Market Segmentation, Social Media and Viral Marketing

Marketing Segmentation Steps

Professor Raghu Iyengar
The Most Fundamental Marketing Concept: STP

A basic belief in Marketing is to deliver the right products, to the right people, in the right way.

If that is done successfully, one will be able to attract a greater price premium and one will be able to retain customer better.
The Most Fundamental Marketing Concept: STP

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↑

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S: Segmentation  
T: Targeting

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<table>
<thead>
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<tbody>
<tr>
<td><strong>S:</strong> Segmentation</td>
<td><strong>P:</strong> Positioning</td>
</tr>
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If that is done successfully, one will be able to attract a greater price premium and one will be able to retain customer better.
“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.”

— 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
Implementing Segmentation Steps

**Market Segmentation**
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**Target Marketing**
4. Develop measures of segment attractiveness
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

Professor Raghu Iyengar
Major Segmentation Variables

- Demographics
- Geography
- Purchasing Approaches
- Personal Characteristics (Psychographics)
## Favorite E-Commerce Categories by Gender

<table>
<thead>
<tr>
<th>Category</th>
<th>Men</th>
<th>Percent</th>
<th>Category</th>
<th>Women</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Computers</td>
<td>76%</td>
<td></td>
<td>Books</td>
<td>64%</td>
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<tr>
<td>CDs</td>
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<td>57%</td>
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<tr>
<td>Small consumer electronics</td>
<td>44%</td>
<td></td>
<td>Health &amp; Beauty</td>
<td>42%</td>
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<tr>
<td>Videos</td>
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<td>Air Travel</td>
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<td>Women's Clothing</td>
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<td>Magazines</td>
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Source: Ernst & Young
### Demographic Segmentation

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Source: Ernst & Young
Geography

- Ecotopia
- The Empty Quarter
- Breadbasket
- New England
- Dixie
- The Islands

**Distribution Play/Weather/Regional Differences**
Purchasing Approach

- Online
Purchasing Approach

- Online
- Brick and Mortar
Purchasing Approach

• Online
• Brick and Mortar
• Mail
Purchasing Approach

- 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.

ACTIVITIES ➔ INTERESTS ➔ OPINIONS

DEMOGRAPHICS

PSYCHOGRAPHIC PROFILES

This is the basis for segmentation that conceptually marketers agree upon.
**Taxonomy at the Pump: Mobil’s Five Types of Gasoline Buyers**

**Road Warriors:** Generally higher income middle-aged men who drive 25,000 to 50,000 miles a year...buy premium with a credit card...purchase sandwiches and drinks from the convenience store...will sometimes wash their cars at the carwash.

**True Blues:** Usually men and women with moderate to high incomes who are loyal to a brand and sometimes to a particular station...frequently buy premium gasoline and pay in cash.

**Generation F3:** (for fuel, food and fast): Upwardly mobile men and women - half under 25 years of age-who are constantly on the go...drive a lot and snack heavily from the convenience store.

**Homebodies:** Usually housewives who shuttle their children around during the day and use whatever gasoline station is based in town or along their route of 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 20% of buyers

Source: *WSJ*, Jan. 30, 1995
<table>
<thead>
<tr>
<th></th>
<th>Road Warrior</th>
<th>Pragmatic Business Traveler</th>
<th>Reluctant Business Traveler</th>
<th>DIY Leisure Opportunist</th>
<th>Just For Fun Leisure Traveler</th>
<th>Price Driven Occasionalist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business vs. Personal</strong></td>
<td>Very heavy business traveler</td>
<td>Moderately high business traveler</td>
<td>Moderate business traveler</td>
<td>Frequent pleasure</td>
<td>Frequent pleasure</td>
<td>Occasional pleasure</td>
</tr>
<tr>
<td><strong>Travel Affinity</strong></td>
<td>Travel so much on business, appetite for leisure not as strong as others</td>
<td>Serves its purpose—Enjoy it somewhat, not bothered by it</td>
<td>Would rather avoid it if possible</td>
<td>Enjoy it, especially if they find a good deal</td>
<td>Pleasure travel enthusiast</td>
<td>Enjoy it, but sometimes nervous</td>
</tr>
<tr>
<td><strong>FF Program</strong></td>
<td>Huge influencer—mostly for recognition/status</td>
<td>Important—more for miles than status</td>
<td>Don't care at all</td>
<td>Miles, rewards, bonuses are very important</td>
<td>Miles are somewhat important</td>
<td>Barely aware</td>
</tr>
<tr>
<td><strong>Price Sensitivity</strong></td>
<td>Least Price sensitive</td>
<td>Corporate driven—fairly price sensitive</td>
<td>Corporate crackdown</td>
<td>Actively shop for best fares—likely to use efares, discount websites</td>
<td>Price sensitive, but sometimes more driven by desire to travel</td>
<td>Very price sensitive</td>
</tr>
<tr>
<td><strong>Service Demands</strong></td>
<td>Expect better service due to higher status</td>
<td>Not very demanding</td>
<td>Don't expect it</td>
<td>Service important, but good deal is more critical</td>
<td>Service is important, but might be cost-constrained</td>
<td>Prefer low cost/no frills</td>
</tr>
<tr>
<td><strong>International Travel</strong></td>
<td>High amount of int'l Business travel</td>
<td>Some int'l business</td>
<td>Virtually none</td>
<td>Occasional int'l pleasure</td>
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PRIZM Segmentation

Overview

Savvy marketers are challenged with understanding the consumer. PRIZM® is the industry-leading lifestyle segmentation system that yields rich and comprehensive consumer insights to help you reveal your customer’s preferences. PRIZM combines demographic, consumer behavior, and geographic data to help marketers identify, understand and reach their customers and prospects.

PRIZM defines every U.S. household in terms of 66 demographically and behaviorally distinct types, or “segments,” to help marketers discern those consumers’ lives, desires, lifestyles and purchase behaviors. Used by thousands of marketers within Fortune 500 companies, PRIZM provides the “common language” for marketing in an increasingly diverse and complex American marketplace.

PRIZM enables marketers to create a complete portrait of their customers by answering these important questions:

- Who are my best customers?
- What are my best customers like?
- Where can I find my best customers?
- How can I reach my best customers?

Features & Benefits

With PRIZM segmentation marketers can better understand their customers and prospects, and reach them with tailored messages and products designed just for them. Captured by catchy nicknames, images and behavioral snapshots that bring the segment to life for marketers, PRIZM segments are memorable and summarize complex consumer profiles in a way that is intuitive and easy to communicate.

Contact Us

Questions about how Nielsen Segmentation can find customers to grow your business?

Email or call: 800.234.5973

The Power of PRIZM

- Who is PRIZM?
- PRIZM Lifestyle Groups
- PRIZM Social Groups
- Principal Owners of PRIZM
- Eryk PRIZM Segments
- Using Segmentation

Resources

- PRIZM Interactive Tutorial
- Sell Sheet: PRIZM
- Sell Sheet: PRIZM Digital
- Sell Sheet: PRIZM Digital Mobile
- Case Study: Automotive Manufacturer Finds Consumer Who Wants to Buy
- Report: Boomers, Marketing’s Most Valuable Generation
- Report: Affluence in America
PRIZM Segmentation

 Nielsen PRIZM

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Resources
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- Nielsen PRIZM Interactive Tutorial
- Nielsen PRIZM Sell Sheet
- Nielsen PRIZM Digital Sell Sheet
- Nielsen PRIZM Digital Guide to Case Study: Automobile Industry
- Consumer Who Wants to Buy Report: Boomers, Marketing’s Generation
- Report: Influence in America
Product Line Segmentation

Age, aspirations

Income

Shared values: Urban, fashionable

BANANA REPUBLIC

GAP

OLD NAVY
How to Select Segments to Target

**Market Attraction**
- Identify bases for segmenting the market
- Develop profiles or segments
- Relate to descriptors for reachability

**Company Fit**
- Develop measures of segment attractiveness
- Select the target segments

**Competitive Environment**
- Develop product positioning for each target segment
- Develop marketing mix for each target segment
How to Select Segments to Target

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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.
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.
- Cluster analysis works on the principle of maximizing the between-cluster variance while minimizing the within cluster variance.
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.

• 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.
Illustration in One Dimension

\[ \max_{\forall \text{possible configurations}} \left\{ \frac{\text{between group variance}}{\text{within group variance}} \right\} \]
Basic Idea Behind Clustering

Which variables?

Objects
Basic Idea Behind Clustering

Which variables?

Objects
Basic Idea Behind Clustering

Which variables?

How do I compute the distance between any two objects?
Basic Idea Behind Clustering

<table>
<thead>
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<tbody>
<tr>
<td>Objects</td>
</tr>
</tbody>
</table>

- How do I compute the distance between any two objects?
- Assignment of objects to groups
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?
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?
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

Professor Raghu Iyengar
Example – Conjoint Analysis and Segmentation

Recall example from conjoint analysis
  • Laptop survey with 20 respondents
Example – Conjoint Analysis and Segmentation

Recall example from conjoint analysis
  • Laptop survey with 20 respondents
  • Each respondents may value different aspects of the laptop
Example – Conjoint Analysis and Segmentation

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

<table>
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<tr>
<th>Customer</th>
<th>Brand</th>
<th>Memory</th>
<th>Hard Drive</th>
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Example – Conjoint Analysis and Segmentation

- Input to k-Means segmentation
  - All 5 attributes
Example – Conjoint Analysis and Segmentation

• Input to k-Means segmentation
  • All 5 attributes
• Output – Number of segments
Example – Conjoint Analysis and Segmentation

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

2- Means Cluster

Brand vs. Price

Cluster

1
2

Price

Brand

Wharton
Segmentation - Profiling

Segment 1
- Age
- Gender
- Income
- Activities

Product Benefits

Segment 2
- Age
- Gender
- Income
- Activities

Demographics and Psychographics
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
User Generated Content

• Product reviews – Yelp, TripAdvisor, Rotten Tomato
User Generated Content

- Product reviews – Yelp, TripAdvisor, Rotten Tomato
- Blogs
User Generated Content

• Product reviews – Yelp, TripAdvisor, Rotten Tomato
• Blogs
• Social Media – Facebook, Twitter
User Generated Content

- Product reviews – Yelp, TripAdvisor, Rotten Tomato
- Blogs
- Social Media – Facebook, Twitter
- YouTube Videos
User Generated Content

- Product reviews – Yelp, TripAdvisor, Rotten Tomato
- Blogs
- Social Media – Facebook, Twitter
- YouTube Videos
- Big picture – is unstructured
Customer Experience Management
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

And no, I haven’t seen the movie yet but the trailer is so 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!

(c) Eliashberg, Gelper, Peres
Spikes in Pre-release WOM

(c) Eliashberg, Gelper, Peres
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

Pre-release WOM

May 23  June 12  July 2  July 22

Days in 2011

(c) Eliashberg, Gelper, Peres
Identifying Spikes

(c) Eliashberg, Gelper, Peres
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

(c) Eliashberg, Gelper, Peres
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.
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.
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.

(c) Eliashberg, Gelper, Peres
As Release Approaches…

• More spikes occur
As Release Approaches…

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

(c) Eliashberg, Gelper, Peres
As Release Approaches…

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

(c) Eliashberg, Gelper, Peres
Regression: Box-Office with Spikes

\[
\log(BO_i) = \alpha + \beta_1 MC_i + \beta_3 \log(WOM_i) + \beta_3 \log(SpikeCount_i) + \varepsilon_i,
\]

Movie characteristics

- Movie i
- Volume of WOM
- # of mentions on movie i
- Total # of spikes in the pre-release WOM

(c) Eliashberg, Gelper, Peres
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
Market Segmentation, Social Media and Viral Marketing

Social Media Example 2: Automobiles and Blogs

Professor Raghu Iyengar
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 ...

<table>
<thead>
<tr>
<th>Audi A6</th>
<th>Honda Civic</th>
<th>Toyota Corolla</th>
</tr>
</thead>
<tbody>
<tr>
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<td>101</td>
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<td>252</td>
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<td>Audi A6</td>
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<tr>
<td>Audi A6</td>
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</tr>
</tbody>
</table>

Source: Netzer, et al. 2012, Marketing Science
Perceptual Maps of Brands
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

Connect to a community of doctors who get it.

JOIN THE COMMUNITY
Typical Questions

• What firms want to know
Typical Questions

• What firms want to know
  • Who are the opinion leaders?
Typical Questions

• What firms want to know
  • Who are the opinion leaders?
  • Is there value in knowing the network structure?
Typical Questions

• 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?
Opinion Leaders & Contagion: Some Insights

• Setting and objectives
Opinion Leaders & Contagion: Some Insights

• Setting and objectives
• Data
Opinion Leaders & Contagion: Some Insights

• Setting and objectives
• Data
• Findings
Opinion Leaders & Contagion: Some Insights

• 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
How to Identify Influentials

Traditional Methods
Segmentation; Existing Relationships

Formal Leadership
Academic Appointments
Prof. Society Leaders
How to Identify Influentials

- Traditional Methods
  - Segmentation; Existing Relationships
- Formal Leadership
  - Academic Appointments
  - Prof. Society Leaders
- Academics
How to Identify Influentials

- Traditional Methods
  - Segmentation; Existing Relationships
- Sociometric Methods
  - (Influence on Others)
- Formal Leadership
  - Academic Appointments
  - Prof. Society Leaders
- Academics
Data

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

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

• Physician-level prescription data
  • 17 months, starting with time of launch
Data

• Physicians
  • In three cities with sizable Asian population
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• Physician-level prescription data
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• Physician-level detailing data
  • 17 months, starting with time of launch
Data

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

Discussion Network among Doctors
Data

• 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)

(PLEASE CIRCLE THE APPROPRIATE NUMBER ON THE SCALE)

1. In general, do you talk to other doctors about XXX?
   - Never: 1 2 3 4 5 6 7
   - Very Often: 1 2 3 4 5 6 7

2. When you talk to your colleagues about XXX do you:
   - Offer very little information: 1 2 3 4 5 6 7
   - Offer a great deal of information: 1 2 3 4 5 6 7

3. During the past 6 months, how many physicians have you instructed about ways to treat XXX:
   - Instructed: 1 2 3 4 5 6 7
   - Instructed multiple physicians: 1 2 3 4 5 6 7

4. Compared to your circle of colleagues, how likely are you to be asked about ways to treat XXX:
   - Not at all likely to be asked: 1 2 3 4 5 6 7
   - Very likely to be asked: 1 2 3 4 5 6 7

5. In discussions of XXX, which of the following happens most often?
   - Your colleagues tell you about treatments: 1 2 3 4 5 6 7
   - You tell your colleagues about treatments: 1 2 3 4 5 6 7

6. In general, when you think about your professional interactions with colleagues, are you:
   - Not used as a source of advice: 1 2 3 4 5 6 7
   - Often used as a source of advice: 1 2 3 4 5 6 7
Data

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

• 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
Data

- 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

Professor Raghu Iyengar
Sociometric Results for One City

Predominantly Asian Clique with a Dominant Asian Physician as the Central Player (175)
Sociometric Results for One City

Predominantly Asian Clique with a Dominant Asian Physician as the Central Player (175)

Non-Asian Network Dominated by Core Group of Non-Asians (4)
Value in Knowing Network Structure?

- Unexpected leaders
  - Not all opinion leaders stand on a soap box
Value in Knowing Network Structure?

- Unexpected leaders
  - Not all opinion leaders stand on a soap box
- Inefficient overlap in contacts
  - Especially among top leaders known to company
Value in Knowing Network Structure?

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

Professor Raghu Iyengar
New Drug Diffusion Through Network

- Adopted 1Q Post Launch
- Adopted 2Q Post Launch
- Adopted 3Q Post Launch
- Adopted 4Q Post Launch
- Adopted 5Q Post Launch
- Adopted 6Q Post Launch
- Adopted 7Q Post Launch
- Adopted 8Q Post Launch

Marketing Analytics
Why a Statistical Model

- Drug adoption pattern could be due to:
  - Sales force
Why a Statistical Model

• Drug adoption pattern could be due to:
  • Sales force
  • Overall diffusion in the city (everyone becomes more aware)
Why a Statistical Model

- Drug adoption pattern could be due to:
  - Sales force
  - Overall diffusion in the city (everyone becomes more aware)
  - Physician demographics
Why a Statistical Model

- 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
Discussion

Referral

No Link

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
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

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
Empirical Lessons

• You cannot take social influence for granted
  • Every situation should be carefully looked at
Empirical Lessons

• 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)
Empirical Lessons

• 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