

Cluster Analysis

I SAID COKE ZERO

**OFFER ME DIET COKE, AGAIN
I DARE YOU**

Takeaways



REAL
Coca-Cola
TASTE
AND ZERO
CALORIES



- | | | | | | | |
|----------------------|--------------------------------|------------------------|------------------------------------|------------------------------|--------------------------------|---------------------------------|
| HOME | MARCH MADNESS® | NASCAR | COKE vs COKE ZERO™ | SUE-A-FRIEND | TASTE ACTIVISM | MY COKE REWARDS |
|----------------------|--------------------------------|------------------------|------------------------------------|------------------------------|--------------------------------|---------------------------------|



PRODUCTS

| DIET COKE STORY

| ADS & DOWNLOADS

| CONTACT US

Join Diet Coke in Supporting Women's Heart Health

Learn more about the Diet Coke partnership with *The Heart Truth* >>



Reward Yourself

Exchange your My Coke Rewards points for an amazing designer red dress. [Go Now.](#)



Great Taste Has Its Benefits

Tune in to a video about the benefits of Diet Coke Plus
[Watch Now](#)
[More Ads & Downloads](#)



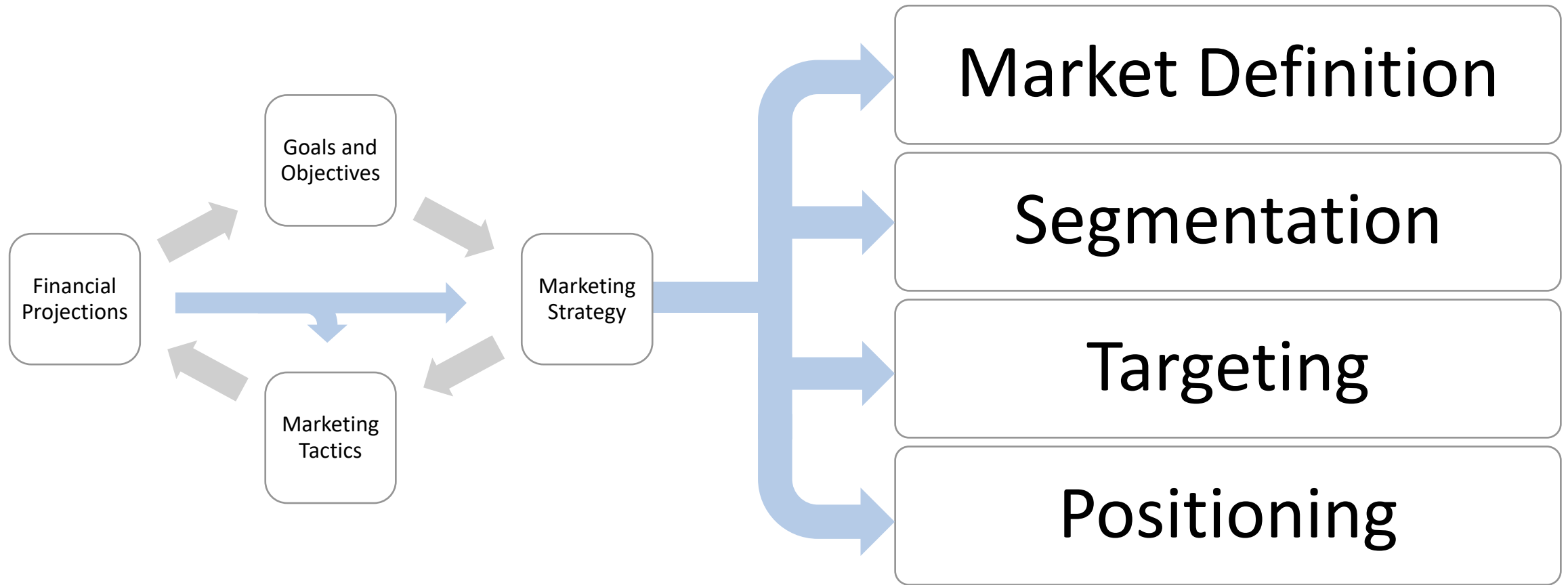
Send a Diet Coke e-Card

Share great taste with friends and family.

The Marketing Plan



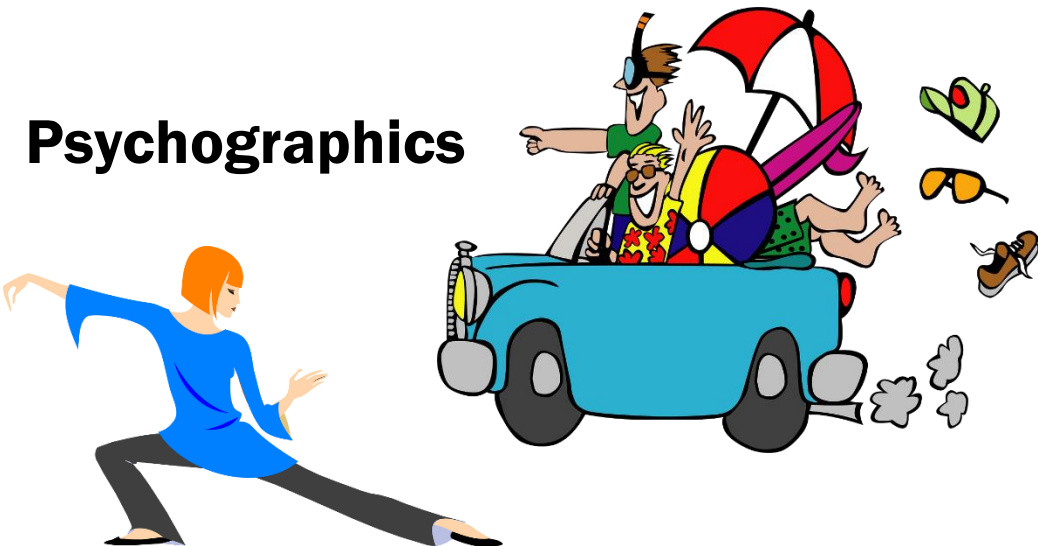
The Marketing Plan



Identifying Segments: Possible Bases for Segmenting Consumers and Customers



Demographic



Psychographics

**Purchase Behavior
and Product Use**



**Desired
Benefits/Needs**

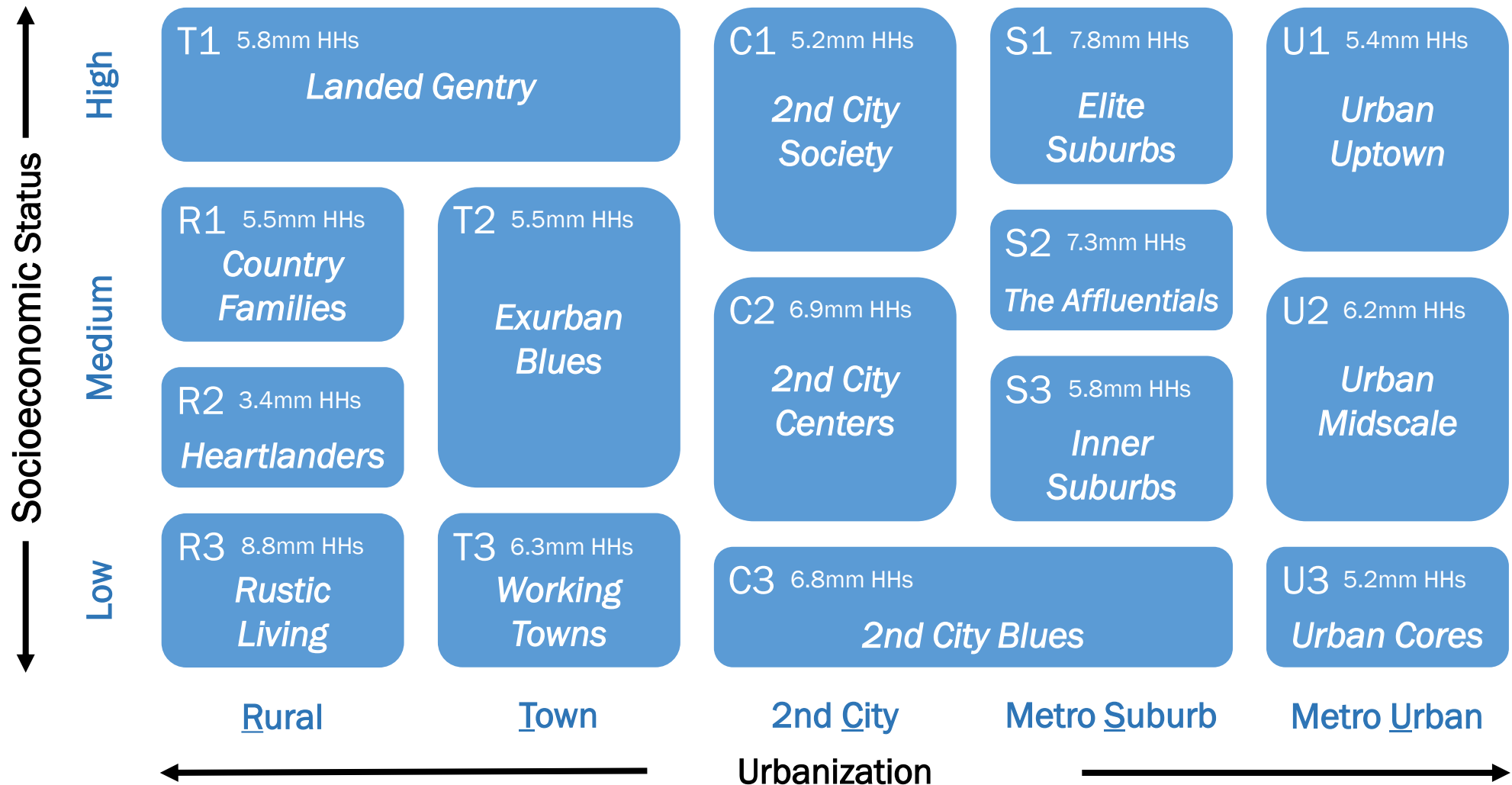


Multi-Attribute Segmentation

- **The PRIZM® Methodology: Neighborhood Lifestyle Segmentation**
 - “Birds of a feather flock together”
 - “People with similar cultural backgrounds, needs, and perspectives naturally... chose to live in neighborhoods that offer affordable advantages and compatible lifestyles.”
 - “These neighborhoods can be grouped into ‘clusters’ that exhibit similar demographic and behavioral characteristics. These neighborhood clusters can then be used to identify and locate marketing targets.”
- <https://claritas360.claritas.com/mybestsegments/#zipLookup>



PRIZM® by Claritas



Cluster Analysis

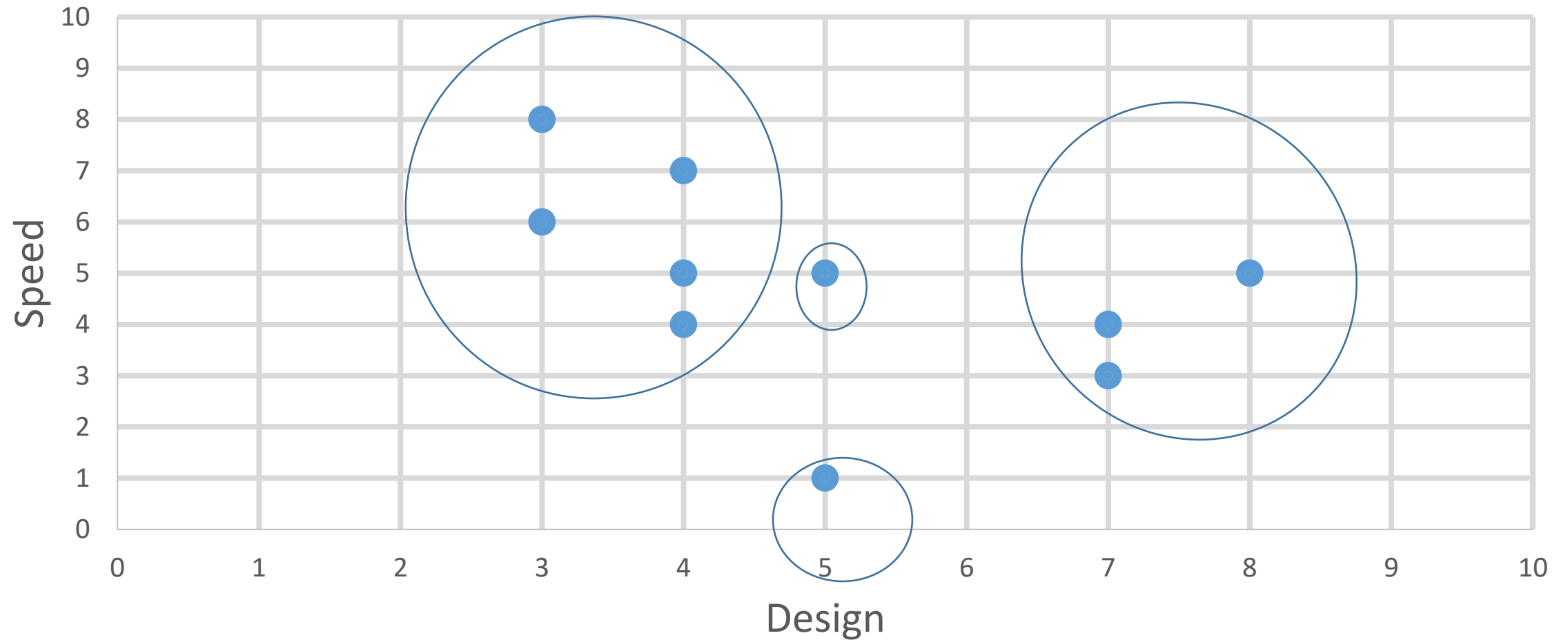
- **Deriving Clusters and Assessing Overall Fit**
 - **Decide on Clustering Algorithm**
 - *Many algorithms are available*
 - *More coming all the time*
- **Main goal:** maximize differences between clusters relative to variation within clusters

Customer Preferences

Customer	Design	Speed
1	5	1
2	7	3
3	4	4
4	7	4
5	4	5
6	5	5
7	8	5
8	3	6
9	4	7
10	3	8

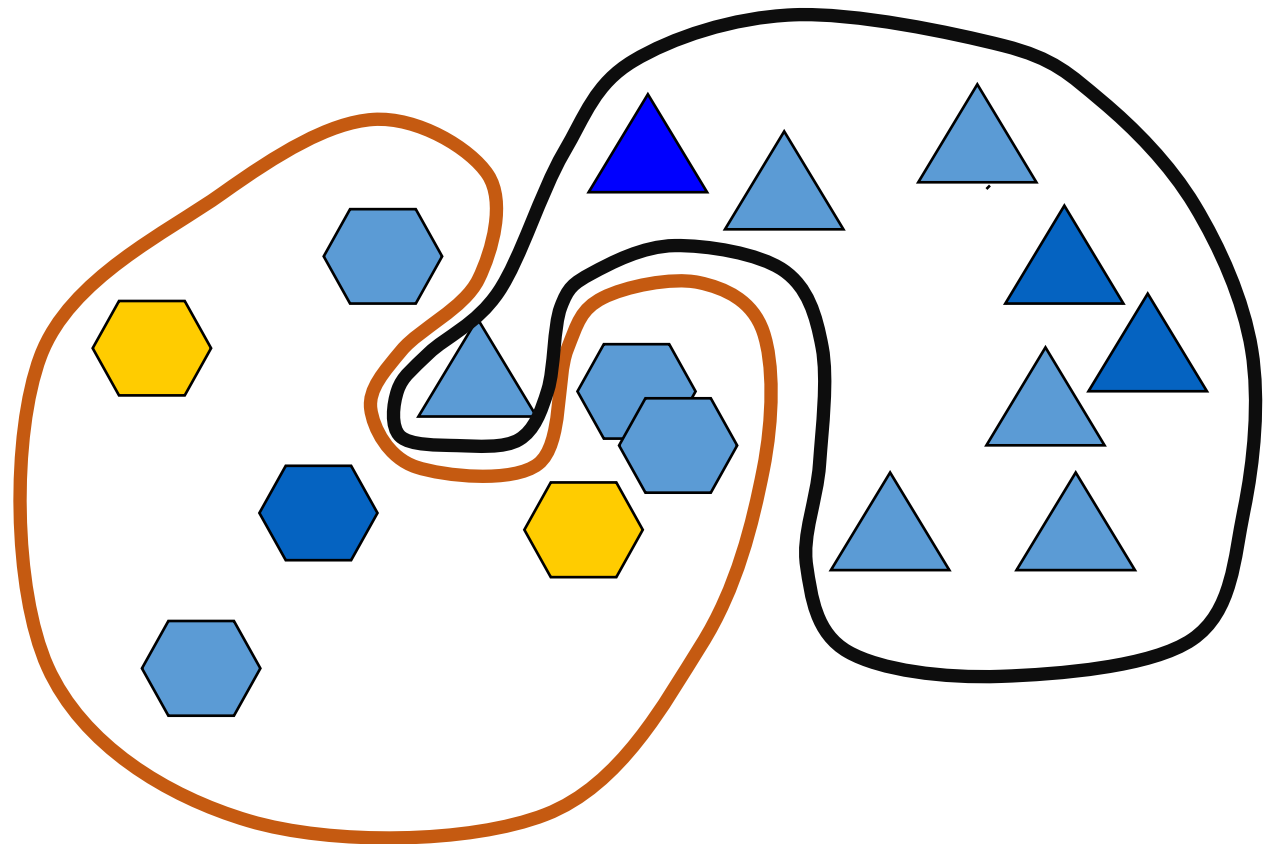
Preference on a 10-point scale, 10 most preferred and 1 least preferred for Design and Speed of a laptop

Customer Preferences



Evaluating Your Segmentation Scheme

- **Two acid tests:**
 - Is there heterogeneity between segments?
 - Is there homogeneity within segments?



No Segmentation



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Two Segments

This combines camo and soda pop beans wv3



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wv1

wv2



Images Credit: Mike Mozart, <https://www.flickr.com/photos/jeepersmedia/>

Ideal Segmentation

Within variance highest (10)

Between variance lowest (1)

[within/between] = $10/1 = 10$



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Within variance lowest (1)

Between variance highest (10)

[within/between] = $1/10 = .10$



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Number of Clusters: Elbow Plot

- **{Within variance}/ {Between Cluster Variance}**
 - is plotted against the number of clusters.
- The point at which a sharp bend occurs indicates the number of clusters



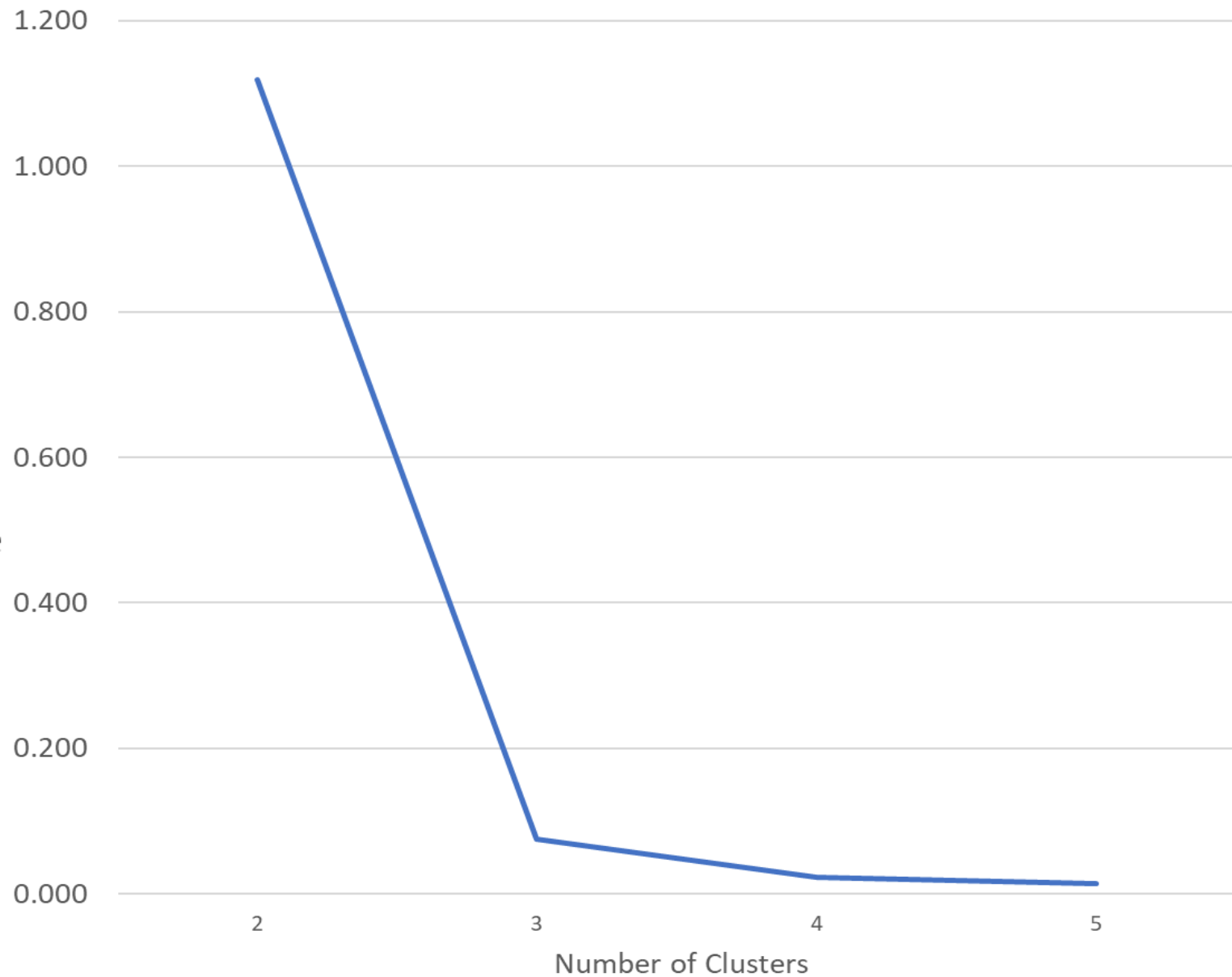
Lets try to find
segments with
three
dimensions and
150 responses....

cnum	speed	design	brand	age	income	segment
0	6	1	3	22	3	1
1	5	1	3	29	3	1
2	5	1	3	20	4	1
3	6	1	3	23	3	1
4	5	1	3	20	3	1
5	5	1	3	22	4	1
6	6	1	3	20	3	1
7	6	1	3	23	4	1
8	5	1	3	26	3	1
9	5	1	3	22	4	1
10	5	1	3	21	4	1
11	6	1	3	21	4	1
12	6	1	3	26	3	1
13	5	1	3	22	4	1
14	6	1	3	27	4	1
15	6	1	3	25	4	1
16	6	1	3	21	3	1

Elbow Plot for Simulated Data

Within cluster
variance/
Between
cluster variance

Elbow Plot



Profiling Segments



- How can we identify the segments with commonly available demographics?
- How big is the segment?
- Is it a growing segment?
- Etc.

Profiles for simulated data

	Segment Average				
Segment Number	Income	Age	Speed	Design	Brand
1	3.35	23.00	5.35	0.96	2.88
2	6.00	49.67	1.00	3.00	5.65
3	1.00	34.04	3.00	5.53	1.00

Criteria for Effective Segmentation

- Are segments:
 - Identifiable?
 - *Through demographics, etc.*
 - Sustainable?
 - *Are the segments big enough for marketing programs to be profitable?*
 - Accessible?
 - *How to reach the segments through promotion and distribution?*
 - Actionable?
 - *Will the segmentation help develop effective marketing message?*
 - Responsive?
 - *Will they react uniquely to promotion?*

Customer Centricity at Best Buy



Barry

**Affluent Tech
Enthusiast**

Image Credit
Steve Jurvetson
<https://www.flickr.com/photos/jurvetson/8200336388/>



Jill

**Busy Suburban
Mom**

Image Credit
Bill & Vicki T
<https://www.flickr.com/photos/iluvcocacola/15582114874/>



Helen and Charlie

**Empty
Nesters**

Image Credit
Adrien Pâris
<https://www.flickr.com/photos/25146904@N06/3411097311/>



Carrie

**Young Single
Woman**



Ray

**Price-Conscious
Family Guy**

A Few Bumps in the Road at Best Buy

- *Fortune Magazine*, March 2006

- ...the first few dozen stores it segmented, where same-store sales grew at three times the rate of regular stores, Best Buy stepped on the accelerator
- ...it then tinkered ceaselessly to get the mix of products and employees just right [...] Anderson and his executives assumed subsequent stores could just flip a switch and convert to centricity.
- “When we gave the operating manual to the stores for the fall,” he says ruefully, “it was four inches thick.” Adds executive vice president John Walden, Anderson's point man for centricity: “The way we deployed was too confusing.”
- Instead of jumping as it had in previous quarters, same-store sales growth at the renovated stores was only slightly better than the chainwide average (5.4 percent vs. 3.3 percent). The poor results persuaded him to freeze centricity rollouts for the fourth quarter. (They resumed in March.)

Upcoming...

- **Sticks Kebob Segmentation**
 - Submit before week 3 session
- **Be prepared to present your submission in class**
 - Deck should be no more than 8 slides
 - Focus on the main insights and decision of the case
 - Move technical details of the k-means clustering to the appendix

Questions for Segmentation

- **4 Columns in Sheet 1 of M-0866X**

- I tend to plan things very carefully.
- I sometimes have trouble controlling my spending.
- I think it is important to purchase products that are made locally.
- I carefully consider the health benefits of what I eat.

Questions for Profiling

- How many times in the last week did you do the following? –
 - Make/eat lunch at home
 - Bring lunch to work
 - Buy lunch at work
 - Buy lunch at restaurant
 - Skipped lunch
 - Other
- Please specify the top five restaurants you have visited in the last six months in order of visit frequency. Most preferred.
- Please specify the top five restaurants you have visited in the last six months in order of visit frequency. Second most preferred.
- Please specify the top five restaurants you have visited in the last six months in order of visit frequency. Third preferred.
- What is your gender?
- What is your age?
- What is your approximate average annual household income?

When Segmentation Fails

- Using same segmentation scheme for different business objectives
 - Different advertising or different products?
- Too much focus on techniques
- Using only psychographic or demographic variables
- Not focusing on differences in customer needs
- Static segmentation schemes
- Lack of senior management buy-in

