## Segmentation: 3 ways to go

What are the potential markets and submarkets for your product?

- 1 Pick <u>one</u> variable (e.g., income) and segment by it.
- 2 Pick two variables (e.g., importance of "price" and "noise"), create a perceptual map, and look for segments by eye.
- 3 Collect info on a lot of things, e.g.: usage, utilities, favorite brands, demographics

==> Use cluster analysis to find segments whose members are similar on many dimensions.

## Fine point #1: How do you define similar?

Suppose there are only 2 dimensions...(for air conditioners)



## What about more than 2 dimensions?

## ... compute Euclidian distance for each pair

|             |       | Bill  | Linda | Chris | B-L | _    | L-C  | B-C  |
|-------------|-------|-------|-------|-------|-----|------|------|------|
| Capacity    | 6KBtu | -0.62 | -4.5  | -1.5  |     | 15.1 | 9.0  | 0.8  |
| Reliability | 0.01  | 12    | 8.5   | 6.5   |     | 12.3 | 4.0  | 30.3 |
|             | 0.05  | 5.375 | 7.75  | 4.25  |     | 5.6  | 12.3 | 1.3  |
| Price       | 700   | -4.5  | -0.5  | -1.5  |     | 16.0 | 1.0  | 9.0  |
|             | 500   | -4.25 | -2.98 | 0.5   |     | 1.6  | 12.1 | 22.6 |
|             | 400   | -1.5  | 0.25  | 1     |     | 3.1  | 0.6  | 6.3  |
| Noise level | Vlow  | 1     | 2.75  | 9.25  |     | 3.1  | 42.3 | 68.1 |
|             | Low   | 1.75  | 0.25  | 9     |     | 2.3  | 76.6 | 52.6 |
|             | Moder | 1     | 3     | 5.75  |     | 4.0  | 7.6  | 22.6 |
|             |       |       |       |       |     |      |      |      |

7.93 12.86 14.60

# Fine point #2 What is distance from a person and a cluster (rather than to another person)?



#### Where does Person X belong?

- 1 To the cluster with closest individual (single linkage)
- 2 To the cluster with closest average individual (average linkage)
- 3 To the cluster with closest far individual (complete linkage)
- 4 Ward's algorithm (minimizes within-cluster variance per # of clusters)

## Cluster analysis provides the segmentation pattern in the form of a tree

## With the tree, how do you define the segments?

- Draw a vertical line that clips the major (long) branches
- Count # of branches (= # of segments)
- Try to keep the number small

## Summary

- Cluster analysis will identify groups of people who are similar on many dimensions
- To interpret, ask yourself:

*"What kind of person would have these opinions or characteristics?"* 

i.e., stereotype the cluster/segment

• Then add the cluster ID's to the data set.