



# Market Segmentation, Social Media and Viral Marketing Marketing Segmentation Steps

Professor Raghu Iyengar

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# S: Segmentation



A basic belief in Marketing is to deliver the <u>right products</u>, to the <u>right people</u>, in the right way.

S: Segmentation

T: Targeting

A basic belief in Marketing is to deliver the <u>right products</u>, to the <u>right people</u>, in the <u>right way</u>.

S: Segmentation P: Positioning

T: Targeting

"Market segmentation is the subdividing of a market into distinct subsets, where any subset may conceivably be selected as a marketing target to be reached within a distinct marketing mix."

**Whart**on

- PHIL KOTLER

### Implementing Segmentation Steps

#### **Market Segmentation**

- 1. Identify bases for segmenting the market
- 2. Develop profiles or segments
- 3. Relate to descriptors for reachability

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- 5. Select the target segments

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#### **Product Positioning**

- 6. Develop product positioning for each target segment
- 7. Develop marketing mix for each target segment





# Market Segmentation, Social Media and Viral Marketing Segmentation Variables

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### Major Segmentation Variables

- Demographics
- Geography
- Purchasing Approaches
- Personal Characteristics (Psychographics)

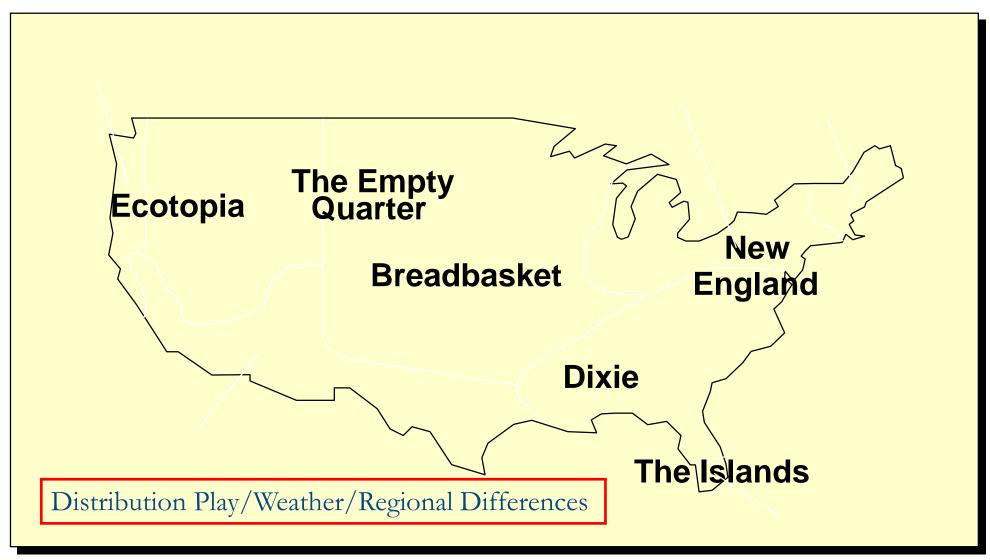
# **Demographic Segmentation**

Favorite E-Commerce Categories by Gender							
Men		Women					
Category	Percent	Category	Percent				
Computers	76%	Books	64%				
CDs	60%	CDs	60%				
Books	59%	Computers	57%				
Small consumer electronics	44%	Health & Beauty	42%				
Videos	38%	Toys	41%				
Air Travel	34%	Women's Clothing	39%				
Magazines	31%	Children's clothing	31%				
Men's clothing	29%	Videos	28%				
Toys	29%	Magazines	27%				
Hotel reservations	26%	Small consumer electronics	26%				
Women's clothing	21%	Air travel	24%				
Health & beauty	19%	Flowers	21%				
Sporting goods	19%	Men's clothing	20%				
Source: Ernst & Young							

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# Geography



• Online

- Online
- Brick and Mortar

- Online
- Brick and Mortar
- Mail

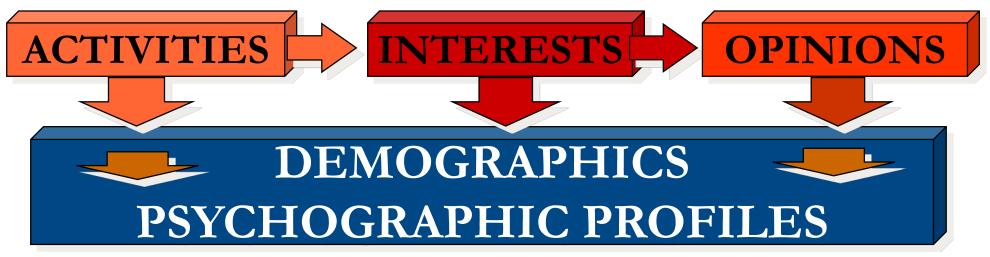


- Online
- Brick and Mortar
- Mail
- Phone



# **Psychographics**

Definition: the use of psychological, sociological, and anthropological factors combined with demographic information to identify market segments with a propensity to favor some product groups or characteristics over another due to the unique combination of these factors.



This is the basis for segmentation that conceptually marketers agree upon.

#### Taxonomy at the Pump: Mobil's Five Types of Gasoline Buyers









Road Warriors: GenerallyTrue Blues: Usually higher income middle-agedmen and women with men who drive 25,000 to moderate to high 50,000 miles a year...buy incomes who are loyal premium with a credit card...purchase sandwiches and drinks from the convenience store...will sometimes wash their cars at the carwash.

to a brand and sometimes to a particular station..frequently buy premium gasoline and pay in cash

Generation F3: (for fuel, Homebodies: Usually food and fast): Upwardly housewives who shuttle mobile men and women - their children around half under 25 years of during the day and use age-who are constantly on whatever gasoline the go...drive a lot and station is based in town snack heavily from the or along their route of convenience store travel.



**Price Shoppers:** 

Generally aren't loyal to either a brand or a particular station, and rarely buy the premium line...frequently on tight budgets...efforts to woo them have been the base of marketing strategies for years.

#### 16% of buyers

16% of buyers

27% of buyers

21% of buyers



Source: WSJ, Jan. 30, 1995



	Road Warrior	Pragmatic Business Traveler	Reluctant Business Traveler	DIY Leisure Opportunist	Just For Fun Leisure Traveler	Price Driven Occasionalist
Business vs. Personal	Very heavy business traveler	Moderately high business traveler	Moderate business traveler	Frequent pleasure	Frequent pleasure	Occasional pleasure
Travel Affinity	Travel so much on business, appetite for leisure not as strong as others	Serves its purpose—Enjoy it somewhat, not bothered by it	Would rather avoid it if possible	Enjoy it, especially if they find a good deal	Pleasure travel enthusiast	Enjoy it, but sometimes nervous
FF Program	Huge influencer— mostly for recognition/sta tus	Important— more for miles than status	Don't care at all	Miles, rewards, bonuses are very important	Miles are somewhat important	Barely aware
Price Sensitivity	Least Price sensitive	Corporate driven—fairly price sensitive	Corporate crackdown	Actively shop for best fares— likely to use efares, discount websites	Price sensitive, but sometimes more driven by desire to travel	Very price sensitive
Service Demands	Expect better service due to higher status	Not very demanding	Don't expect it	Service important, but good deal is more critical	Service is important, but might be cost- constrained	Prefer low cost/no frills
International Travel	High amount of Int'l Business travel	Some int'l business	Virtually none	Occasional int'l pleasure	Some int'l pleasure	Virtually none

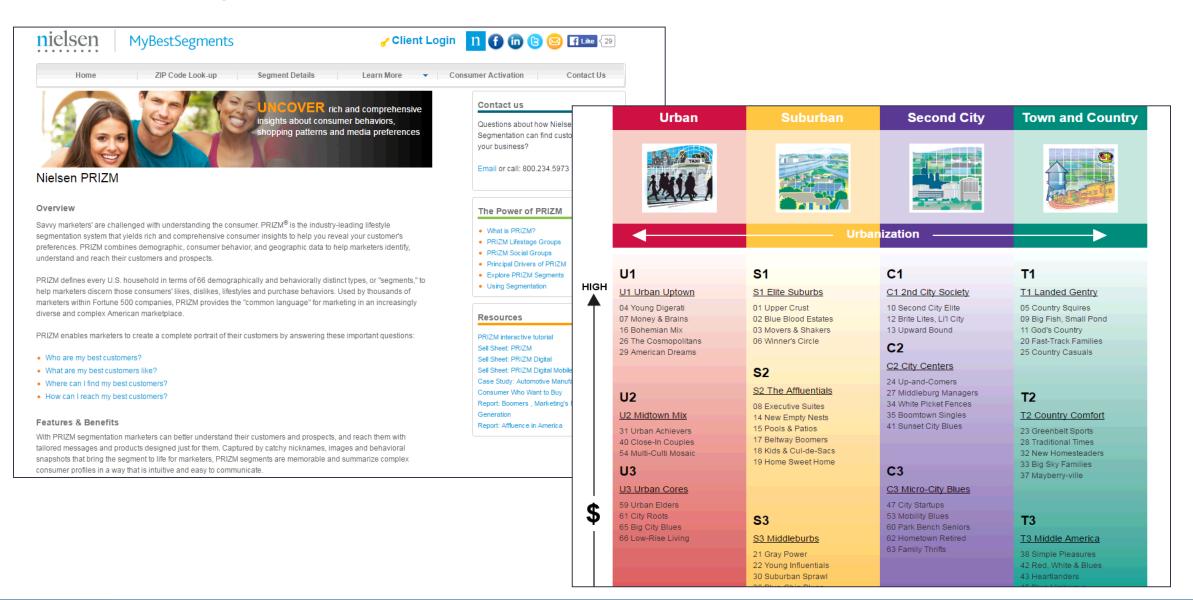


### **PRIZM Segmentation**



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#### **PRIZM Segmentation**



#### 

### **Product Line Segmentation**



Age, aspirations



# How to Select Segments to Target

#### **Market Attraction**

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#### **Competitive Environment**

- Develop product positioning for each target segment
- Develop marketing mix for each target segment





# Market Segmentation, Social Media and Viral Marketing Segmentation and Conjoint Analysis

Professor Raghu Iyengar

### How do I Actually Segment the Market? Intro to Cluster Analysis

• Cluster analysis seeks to group objects such that segments are created that are as homogenous as possible given the variables

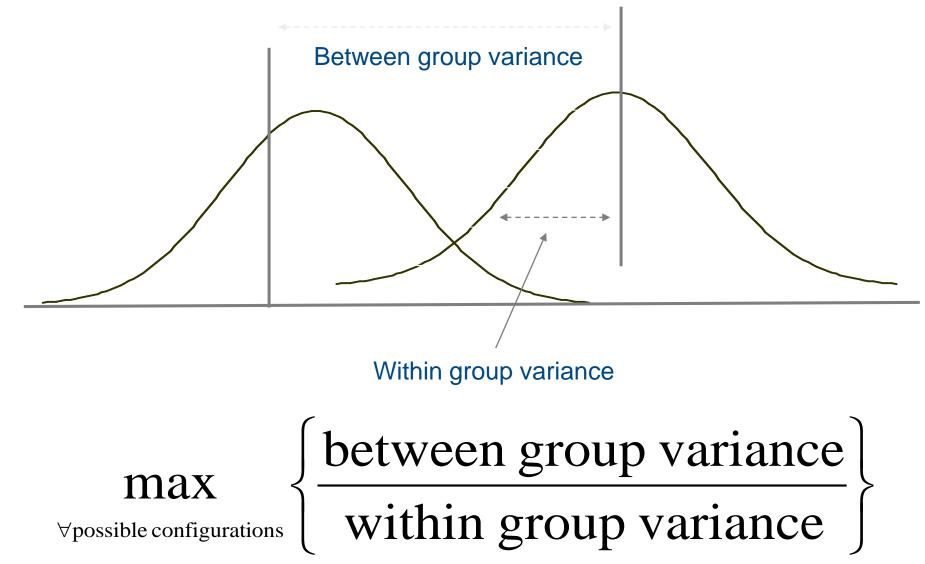
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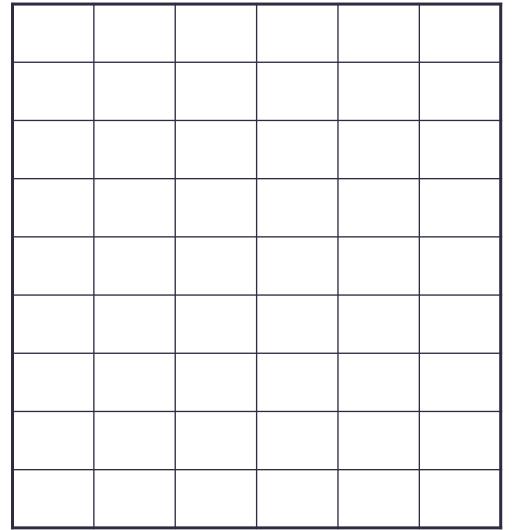
- Cluster analysis seeks to group objects such that segments are created that are as homogenous as possible given the variables
- Cluster analysis works on the principle of maximizing the between-cluster variance while minimizing the within cluster variance
- Every object is allocated to one cluster





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#### Which variables?

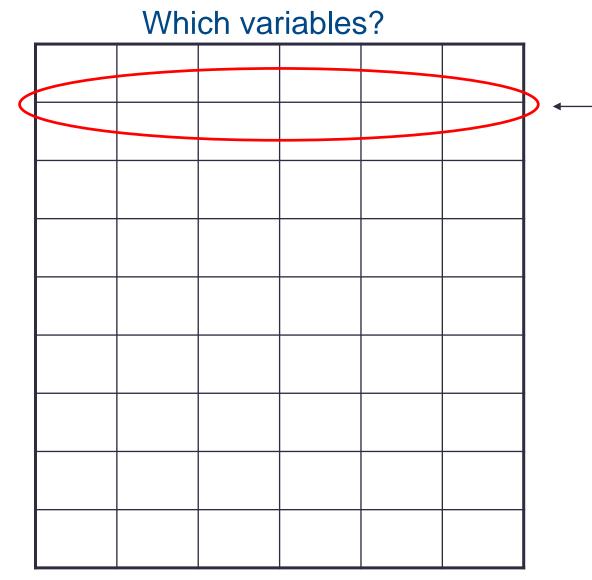


**Objects** 

Which variables?

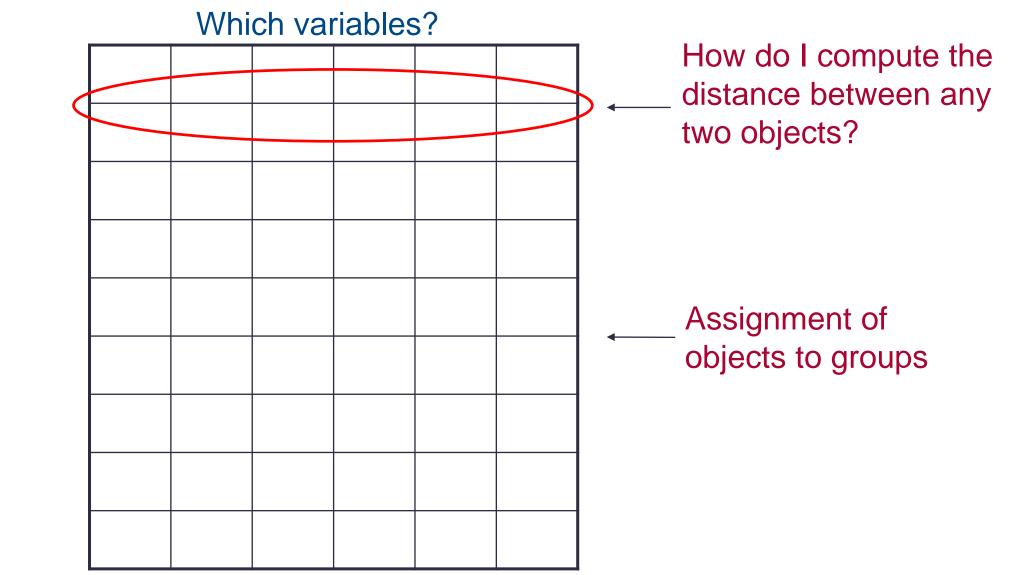
**Objects** 

#### 



How do I compute the distance between any two objects?





Objects

# K-Means Clustering

• K-means clustering is the most commonly used clustering technique.

# K-Means Clustering

- K-means clustering is the most commonly used clustering technique.
- It is an iterative technique that seeks to allocate each observation to the cluster that is located closest to it.

# How Many Clusters?

Managers typically decide based on intended action:

• How many clusters are feasible to target?



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# How Many Clusters?

Managers typically decide based on intended action:

- How many clusters are feasible to target?
- Are each of the clusters of sufficient size to be considered a market segment?
- Is there sufficient differentiation between the segments?





# Market Segmentation, Social Media and Viral Marketing Example - Laptops

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Recall example from conjoint analysis

• Laptop survey with 20 respondents



Recall example from conjoint analysis

- Laptop survey with 20 respondents
- Each respondents may value different aspects of the laptop



Recall example from conjoint analysis

- Laptop survey with 20 respondents
- Each respondents may value different aspects of the laptop
- One can assess the relative importance of each attribute for each person

# % Relative Importance

Customer	Brand	Memory	Hard Drive	Speed	Price
1	17	16	11	26	30
2	30	17	13	28	11
3	8	24	22	17	29
4	24	26	6	28	15
5	15	33	10	24	18
6	9	38	7	30	15
7	16	25	6	34	18
8	9	37	8	24	22
9	25	30	4	28	13
10	11	23	16	32	18
11	21	24	12	29	14
12	24	20	19	23	14
13	16	27	6	35	16
14	10	26	28	24	13
15	14	34	7	29	16
16	15	35	11	24	16
17	20	27	16	24	13
18	4	23	31	23	20
19	16	26	9	31	18
20	19	30	16	21	16

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- Input to k-Means segmentation
  - All 5 attributes

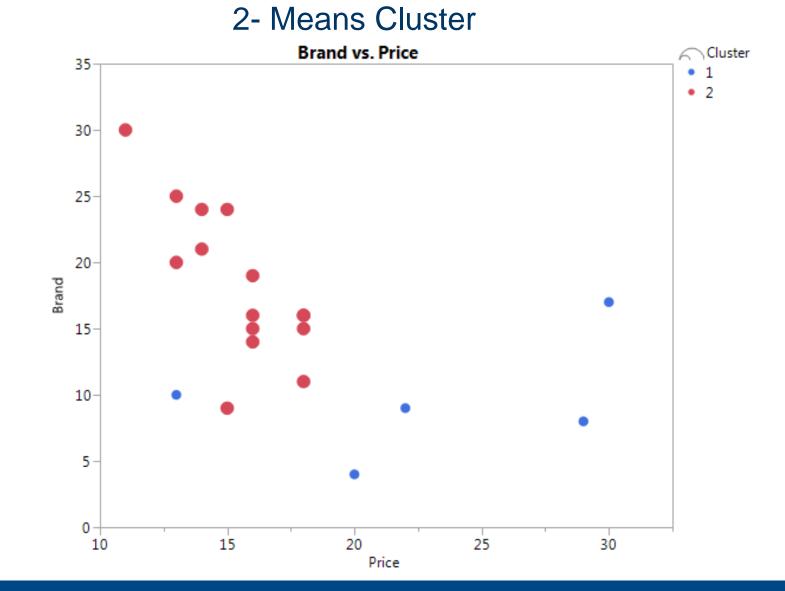


- Input to k-Means segmentation
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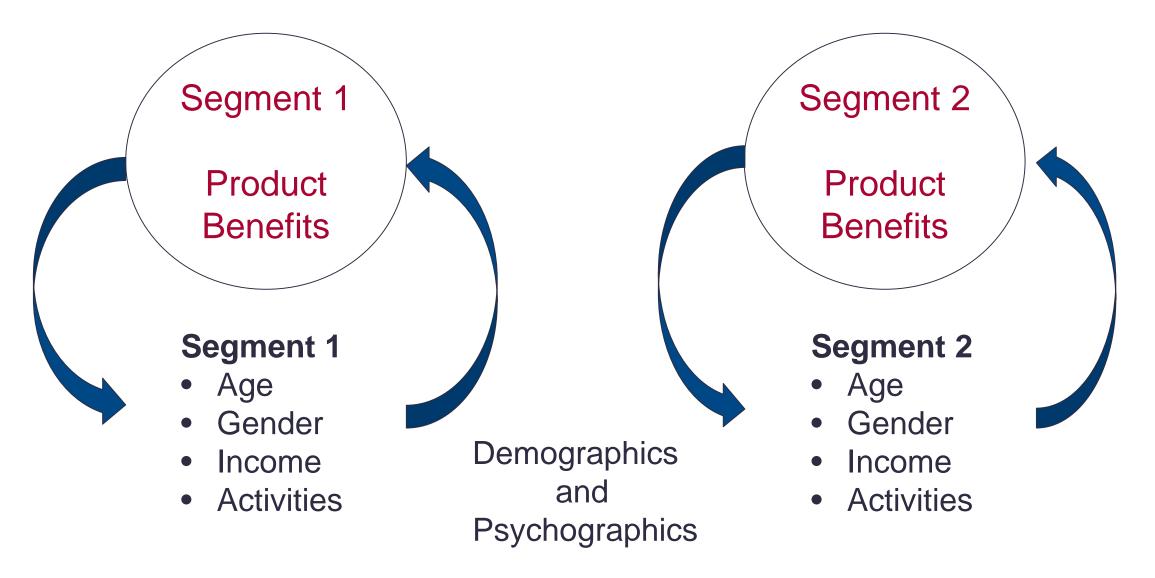
- Input to k-Means segmentation
  - All 5 attributes
- Output Number of segments
- Managerial intuition: These are customers that make similar tradeoffs

# **Conjoint Analysis Partworths**



#### 

# **Segmentation - Profiling**



# Conclusions

- Segmentation is an important tool.
- It is essential for proper targeting and positioning.
- There is a statistical technique, cluster analysis, that can aid with segmentation.
- More importantly, though, as managers we have to think carefully about how many segments my organization can handle.





# Market Segmentation, Social Media and Viral Marketing Social Media and Data

Professor Raghu Iyengar

• Product reviews – Yelp, TripAdvisor, Rotten Tomato

- Product reviews Yelp, TripAdvisor, Rotten Tomato
- Blogs

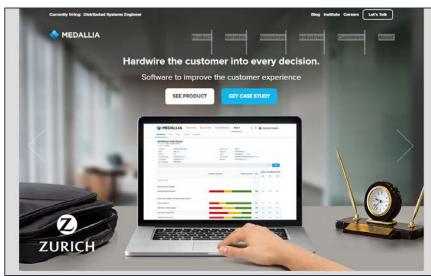
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- Social Media Facebook, Twitter

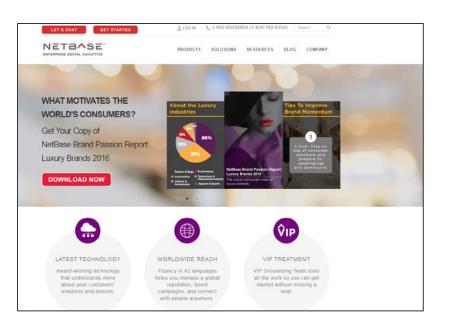
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- Big picture is unstructured

#### **Customer Experience Management**







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# Market Segmentation, Social Media and Viral Marketing Social Media Example 1: Forecasting Movie Demand and Online Sentiments

Professor Raghu Iyengar

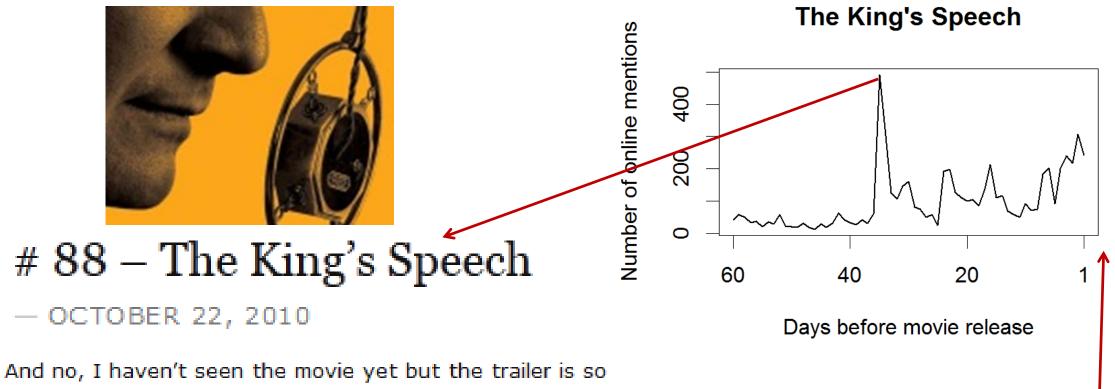
# **Example 1: Forecasting Movie Demand**

• What is the content of pre-release buzz

### **Example 1: Forecasting Movie Demand**

- What is the content of pre-release buzz
- Can pre-release buzz be used to predict movie performance?

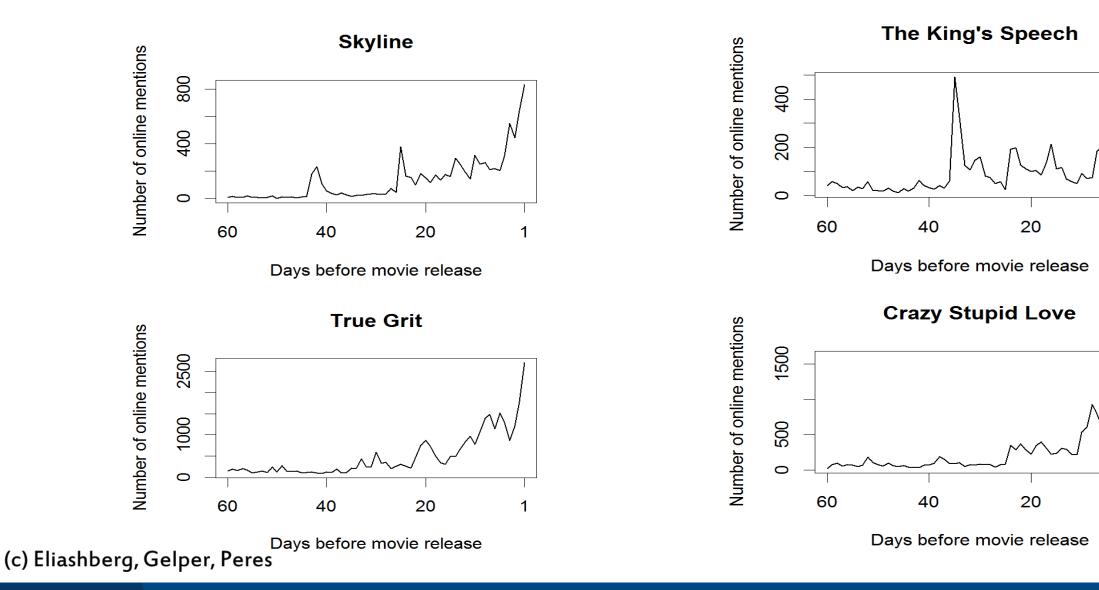
### **Spikes in Pre-release WOM**



promising and I don't think Colin can do wrong. I can't remember seeing him in a bad movie and lately he seems to get amazing roles. So I for an example can't wait to see this one - I love myself some Colin as a king!

Release date: November 26, 2010

### **Spikes in Pre-release WOM**



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### Outline

• How to identify a spike?

### Outline

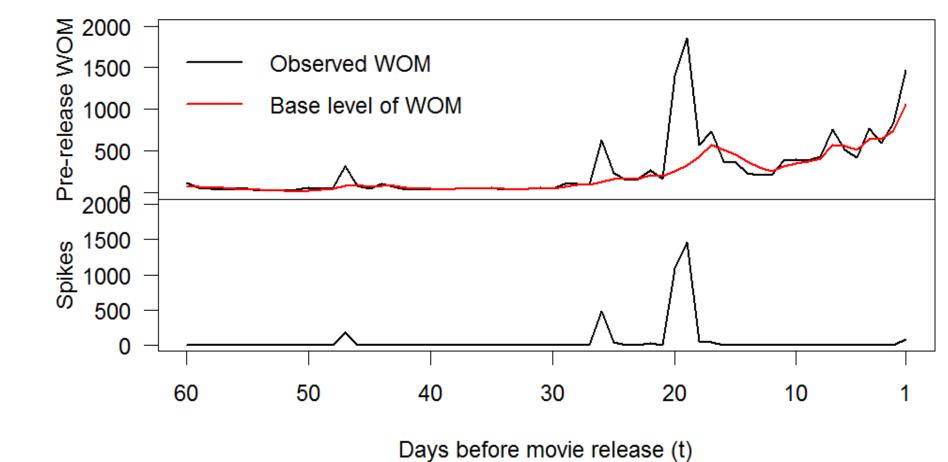
- How to identify a spike?
- **Content Analysis** of spikes vs non spike WOM.

### Outline

- How to identify a spike?
- **Content Analysis** of spikes vs non spike WOM.
- Box office prediction based on pre-release spikes

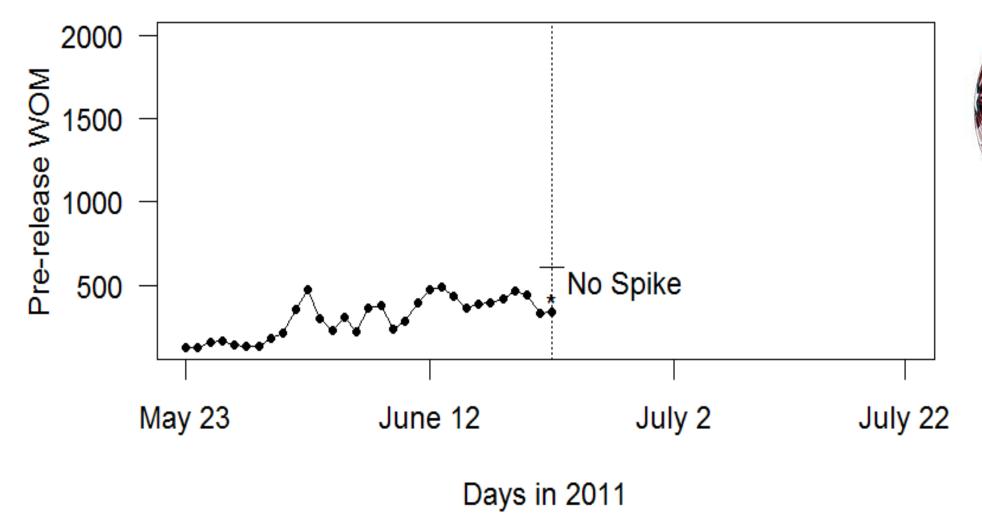
### **Spikey WOM**

#### Rango



(c) Eliashberg, Gelper, Peres

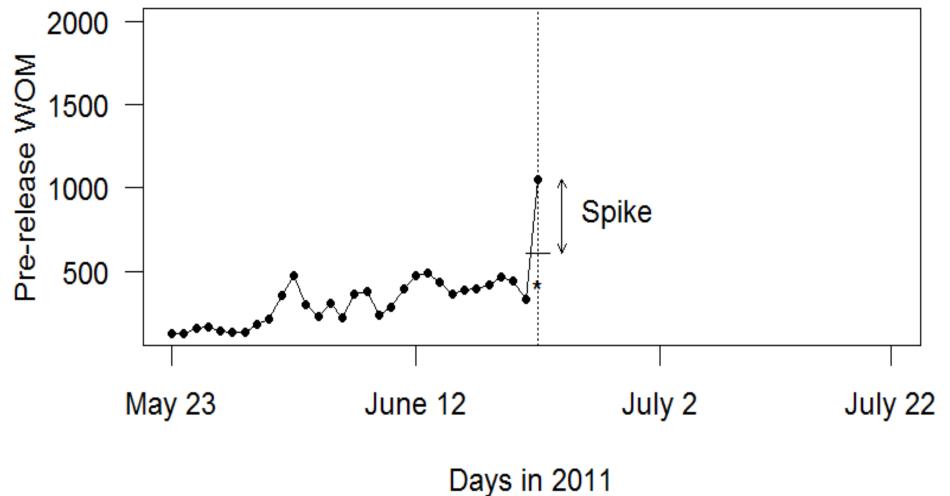
## **Identifying Spikes**







# **Identifying Spikes**





### **Content Analysis of Spikes**



- Omg I want to see Judy moody and the not so bummer summer! #dontjudgeme
- Your Invited to a Pajama Party with Judy Moody!
- Can't wait for Judy Moody! yay! :DDD My friend and I love you, Camryn! :)
- Cant wait to go see Judy Moody on The 10th(: My little cousins r soo excited lol((:
- Is it weird i wanna go see judy moody lol that name is so funny to me #random
- Our site GiantHello is featured in the new Judy Moody Movie!!!! Ya gotta check it out!

Data: 19,939 spike posts AND 12,727 non-spike posts (blogs, user- forums, Twitter)

# Method: NLP

### **Content Analysis Aspects**

• **Topics** – actor, director, storyline, another movie, the genre, a trailer, reviews, and movie listing



#### **Content Analysis Aspects**

- **Topics** actor, director, storyline, another movie, the genre, a trailer, reviews, and movie listing
- Sentiment positive, negative, neutral



#### **Content Analysis: Findings**

• Spikes span more topics than non-spiky w-o-m.



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#### **Content Analysis: Findings**

- Spikes span more topics than non-spiky w-o-m.
- They tend to be more positive than non-spiky w-o-m.
- Spikes in which people talk mainly about press events tend to decay faster.



#### As Release Approaches...

• More spikes occur



#### As Release Approaches...

- More spikes occur
- More spike messages deal with the storyline

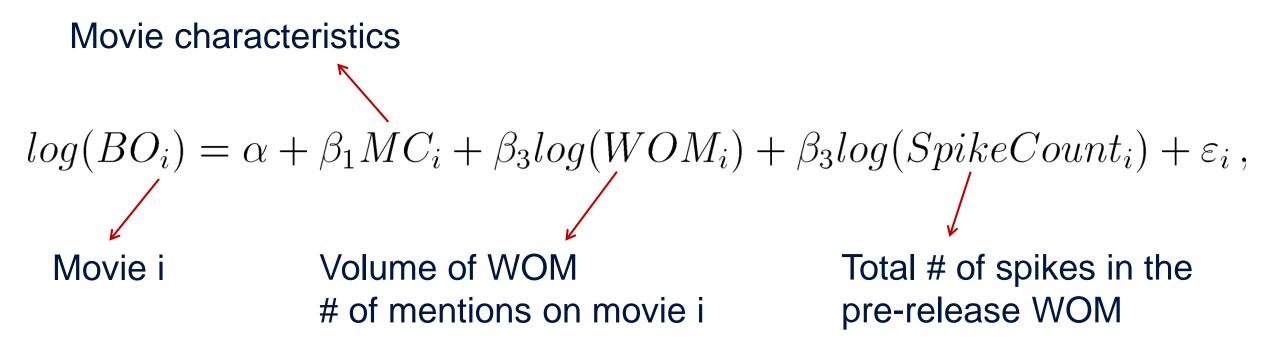


#### As Release Approaches...

- More spikes occur
- More spike messages deal with the storyline
- More spike messages are opinionated



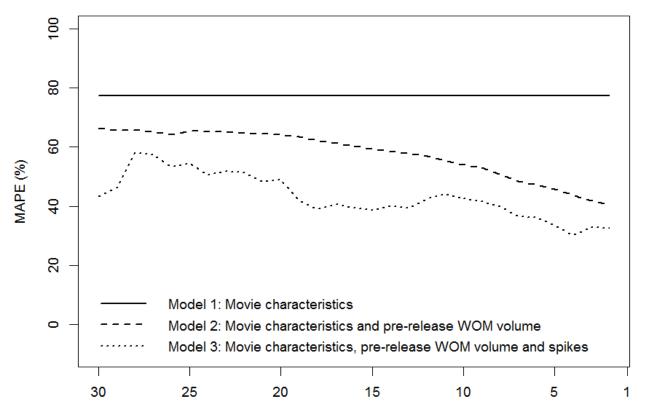
#### **Regression: Box-Office with Spikes**





#### **The Predictive Power of Spikes**

• Estimate on 79 movies and predict BO revenues of other movies for 1-30 days before their release



(c) Eliashberg, Gelper, Peres

Number of days before movie release





# Market Segmentation, Social Media and Viral Marketing Social Media Example 2: Automobiles and Blogs

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### **Example 2: Blogs**

• Enormous information about consumer sentiments

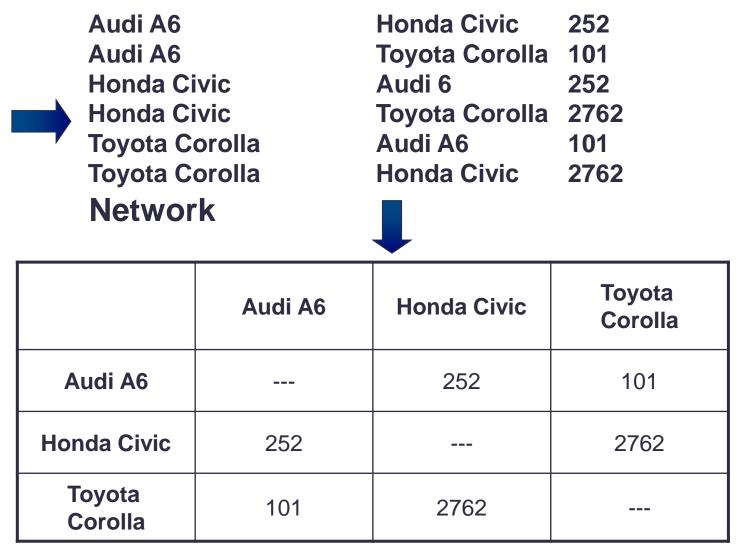
## **Example 2: Blogs**

- Enormous information about consumer sentiments
- Also give much information about which brands are mentioned together

#### **Creating Perceptual Maps**

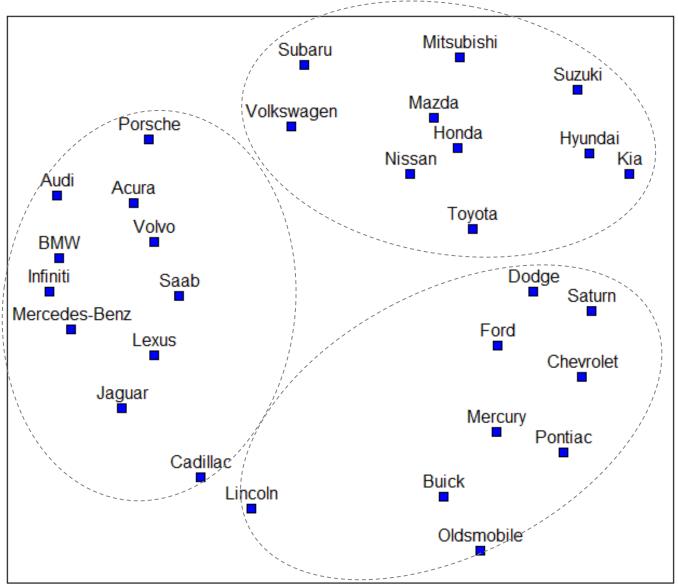
Message #1199 Civic vs. Corolla by mcmanus Jul 21, 2007 (4:05 pm) Yes DrFill, the Honda car model is sporty, reliable, and economical vs the Corolla that is just reliable and economical. Ironically its Toyota that is supplying 1.8L turbo ... Neon to his 16 year old brother. I drove it about 130 miles today. Boy does that put all this Civic vs. Corolla back in perspective! The Neon is very crudely designed and built, with no low ...





Source: Netzer, et al. 2012, Marketing Science

#### **Perceptual Maps of Brands**



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Marketing Analytics

#### **Empirical Lessons**

• Enormous information about consumer sentiments

## **Empirical Lessons**

- Enormous information about consumer sentiments
- Unstructured



#### **Empirical Lessons**

- Enormous information about consumer sentiments
- Unstructured
- Careful thought must be undertaken how to use such data to derive quantitative measures from such data





# Market Segmentation, Social Media, and Viral Marketing Viral Marketing: Assumptions and Social Networks

Professor Raghu Iyengar

#### **Viral Marketing**

• Two Assumptions

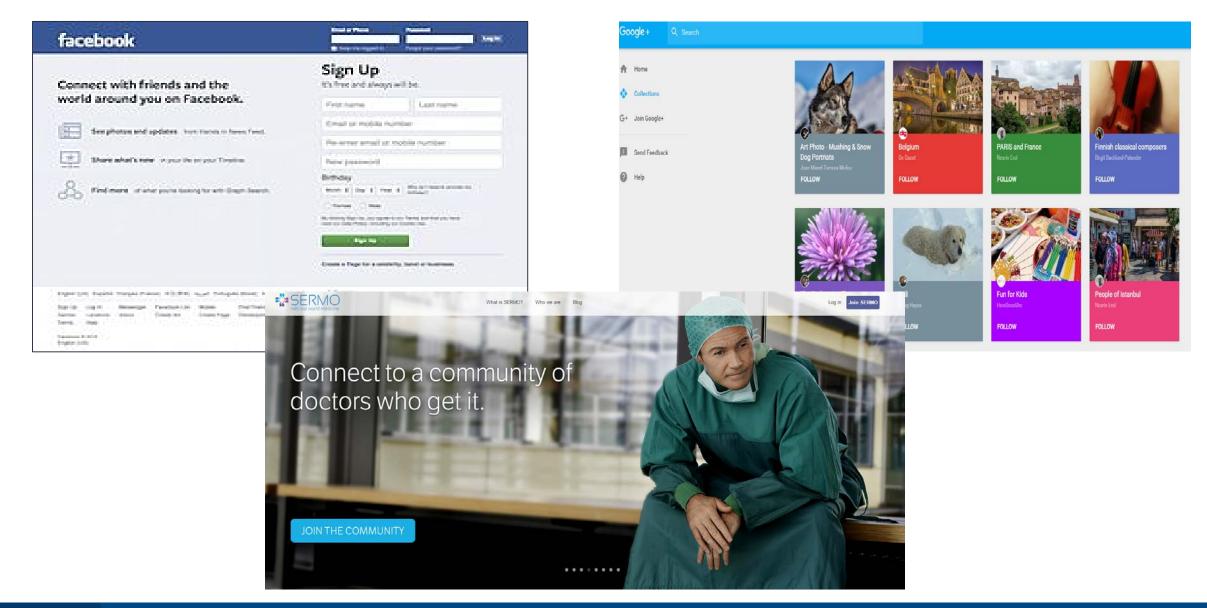
#### **Viral Marketing**

- Two Assumptions
  - Customers influence each other (contagion is at work)

#### **Viral Marketing**

- Two Assumptions
  - Customers influence each other (contagion is at work)
  - There are key opinion leaders and firms are able to identify

#### **Social Networks**



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• What firms want to know



- What firms want to know
  - Who are the opinion leaders?

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  - Is there value in knowing the network structure?

- What firms want to know
  - Who are the opinion leaders?
  - Is there value in knowing the network structure?
  - Is there actually social influence among customers?

• Setting and objectives

- Setting and objectives
- Data



- Setting and objectives
- Data
- Findings



- Setting and objectives
- Data
- Findings
- What did the firm learn it did not already know?





# Market Segmentation, Social Media, and Viral Marketing Viral Marketing: Pharmaceutical Example- Collecting Data

Professor Raghu Iyengar

#### **Setting and Objectives**

- Setting
  - Pharmaceutical industry
  - New prescription drug
  - Quite different than current two drugs in therapeutic class
  - Prevalence related to ethnicity

#### **Setting and Objectives**

- Setting
  - Pharmaceutical industry
  - New prescription drug
  - Quite different than current two drugs in therapeutic class
  - Prevalence related to ethnicity
- What the firm wanted to know
  - Is there actually contagion?
  - Who are the opinion leaders?
  - Is there value in knowing the network structure?

#### How to Identify Influentials

**Traditional Methods** 

Segmentation; Existing Relationships



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> **Formal Leadership** Academic Appointments Prof. Society Leaders



#### How to Identify Influentials

**Traditional Methods** 

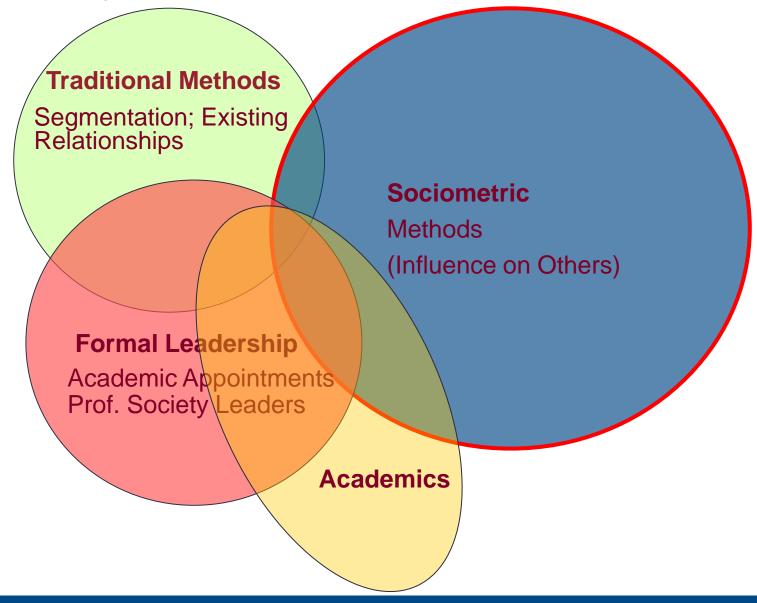
Segmentation; Existing Relationships

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> > **Academics**



#### How to Identify Influentials



- Physicians
  - In three cities with sizable Asian population
  - Who prescribed in therapeutic class

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- Sociometric Survey
  - "List colleagues with whom you feel comfortable discussing the clinical management and treatment of disease XXX"

**Discussion Network among Doctors** 

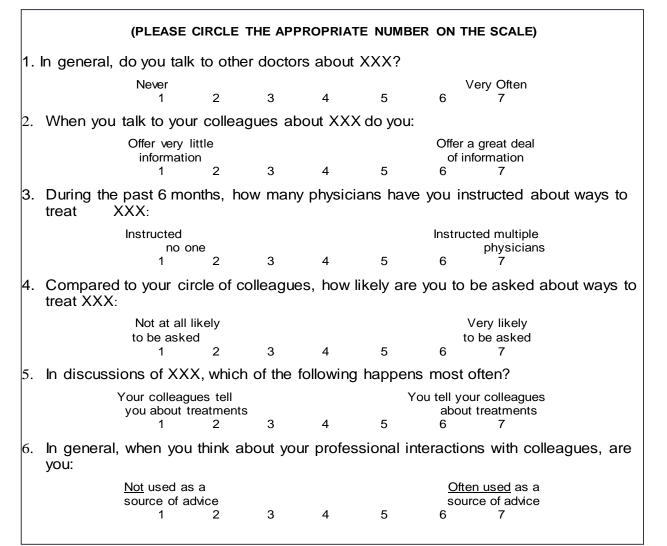
- Sociometric Survey
  - "List colleagues with whom you feel comfortable discussing the clinical management and treatment of disease XXX"

**Discussion Network among Doctors** 

• "To whom do you typically refer patients with disease XXX?"

**Referral Network among Doctors** 

#### Opinion Leadership Scale (self-reported)



- Huge Amount of Data
  - A typical problem is thinking about a framework of putting it together

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  - A driving force should be careful thought about what questions are relevant for which stakeholders

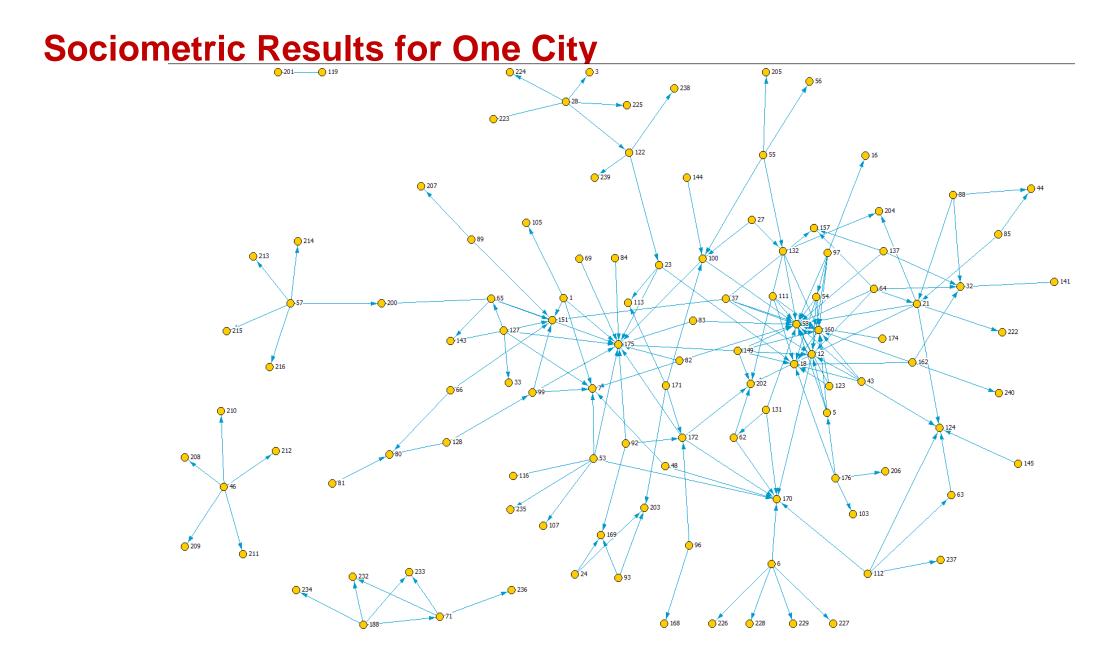
- Huge Amount of Data
  - A typical problem is thinking about a framework of putting it together
  - A driving force should be careful thought about what questions are relevant for which stakeholders
  - Considering the questions can help in understanding what "data cut" will be necessary





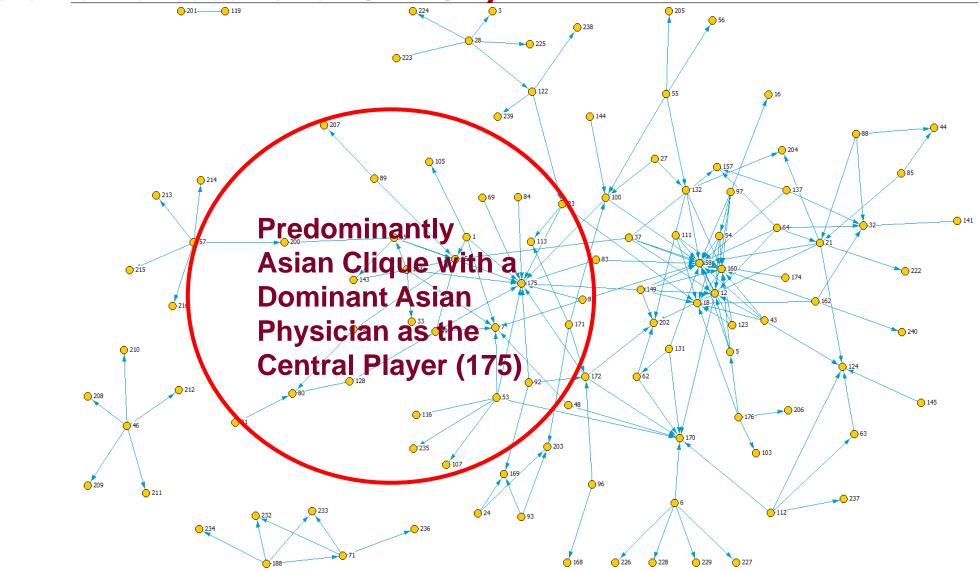
# Market Segmentation, Social Media, and Viral Marketing Viral Marketing: Pharmaceutical Example - Results

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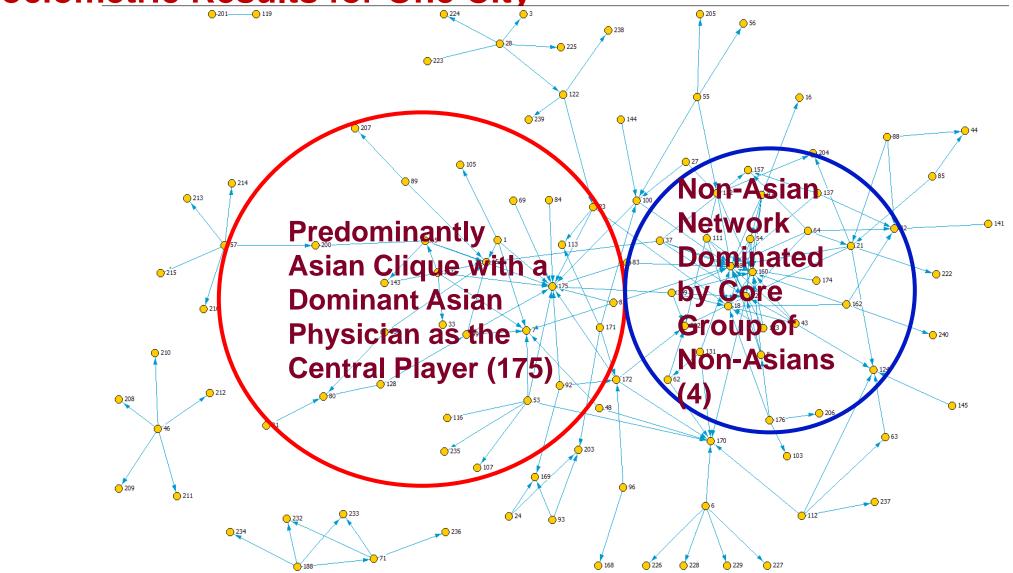














# Value in Knowing Network Structure?

- Unexpected leaders
  - Not all opinion leaders stand on a soap box

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# Value in Knowing Network Structure?

- Unexpected leaders
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- Inefficient overlap in contacts
  - Especially among top leaders known to company
- Insufficient coverage by top leaders
  - Esp. salient in this case since division along ethnic lines

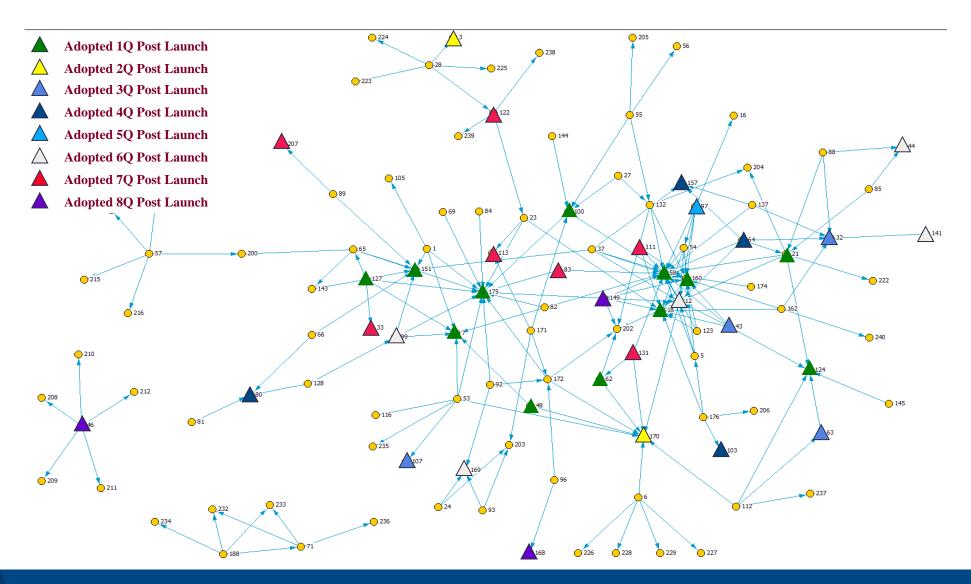




# Market Segmentation, Social Media, and Viral Marketing Viral Marketing: Pharmaceutical Example - Diffusion

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# **New Drug Diffusion Through Network**



- Drug adoption pattern could be due to:
  - Sales force

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  - Overall diffusion in the city (everyone becomes more aware)

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  - Physician demographics

- Drug adoption pattern could be due to:
  - Sales force
  - Overall diffusion in the city (everyone becomes more aware)
  - Physician demographics
  - Other market level changes

# **Regression Model**

- Dependent Variable
  - Whether a physician adopted the drug or not

# **Regression Model**

- Dependent Variable
  - Whether a physician adopted the drug or not
- Independent Variables
  - Marketing activity
  - Time Trends
  - Demographics
  - Social Pressure captured via social networks









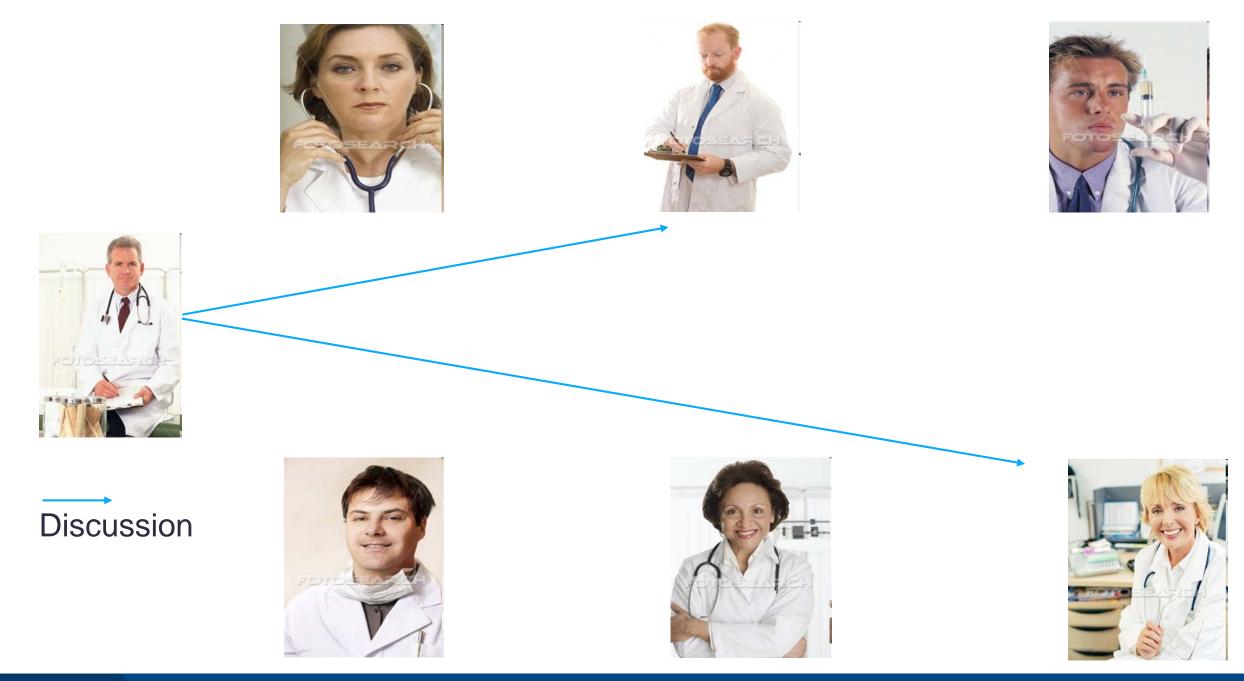


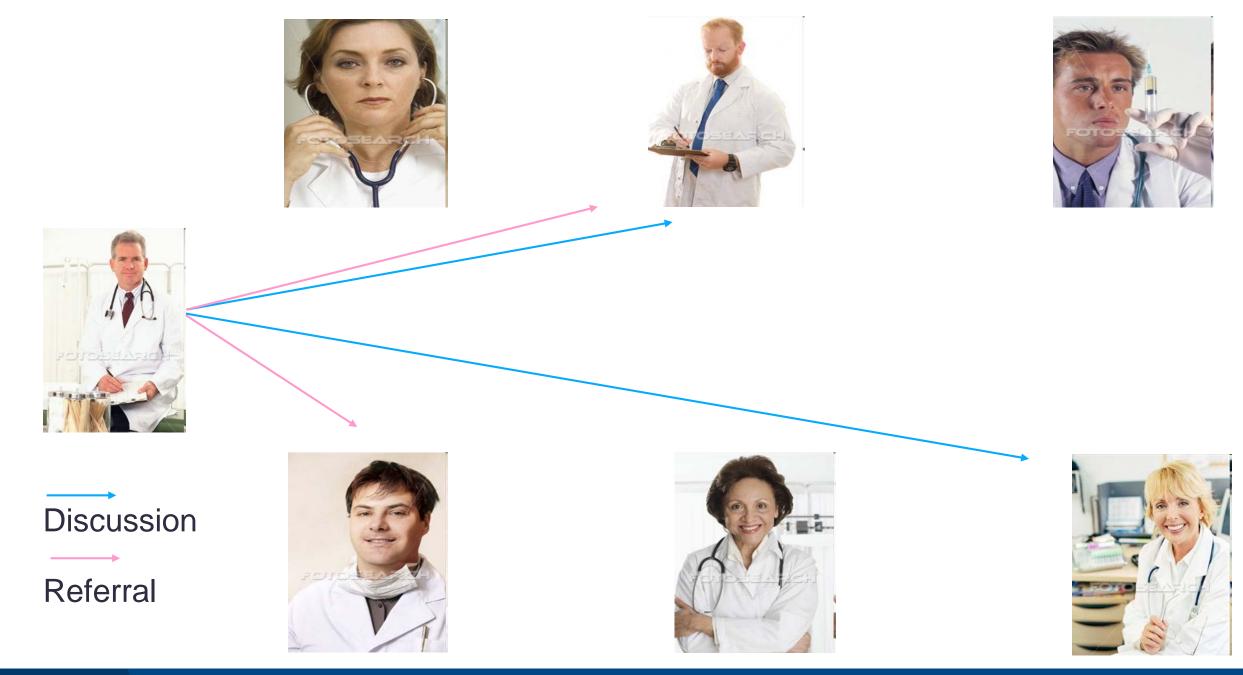


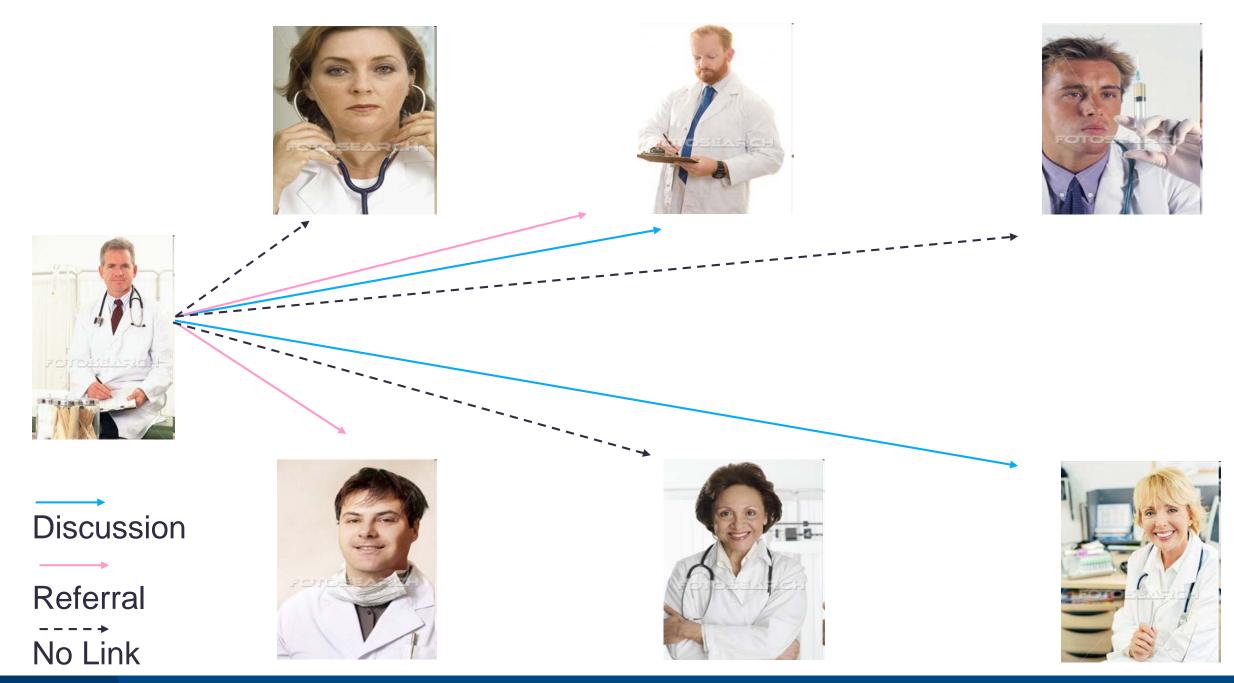




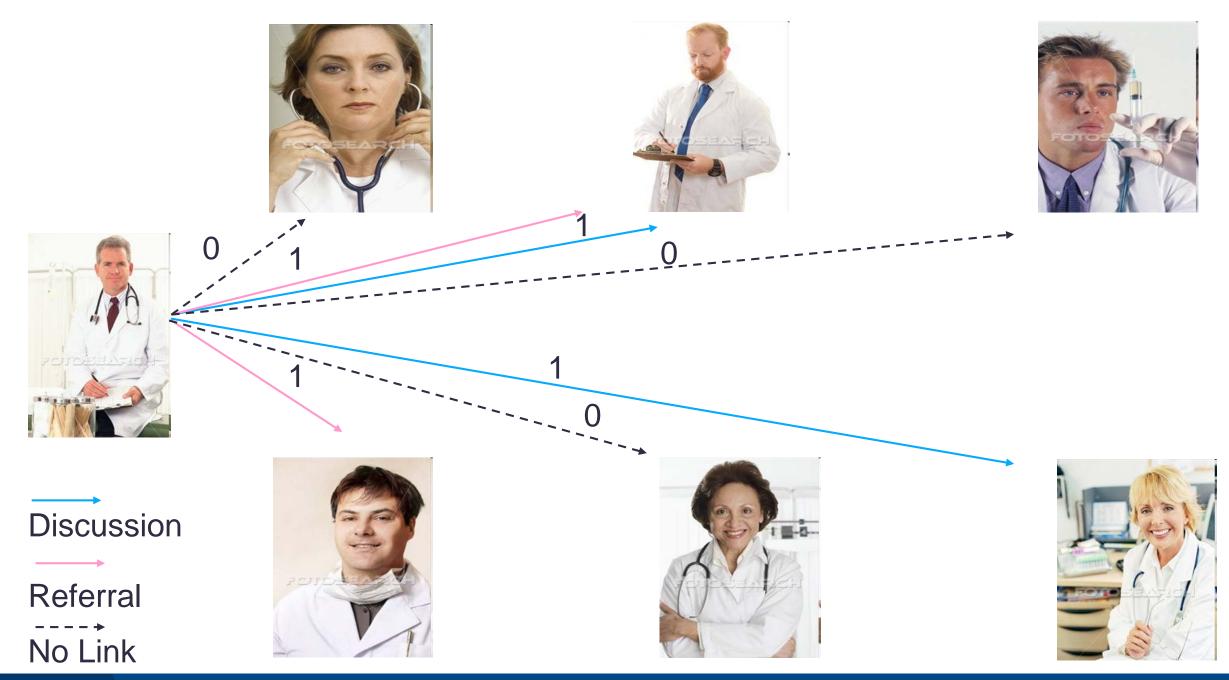








Marketing Analytics



# **Is There Actually Contagion?**

- Yes, even after controlling for
  - Sales force
  - Physician demographics
  - Month effects (to account for market level changes)

# **Is There Actually Contagion?**

- Yes, even after controlling for
  - Sales force
  - Physician demographics
  - Month effects (to account for market level changes)
- Big implications for whether firms should a strategy that emphasizes Word of Mouth marketing





# Market Segmentation, Social Media, and Viral Marketing Viral Marketing: Pharmaceutical Example – Customer Heterogeneity

Professor Raghu Iyengar

#### **Customer Heterogeneity**

Physicians with high network centrality look towards others for information

"True" leaders are happy to take information from others when they find it necessary

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Self-reported opinion leaders are less susceptible to social influence

Physicians who thought of themselves as leaders were less likely to reach out to others



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- You cannot take social influence for granted
  - Every situation should be carefully looked at
- It can be difficult to identify the true opinion leaders a priori without actually measuring network(s)
- But the costs of doing so can be prohibitive, unless you
  - Use archival data, or
  - Have a very high margin product





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