Positioning
Positioning

Outline

- The concept of product positioning
- Conducting a positioning study
- Perceptual mapping using principal component analysis
- Incorporating preferences into perceptual maps
Learning goals

- Explain the concept of positioning, understand the fundamental issues in positioning, and be able to write a positioning statement
- Know the steps in designing a positioning study
- Construct a perceptual map using principal component analysis and interpret the resulting map
- Incorporate vector or ideal preferences into perceptual maps and derive marketing insights based on the distribution of preferences
**STP – Segmentation, Targeting, Positioning**

**Marketing mix**
- Product
- Price
- Communication
- Distribution

**Target marketing and positioning**
- All consumers in the market
  - Target market segment(s)
  - Marketing strategies of competitors
Positioning

Central questions in positioning (based on Rossiter and Percy)

- A brand’s positioning should tell customers
  - what the brand is – what category need it satisfies (brand-market positioning),
  - who the brand is for – what the intended target audience is (brand-user positioning), and
  - what the brand offers – what benefits it provides (brand-benefit positioning)

- The selection of benefits to emphasize should be based on
  - importance (relevance of the benefit to target customers’ purchase motives in the category),
  - delivery (the brand’s ability to provide the benefit), and
  - uniqueness (differential delivery of the benefit)
What is positioning?

- Category
  - Need
  - What the brand is?

- Brand
  - What the brand offers?

- User
  - Who the brand is for?

- Benefit(s)
  - I D U
Positioning statement

- To [the target audience]
- _________ is the (central or differentiated) brand of [category need]
- that offers [brand benefit(s)]. The positioning for this brand
  - should emphasize [benefit(s) uniquely delivered],
  - must mention [benefit(s) that are important “entry tickets”],
  - and will omit or trade off [inferior-delivery benefits].
Illustrative positioning statement for Volvo automobiles

- To upper-income car buyers
- Volvo is a (differentiated) brand of prestige automobile
- that offers safety, performance, and prestige. The positioning for this brand
  - should emphasize safety and performance,
  - must mention prestige as an entry ticket to the category,
  - and will downplay the previous family-car association.
You know when your migraine pain starts, you’ve got to act fast. Introducing Advil Migraine. It’s the first and only FDA-approved Migraine medicine on the market that comes in liquid filled capsules. It gets into your system fast. Take control of your migraine before it takes control of you.
Issues to consider when thinking about positioning

- What are the central dimensions that underlie customers’ perceptions of brands in the product class?
- How do customers view our brand on these dimensions?
- How do customers view our competitors?
- Are we satisfied with the way our customers view our brand relative to the competition, or are changes required? Are there opportunities for new product introductions?
- How do perceptions relate to preferences?
- How can we improve our competitive position (market share) given the distribution of preferences in the market?
# A simple positioning example: Perceptions of PA beers

<table>
<thead>
<tr>
<th>Beer</th>
<th>Perception 1</th>
<th>Perception 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Otto’s) Apricot Wheat</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>(Victory) Hop Devil</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Penn Pilsner</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>(Happy Valley) Stratus</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Troegenator</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Yuengling Lager</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
Positioning

Perceptual map of PA beers
Implications

- Assumes that maltiness and bitterness are the two relevant attributes in this market
- Tells us how customers perceive the various brands on the two dimensions
- Brands that are close on the map compete for the same customers
- If we want to differentiate a brand, the map tells us which attributes to focus on
- The map suggests where there is white space and what we have to do to fill the white space (assuming there is demand for this type of product)
Positioning in practice

- Perpendicular axes assume that the two attributes are uncorrelated
  - Attributes could be positively correlated
  - Attributes could be negatively correlated
- If there are more than two attributes, we cannot (easily) plot the raw data
  Solution: use a data reduction method (e.g., principal components/factor analysis)
- Perceptions are useful, but we also have to incorporate customers’ preferences
  Solution: joint perceptual/preference mapping
Conducting a positioning study

- Design the study
  - What are the relevant brands?
  - What are the relevant perceptual dimension and preference measures?
  - What are the relevant (potential) customers?
- Collect the data
- Analyze the data
  - Perceptual mapping (principal component/factor analysis)
  - Joint perceptual/preference mapping
How to construct a perceptual map: Principal component analysis (PCA)

- PCA as a data reduction technique: what are the central dimensions underlying customers’ perceptions of brands on more specific attributes?
- Questions in PCA:
  - How many dimensions should be retained?
  - How should the dimensions be interpreted?
  - How can both brands and attributes be represented in the reduced perceptual space?
Assume we have \( n \) brands that are rated on \( p \) attributes by a sample of representative respondents.

The original data are usually averaged across respondents, so the input data consist of average perceptions of the brands on the attributes of interest.

It is difficult to map the brands in \( p \) dimensions, but if the attributes are correlated, we might be able to summarize the essential information contained in the original data in a space of reduced dimensionality.
### Positioning

<table>
<thead>
<tr>
<th></th>
<th>Maltiness</th>
<th>Bitterness</th>
</tr>
</thead>
<tbody>
<tr>
<td>HopDevil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>R2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Troegenator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>R2</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

**Aggregation across respondents**

<table>
<thead>
<tr>
<th></th>
<th>Maltiness</th>
<th>Bitterness</th>
</tr>
</thead>
<tbody>
<tr>
<td>HopDevil</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Troegenator</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>
The basic idea is to redefine the dimensions of the space such that the first dimension (component, factor) captures as much variation in the ratings as possible, the second dimension is perpendicular to the first dimension and captures as much of the remaining variation in the ratings as possible, etc.

If a few of the new dimensions capture a large amount of the total variation in the data, the analysis can be simplified by retaining only 2 or 3 dimensions.

Look at the amount of variance explained by each factor – hopefully, a few factors will capture a substantial portion of the total variance.

If we can summarize the data with a few dimensions, we can graph the data in a low-dimensional space even if there are many different attributes.
Summarizing attribute information using components/factors
Summarizing attribute information using components/factors
**Positioning**

## Principal component analysis of PA beers

### Perceptual Data

Average score each brand achieves on each attribute from your sample of respondents.

<table>
<thead>
<tr>
<th>Attributes / Brands</th>
<th>HopDevil</th>
<th>Troegenator</th>
<th>Yuengling</th>
<th>Apricot Wheat</th>
<th>PennPilsner</th>
<th>Stratus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltiness</td>
<td>7</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Bitterness</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

### Variance Explained

Variance explained as a function of the number of dimensions.

<table>
<thead>
<tr>
<th>Dimensions / Items</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total variance explained</td>
<td>0.820</td>
<td>0.180</td>
</tr>
<tr>
<td>Cumulative variance explained</td>
<td>0.820</td>
<td>1.000</td>
</tr>
</tbody>
</table>
How to interpret the retained factors?

- Look at the correlations of the original attributes with the new dimensions (components, factors). They are called loadings and are summarized in a factor pattern matrix. Variables that load highly on a factor suggest what the factor means and how to name it.

- The solution based on the reduced number of factors can also be rotated to increase the interpretability of the solution (i.e., we try to find an orientation in which each variable loads highly on a single factor).
## Interpreting the factors

<table>
<thead>
<tr>
<th>Dimensions / Attributes</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltiness</td>
<td>0.9058</td>
<td>0.4238</td>
</tr>
<tr>
<td>Bitternes</td>
<td>0.9058</td>
<td>-0.4238</td>
</tr>
</tbody>
</table>
How to construct a perceptual map?

- Plot the correlations of the original attributes with the retained factors (the factor loadings) using vectors emanating from the origin; the (relative) length of the vectors indicates the amount of variance in a variable explained by the factors;
- Plot the brands in the same factor space;
- The projection of a brand on the attribute vectors or the factors (dimensions) indicates how the brand rates on the attributes or factors relative to other brands;
**Principal component analysis of PA beers**

*Coordinates*

Coordinates of each item in the new reduced space.

<table>
<thead>
<tr>
<th>Dimensions / Brands</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>HopDevil</td>
<td>0.6691</td>
<td>-0.4432</td>
</tr>
<tr>
<td>Troegenator</td>
<td>0.2976</td>
<td>0.8065</td>
</tr>
<tr>
<td>Yuengling</td>
<td>-0.3547</td>
<td>-0.077</td>
</tr>
<tr>
<td>ApricotWheat</td>
<td>-0.5808</td>
<td>-0.0493</td>
</tr>
<tr>
<td>PennPilsner</td>
<td>-0.0091</td>
<td>-0.3601</td>
</tr>
<tr>
<td>Stratus</td>
<td>-0.0221</td>
<td>0.1231</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimensions / Attributes</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltiness</td>
<td>0.9058</td>
<td>0.4238</td>
</tr>
<tr>
<td>Bitterness</td>
<td>0.9058</td>
<td>-0.4238</td>
</tr>
</tbody>
</table>
Perceptual Map of PA Beers

- Troegenator
- Stratus
- Yuengling
- ApricotWheat
- PennPilsner
- HopDevil

Axes:
- I (82%)
- II (18%)

Lines:
- Maltiness
- Bitternes
Positioning

Perceptual Map of PA Beers

- HopDevil
- Troegenator
- Yuengling
- ApricotWheat
- PennPilsner
- Stratus

I (82%)
II (18%)

Maltiness
Bitterness
Positioning

**Office Star data**

- Four different stores are rated on five attributes;
- The stores are Office Star (the target store), Paper & Co., Office Equipment, and Supermarket;
- The attributes are large choice, low prices, service quality, product quality, and convenience;
- 24 customers rated all stores on all attributes on a scale from 1 to 6 (e.g., the extent to which Office Star offers large choice);
- We also know customers’ overall preferences for the four stores (rated on a 1-5 scale);
## Input data

<table>
<thead>
<tr>
<th>Perceptual data</th>
<th>OfficeStar</th>
<th>Paper and Co</th>
<th>Office Equipment</th>
<th>Supermarket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large choice</td>
<td>5.2</td>
<td>4.4</td>
<td>3.9</td>
<td>2.3</td>
</tr>
<tr>
<td>Low prices</td>
<td>2.1</td>
<td>4.5</td>
<td>2.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Service quality</td>
<td>4.2</td>
<td>2.3</td>
<td>3.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Product quality</td>
<td>3.7</td>
<td>2.6</td>
<td>3.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Convenience</td>
<td>2.7</td>
<td>1.4</td>
<td>4.7</td>
<td>5.1</td>
</tr>
</tbody>
</table>
Executes a positioning analysis.

**Positioning data**

- Perceptual data
- ☐ Include preference data

**Positioning map**

- Number of dimensions: Automatic
  
  Output the first 2 dimensions if they explain 80% of the variance or more. Otherwise, output 3 dimensions.

**Focal brand**

- Include focal brand
  
  OfficeStar

- ☐ Advanced

- Help
- Cancel
- Run
## Perceptual data

<table>
<thead>
<tr>
<th></th>
<th>OfficeStar</th>
<th>Paper and Co</th>
<th>Office Equipment</th>
<th>Supermarket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large choice</td>
<td>5.2</td>
<td>4.4</td>
<td>3.9</td>
<td>2.3</td>
</tr>
<tr>
<td>Low prices</td>
<td>2.1</td>
<td>4.5</td>
<td>2.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Service quality</td>
<td>4.2</td>
<td>2.3</td>
<td>3.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Product quality</td>
<td>3.7</td>
<td>2.6</td>
<td>3.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Convenience</td>
<td>2.7</td>
<td>1.4</td>
<td>4.7</td>
<td>5.1</td>
</tr>
</tbody>
</table>

Note: Values in red if below their column mean minus one standard deviation and in green if above their column mean plus one standard deviation.
Positioning

Attribute histograms

<table>
<thead>
<tr>
<th>Convenience</th>
<th>Large choice</th>
<th>Low prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper and Co</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OfficeStar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product quality</th>
<th>Service quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket</td>
<td></td>
</tr>
<tr>
<td>Office Equipment</td>
<td></td>
</tr>
<tr>
<td>Paper and Co</td>
<td></td>
</tr>
<tr>
<td>OfficeStar</td>
<td></td>
</tr>
</tbody>
</table>
## Percentage of variance explained by each principal component (dimension)

### Variance explained

Variance and cumulated variance explained, by dimension.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Variance explained</th>
<th>Cumulative variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension 1</td>
<td>66.9%</td>
<td>66.9%</td>
</tr>
<tr>
<td>Dimension 2</td>
<td>30.8%</td>
<td>97.7%</td>
</tr>
<tr>
<td>Dimension 3</td>
<td>2.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Dimension 4</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
## Coordinates for objects (stores) and attributes

<table>
<thead>
<tr>
<th></th>
<th>Dimension I</th>
<th>Dimension II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OfficeStar</strong></td>
<td>0.895</td>
<td>-0.023</td>
</tr>
<tr>
<td><strong>Paper and Co</strong></td>
<td>-0.358</td>
<td>-0.644</td>
</tr>
<tr>
<td><strong>Office Equipment</strong></td>
<td>0.131</td>
<td>0.294</td>
</tr>
<tr>
<td><strong>Supermarket</strong></td>
<td>-0.668</td>
<td>0.373</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Dimension I</th>
<th>Dimension II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Large choice</strong></td>
<td>0.620</td>
<td>-0.623</td>
</tr>
<tr>
<td><strong>Low prices</strong></td>
<td>-0.674</td>
<td>-0.450</td>
</tr>
<tr>
<td><strong>Service quality</strong></td>
<td>0.985</td>
<td>0.006</td>
</tr>
<tr>
<td><strong>Product quality</strong></td>
<td>0.510</td>
<td>0.305</td>
</tr>
<tr>
<td><strong>Convenience</strong></td>
<td>-0.159</td>
<td>0.917</td>
</tr>
</tbody>
</table>
Positioning

Perceptual map for Office Star data
Positioning

Perceptual map for Office Star data
Assignment for next class

- Monday
  - Read LRB Chapter 4
  - Positioning Tutorial (Enginius)

- Wednesday
  - ISBM Segmentation case
Recap: Perceptual mapping

- We have average perceptions for a number of brands on (many) different attributes/benefits;
- We want to map both the attributes and the brands in a space of low dimensionality without losing too much of the original information;

<table>
<thead>
<tr>
<th>Brands / Attributes</th>
<th>Mahalacto</th>
<th>Nutrine</th>
<th>Mentos</th>
<th>Mint-O-Fresh</th>
<th>Chlormint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exciting</td>
<td>7.3</td>
<td>6.8</td>
<td>4.4</td>
<td>6.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Cooling Effect</td>
<td>4.0</td>
<td>4.2</td>
<td>7.7</td>
<td>6.5</td>
<td>6.4</td>
</tr>
<tr>
<td>Chewy</td>
<td>5.0</td>
<td>7.6</td>
<td>6.3</td>
<td>8.0</td>
<td>8.5</td>
</tr>
<tr>
<td>Hard</td>
<td>8.1</td>
<td>7.1</td>
<td>6.9</td>
<td>7.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Long Lasting</td>
<td>6.0</td>
<td>3.0</td>
<td>7.0</td>
<td>6.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Fresh</td>
<td>4.0</td>
<td>3.3</td>
<td>5.5</td>
<td>4.0</td>
<td>4.8</td>
</tr>
<tr>
<td>Flavours</td>
<td>7.0</td>
<td>3.0</td>
<td>5.3</td>
<td>6.5</td>
<td>8.0</td>
</tr>
</tbody>
</table>
**Recap: Deciding on the number of dimensions**

**Variance Explained**

Variance explained as a function of the number of dimensions.

<table>
<thead>
<tr>
<th>Dimensions / Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total variance explained</td>
<td>0.502</td>
<td>0.265</td>
<td>0.194</td>
<td>0.039</td>
<td>0.000</td>
</tr>
<tr>
<td>Cumulative variance explained</td>
<td>0.502</td>
<td>0.767</td>
<td>0.961</td>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

**Statistics (for two dimensions)**

Descriptive statistics about the input data.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Mean</th>
<th>Variance</th>
<th>Proportion Variance Explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exciting</td>
<td>6.30</td>
<td>1.043</td>
<td>0.499</td>
</tr>
<tr>
<td>Cooling Effect</td>
<td>5.76</td>
<td>1.432</td>
<td>0.942</td>
</tr>
<tr>
<td>Chewy</td>
<td>7.08</td>
<td>1.270</td>
<td>0.918</td>
</tr>
<tr>
<td>Hard</td>
<td>7.06</td>
<td>0.671</td>
<td>0.911</td>
</tr>
<tr>
<td>Long Lasting</td>
<td>5.66</td>
<td>1.376</td>
<td>0.918</td>
</tr>
<tr>
<td>Fresh</td>
<td>4.32</td>
<td>0.757</td>
<td>0.909</td>
</tr>
<tr>
<td>Flavours</td>
<td>5.96</td>
<td>1.717</td>
<td>0.273</td>
</tr>
</tbody>
</table>
Recap: Interpreting the perceptual map of mints

Positioning Map

- Nutrine
- Chlormint
- Mint-O-Fresh
- Mentos
- Mahalacto

Factors:
- Exciting
- Chewy
- Cooling Effect
- Flavours
- Fresh
- Long Lasting
- Hard
- Fresh

I (50.2%)
II (26.5%)
Recap: Interpreting the perceptual map of mints

Positioning Map

- **Nutrine**
- **Chlormint**
- **Mint-O-Fresh**
- **Mentos**
- **Mahalacto**

Axes:
- **I (50.2%)**
- **II (26.5%)**

Dimensions:
- Exciting
- Chewy
- Flavours
- Fresh
- Cooling Effect
- Long Lasting
- Hard
Incorporating preferences into perceptual maps

- Perceptual maps tell us how customers perceive brands, but they are silent about which brands they prefer;
- In order to understand customers’ choices, we have to incorporate their preferences;
- Two types of preference models can be distinguished:
  - Vector preferences: an increase in the amount of the attribute increases preference;
  - Ideal point preferences: there is an ideal amount of the attribute at which preference is highest;
Vector vs. ideal point preferences

Vector preferences

Ideal point preferences

Amount of attribute

preference

preference
Incorporating preferences (cont’d)

- For vector preferences:
  - the brand whose (orthogonal) projection on a consumer’s preference vector is farthest from the origin (in the direction of the arrow) is the consumer’s preferred brand;

- For ideal point preferences:
  - the brand that is closest to a consumer’s ideal point is the consumer’s preferred brand;
Positioning

A simple way to incorporate preferences

- For vector preferences:
  - calculate the average preference of target customers for each brand; add these averaged preferences as another “attribute” to the analysis; alternatively, we could use the market shares of the brands as a proxy indicator of preference;
  - the preference vector in the resulting map shows the direction of increasing preferences in the market;

- For ideal-point preferences:
  - introduce a hypothetical ideal brand and have respondents rate this ideal brand on all the attributes;
  - the location of the ideal brand in the map indicates the most preferred combination of attributes;
Positioning

**Using averaged preferences in the map**

*Perceptual Data with Average Preference Vector*

Average score each brand achieves on each attribute from your sample of respondents.

<table>
<thead>
<tr>
<th>Attributes / Brands</th>
<th>HopDevil</th>
<th>Troegenator</th>
<th>Yuengling</th>
<th>ApricotWheat</th>
<th>PennPilsner</th>
<th>Stratus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltiness</td>
<td>7</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Bitternes</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Pref</td>
<td>5.33</td>
<td>4.83</td>
<td>4.00</td>
<td>4.17</td>
<td>5.00</td>
<td>5.33</td>
</tr>
</tbody>
</table>
Note: This assumes average preferences for HopDevil, Troegenator, Yuengling, Apricot Wheat, Penn Pilsner, and Stratus of 5.33, 4.83, 4.00, 4.17, 5.00, and 5.33.
Positioning Map for PA Beers with Average Preference as an Attribute
### Positioning

**Using an ideal brand in the map**

**Perceptual Data with Ideal Brand**

Average score each brand achieves on each attribute from your sample of respondents.

<table>
<thead>
<tr>
<th>Attributes / Brands</th>
<th>HopDevil</th>
<th>Troegenator</th>
<th>Yuengling</th>
<th>Apricot Wheat</th>
<th>PennPilsner</th>
<th>Stratus</th>
<th>IdealBrand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltiness</td>
<td>7</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Bitterness</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>
Positioning Map for PA Beers with Ideal Brand as Another Brand

Note: This assumes the ideal brand has ratings of 7 and 6 for maltiness and bitterness, respectively.
Positioning Map for PA Beers with Ideal Brand as Another Brand

Note: This assumes the ideal brand has ratings of 7 and 6 for maltiness and bitterness, respectively.
Incorporating (individual) preferences into perceptual maps more explicitly

- If we have data about consumers’ preferences toward the brands, we can try to explain the preferences based on the location of the brands on the dimensions of the map;
- The variance accounted for in a consumer’s preferences indicates how well the preference ratings can be predicted based on the position of the brands on the dimensions;
- Once we have preference vectors or ideal points, we can also predict a brand’s market share:
  - First-choice rule
  - Share of preference rule
- We can also simulate changes in market share if we reposition the brand;
# ME input for PA beers example

## Perceptual Data
Average score each brand achieves on each attribute from your sample of respondents.

<table>
<thead>
<tr>
<th>Attributes / Brands</th>
<th>HopDevil</th>
<th>Troegenator</th>
<th>Yuengling</th>
<th>Apricot Wheat</th>
<th>PennPilsner</th>
<th>Stratus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltiness</td>
<td>7</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Bitterness</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

## Preference Data
Preference score data obtained for each brand from each respondent.

<table>
<thead>
<tr>
<th>Respondents / Brands</th>
<th>HopDevil</th>
<th>Troegenator</th>
<th>Yuengling</th>
<th>Apricot Wheat</th>
<th>PennPilsner</th>
<th>Stratus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent 1</td>
<td>9</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Respondent 2</td>
<td>7</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Respondent 3</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Respondent 4</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Respondent 5</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Respondent 6</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
Which brands do these 6 consumers prefer: Vector preference model
Positioning
Which brands do these 6 consumers prefer: Ideal point model
Positioning

Joint map for PA beers (vector model)

- HopDevil
- Troegenator
- Yuengling
- ApricotWheat
- PennPilsner
- Stratus

Market Share

I (82%) vs II (18%)
Office Star data

- Four different stores are rated on five attributes;
- The stores are Office Star (the target store), Paper & Co., Office Equipment, and Supermarket;
- The attributes are large choice, low prices, service quality, product quality, and convenience;
- 24 customers rated all stores on all attributes on a scale from 1 to 6 (e.g., the extent to which Office Star offers large choice);
- We also know customers’ overall preferences for the four stores (rated on a 1-5 scale);
Positioning

Input data

<table>
<thead>
<tr>
<th>Perceptual data</th>
<th>OfficeStar</th>
<th>Paper and Co</th>
<th>Office Equipment</th>
<th>Supermarket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large choice</td>
<td>5.2</td>
<td>4.4</td>
<td>3.9</td>
<td>2.3</td>
</tr>
<tr>
<td>Low prices</td>
<td>2.1</td>
<td>4.5</td>
<td>2.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Service quality</td>
<td>4.2</td>
<td>2.3</td>
<td>3.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Product quality</td>
<td>3.7</td>
<td>2.6</td>
<td>3.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Convenience</td>
<td>2.7</td>
<td>1.4</td>
<td>4.7</td>
<td>5.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Preference data</th>
<th>OfficeStar</th>
<th>Paper and Co</th>
<th>Office Equipment</th>
<th>Supermarket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lori</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mary</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Radjeep</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Antoine</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Yoshi</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Hubert</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Michael</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Elisabeth</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Mike</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

* This data contains preference data for 24 respondents.
Positioning

Executes a positioning analysis.

**Positioning data**
- Perceptual data
- Include preference data

**Positioning map**
- Number of dimensions: Automatic
  - Output the first 2 dimensions if they explain 80% of the variance or more. Otherwise, output 3 dimensions.

**Focal brand**
- Include focal brand
- OfficeStar

[Help] [Cancel] [Run]
### Average store preferences

<table>
<thead>
<tr>
<th>Store Type</th>
<th>Average preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>OfficeStar</td>
<td>3.46</td>
</tr>
<tr>
<td>Supermarket</td>
<td>3.42</td>
</tr>
<tr>
<td>Office Equipment</td>
<td>3.21</td>
</tr>
<tr>
<td>Paper and Co</td>
<td>2.71</td>
</tr>
</tbody>
</table>
Positioning

Perceptual-preference map
## Customer preferences (excerpt)

<table>
<thead>
<tr>
<th></th>
<th>Dimension I</th>
<th>Dimension II</th>
<th>Dimension III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lori</td>
<td>0.099</td>
<td>-0.089</td>
<td>-0.991</td>
</tr>
<tr>
<td>Mary</td>
<td>-0.176</td>
<td>-0.040</td>
<td>-0.984</td>
</tr>
<tr>
<td>Radjeep</td>
<td>-0.523</td>
<td>0.391</td>
<td>-0.757</td>
</tr>
<tr>
<td>Antoine</td>
<td>-0.073</td>
<td>0.522</td>
<td>-0.850</td>
</tr>
<tr>
<td>Yoshi</td>
<td>-0.134</td>
<td>0.415</td>
<td>-0.900</td>
</tr>
<tr>
<td>Hubert</td>
<td>0.707</td>
<td>-0.074</td>
<td>0.704</td>
</tr>
<tr>
<td>Michael</td>
<td>0.720</td>
<td>0.613</td>
<td>-0.324</td>
</tr>
<tr>
<td>Elisabeth</td>
<td>-0.050</td>
<td>0.105</td>
<td>0.993</td>
</tr>
<tr>
<td>Mike</td>
<td>0.607</td>
<td>0.362</td>
<td>-0.707</td>
</tr>
<tr>
<td>Hal</td>
<td>-0.208</td>
<td>-0.361</td>
<td>-0.909</td>
</tr>
</tbody>
</table>
Positioning by segment

Positioning

Executes a positioning analysis.

**Positioning data**

Perceptual data

- Include preference data
  - Segment preference data
  - Column with segment id

Preference data with segment

Specified in data

Segment

**Positioning map**

Number of dimensions

2 dimensions

**Focal brand**

Additional analyses will be performed on the focal brand if you identify one

- Include focal brand
  - OfficeStar

- Advanced

Help
Cancel
Run
<table>
<thead>
<tr>
<th></th>
<th>OfficeStar</th>
<th>Paper and Co</th>
<th>Office Equipment</th>
<th>Supermarket</th>
<th>Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lori</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>Segment A</td>
</tr>
<tr>
<td>Mary</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>Segment B</td>
</tr>
<tr>
<td>Radjeep</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>Segment B</td>
</tr>
<tr>
<td>Antoine</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>Segment C</td>
</tr>
<tr>
<td>Yoshi</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>Segment C</td>
</tr>
<tr>
<td>Hubert</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>Segment A</td>
</tr>
<tr>
<td>Michael</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>Segment A</td>
</tr>
<tr>
<td>Elisabeth</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>Segment B</td>
</tr>
<tr>
<td>Mike</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>Segment A</td>
</tr>
</tbody>
</table>

* This data contains the preference data, but each respondent has been pre-assigned to a segment. To use this data, go to the Positioning model, and select the following options: Advanced, then Segment preference data, then Specified in data, then select 'Segment' from the dropdown list.
Positioning

Segment-specific individual preferences
Segment-specific average preferences
## Average store preference by segment

<table>
<thead>
<tr>
<th>Store Type</th>
<th>Average preference</th>
<th>Segment A</th>
<th>Segment B</th>
<th>Segment C</th>
</tr>
</thead>
<tbody>
<tr>
<td>OfficeStar</td>
<td>3.46</td>
<td>4.60</td>
<td>2.50</td>
<td>3.00</td>
</tr>
<tr>
<td>Supermarket</td>
<td>3.42</td>
<td>2.40</td>
<td>3.90</td>
<td>4.75</td>
</tr>
<tr>
<td>Office Equipment</td>
<td>3.21</td>
<td>3.20</td>
<td>3.40</td>
<td>2.75</td>
</tr>
<tr>
<td>Paper and Co</td>
<td>2.71</td>
<td>1.90</td>
<td>4.00</td>
<td>1.50</td>
</tr>
</tbody>
</table>
Positioning

Average store preference by segment

- OfficeStar
- Supermarket
- Office Equipment
- Paper and Co

Segment A | Segment B | Segment C
Recap: Ideal vs. vector preferences

Positioning

- Ideal brand
- Brand A
- Brand B
- Preference vector
Recap: Preference mapping with an ideal brand

Positioning Map

- Mahalacto
- Nutrine
- Mentos
- Mint-O-Fresh
- Chlormint
- Ideal Mint

I (41.2%)

II (27.1%)

Attributes:
- Exciting
- Flavours
- Fresh
- Long Lasting
- Cooling Effect
- Chewy

The map illustrates the positioning of various brands based on consumer preference and attributes such as freshness and variety.
Recap: Vector preferences for 3 respondents

Positioning Map

- Mahalacto
- Nutrine
- Mentos
- Mint-O-Fresh
- Chlormint
- Mentos

Positioning

Market Share

I (50.2%)

II (26.9%)

Chewy

Cooling Effect

Exciting

Fresh

Hard

Chewy

Flavours

Long Lasting

Mint-O-Fresh

R2

R1

R3
Recap: Vector preferences for 3 respondents

Positioning Map

- Nutrine
- Chlormint
- Mint-O-Fresh
- Mentos
- Mahalacto

Attributes:
- Exciting
- Chewy
- Flavours
- Fresh
- Long Lasting
- Cooling Effect
- Hard
- Market Share
- R1
- R2
- R3

I (50.2%) vs II (26.5%)
Assignment for next Monday’s class

- Download the overheads (satisfaction.pdf or satisfaction.pptx)
- Read Fornell et al., The American Customer Satisfaction Index (available on Electronic Reserve)
- Look at http://www.theacsi.org/ (explore the information on this web site, esp. the material under About ASCI)
Positioning the Infiniti G20

1. Describe the two (or, if applicable, three) dimensions underlying the perceptual maps that you generated. Based on these maps, how do people in this market perceive the Infiniti G20 compared with its competitors?

2. Infiniti promoted the G20 as a Japanese car (basic version $17,500) with a German feel, basically a car that was like the BMW 318i ($20,000), but lower priced. Is this a credible claim, given the perceptions and preferences of the respondents?

3. Which attributes are most important in influencing preference for these cars in the three segments (S1, S2 and S3) shown on these maps? To which segment(s) would you market the Infiniti G20? How would you reposition the Infiniti G20 to best suit the chosen segment(s)? Briefly describe the marketing program you would use to target the chosen segment(s).

4. What ongoing research program would you recommend to Infiniti to improve its evaluation of its segmentation of the market and positioning of its G20?

5. Summarize the advantages and limitations of the software provided for this application.

[Focus on the first three questions]