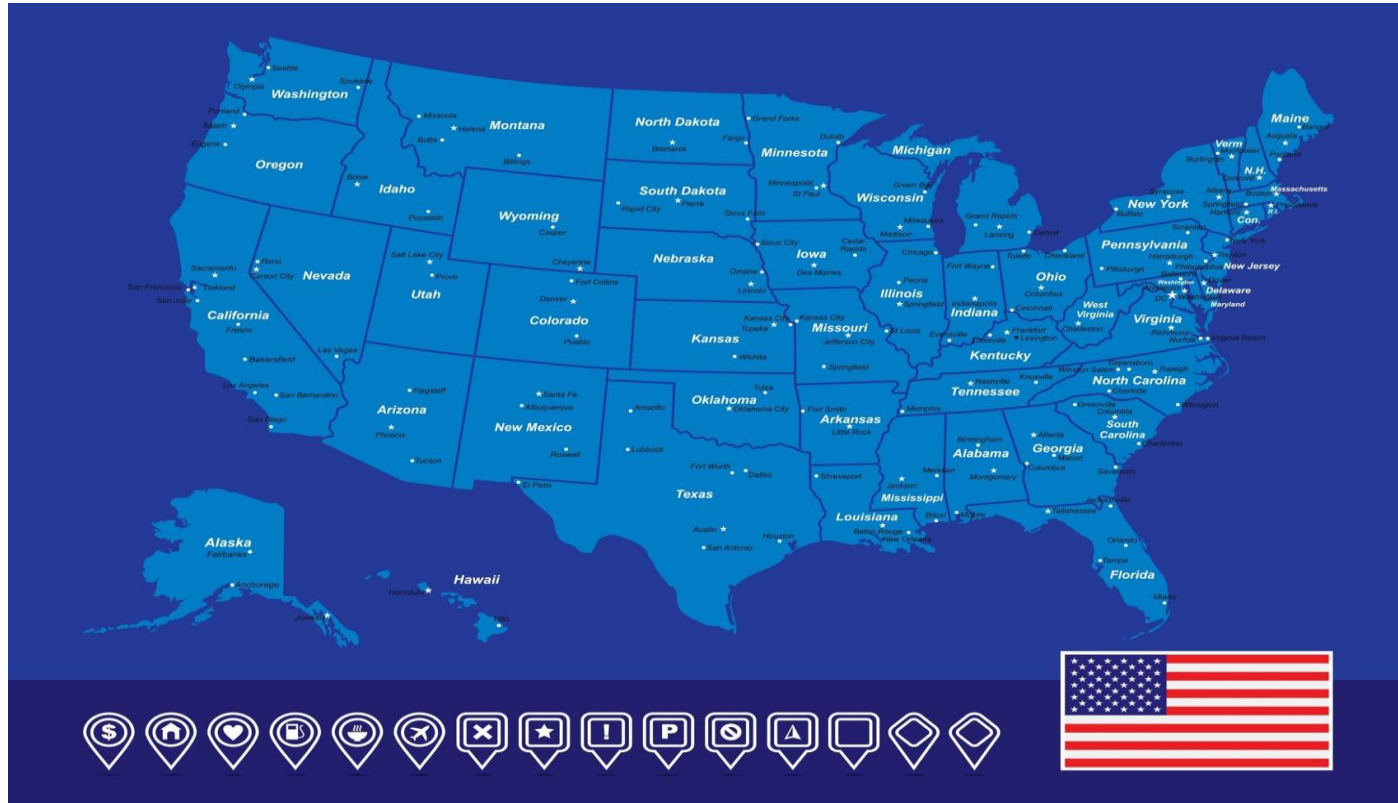
Connectivity

Influence

- Key facts:
  - 1 person looks up then 4% of bystanders do
  - 15 people look up then 40% of bystanders do!
  - A form of "social proof" or social observation
  - Six degrees, three steps, and weak ties

Connectivity and Influence: Online Shopping

Connectivity and Influence: Physicians

Review of Learning Points

- We should expect homophily to exist (and there might also be ways to leverage it—we will discuss this in another lecture ☺)

- Self reported opinion leaders adopt sooner, but they are not necessarily more influential
  - We need to develop measures of "influence" and connectivity
  - We need to recognize that influence can vary enormously within and across networks

- Sometimes we want to distinguish the separate effects of homophily and influence

Connectivity and Influence: Online Networks

Study Features

- Online social network defining influence as follows:
  - A member is "influential" if when she increases her activity on the SNS then **connected others** do as well
  - A member is "non-influential" if changes in her usage behavior are not associated with any change in the behavior of connected others

Study Findings

- Enormous variation in the absolute levels of influence occurring in **networks of the same size**

- Simple metrics, e.g., friend counts are no good

- **Extreme** users are critical to value

- The **average user** doesn't really influence anyone and, in turn, is not influenced by anyone either
  - We are influenced by about 20% of our friends
  - About a third of us are "mavericks" and not influenced by anyone
  - Individual characteristics matter

Individual Characteristics

EXPLAINING VARIATION IN THE POSTERIOR MEAN VALUES
FOR γ_{uf}: THE PROBABILITY OF BEING INFLUENTIAL IN A DYAD

Covariate	Coefficient[a]	t-Statistic
Gender combination (female friend/male user)	.26	4.72
Months user has been a member	.36	18.02
Friend is of the same ethnicity as user	.25	6.34
User is looking for a date	−.66	−15.82
Friend is older than user	−.08	−2.04
R^2		11%

[a]Left-hand side: $\log[\hat{\gamma}_{uf}/(1 - \hat{\gamma}_{uf})]$.

Exercise