Positioning

Product Positioning Using Perceptual & Preference Maps

**Differentiation:** Creation of differences on one or two key dimensions between a focal product and its main competitors.

**Positioning:** Strategies that firms develop and implement to ensure that the created differences occupy a distinct position in the minds of customers.

**Mapping:** Techniques (using customer-data) that enable managers to develop differentiation and positioning strategies by visualizing the competitive structure of their markets as perceived by their customers.
Generic Positioning Strategies:

- Positioning on specific product features
  - Sport
  - Roomy
- Positioning on benefit, problem solution or needs
- Positioning against another product
  - 7 up (Uncola)
- Positioning through service uniqueness
  - Singapore airlines

To Position Products

- Marketing managers must understand the dimensions along which target customers (current/potential) view their brand:
  - How do our customers (current/potential) view our brand?
  - Which brands do these customers perceive to be our closest competitors?
  - What product and company attributes seem to be most responsible for these perceived differences?

- The perceptual mapping methods provide formal mechanisms to depict the competitive structure of markets in a manner that facilitates differentiation and positioning decisions.
A Perceptual Map

A perceptual map is a spatial representation in which competing alternatives and attributes are plotted in a Euclidean space.

Characteristics of the map:
(1) The pairwise distances between product alternatives directly products, that is, how close or far apart the products are in the minds of customers.
(2) A vector on the map (shown by a line segment with an arrow) indicates both magnitude and direction in the Euclidean space. Vectors are usually used to geometrically denote attributes of the perceptual maps.
(3) The axes of the map are a special set of vectors suggesting the underlying dimensions that best characterize how customers differentiate between alternatives.

Example: Perceptual Map of Beer Market

[Diagram of perceptual map showing various brands and attributes such as Heavy, Light, Budget, Premium, and attributes like Full Bodied, Pale Color, Blue Collar, etc.]
Perceptual Maps Facilitate Decision Making

- By summarizing a large amount of information, such maps help managers to think strategically about product positioning.
  - Manager can focus on positioning decisions on the underlying dimensions instead of thinking on several attributes.

Potential Uses of Mapping Techniques

- Understand the market structure of product categories as perceived by customers. This may help in identifying new
- Select the set of competitors to compete against.
- Identify weak competitors.
- Evaluate a new product concept in the context of existing brands in the market.
- Developing a name for a new product.
Mapping Methods in Marketing

Perceptual Maps
- Similarity-based methods (particularly useful for image-oriented products)
- Attribute-based methods (particularly useful for functional products used in the course MDPREF program)

Preference Maps
- Ideal-point model (unfolding model)
- Vector model

Joint Space Maps
- External analysis using PREFMAP-3 program
- using modified perceptual mapping methods using MDPREF program

Attribute-based methods

4-steps:
1. Identify the set of competing alternatives (products) and the attributes on which those products will be evaluated.
2. Obtain perceptions data and organize it into a matrix representing customer perceptions of each alternative on each of the pre-specified attributes.
3. Select a perceptual mapping method. The method used in the software accompanying this book is called MDPREF. It relies on a factor-analytic approach derivation of perceptual maps.
4. Interpret the output of the perceptual mapping method used.
Perceptual Maps Using Attribute Ratings

Example: Evaluation of New Laptop Concept with Longer Battery Life

Step 1: (Identify the set of competing alternatives and the attributes)

- Select a set of laptop computers of interest to the target group (including the new concept). (e.g., IBM, Toshiba, Toshiba_new, Compaq, NEC, Dell)
- Ensure that consumers are familiar with the laptops (e.g., through video presentation).

- Identify key attributes (e.g., through focus groups):

<table>
<thead>
<tr>
<th>Reliable</th>
<th>Unreliable (A1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common</td>
<td>Distinctive (A2)</td>
</tr>
<tr>
<td>Light</td>
<td>Heavy (A3)</td>
</tr>
<tr>
<td>Short battery life</td>
<td>Long battery life (A4)</td>
</tr>
<tr>
<td>Poor value</td>
<td>Good value (A15)</td>
</tr>
</tbody>
</table>

Step 2: (Obtain perceptions data and organize it into a matrix)

- Have consumers evaluate the laptops.

<table>
<thead>
<tr>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>A15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dell 320N</td>
<td>6</td>
<td>3</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>C1</td>
<td>TI Travel mate</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Toshiba concept</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

Dell 320N
C1 TI Travel mate
Toshiba concept

- Compute average ratings of each brand on each attribute.

Step 3: (Select a perceptual mapping method)

- Submit data to a suitable perceptual mapping technique (e.g., MDPREF or Factor Analysis).
Factor Analysis

Factor Analysis is a technique for finding underlying dimensions and interrelationships among variables (here, attributes) based on a data matrix consisting of the values of the attributes for a number of different alternatives (here, brands).

Let $X$ be a matrix with $m$ rows (alternatives) and $n$ columns (attributes), with the data in the matrix consisting of the average ratings of each alternative on each attribute by a sample of customers. Let $X_s$ represent a standardized matrix (the effect of the measurement scale is removed).

The model decomposes the matrix $X_s$ (mxn) into two matrices: $X_s = Z_s \times F^T$

(1) the factor score matrix, $Z_s$ (mxr)

where $r$ is the number of factors (dimensions) of the perceptual map, $r < n$, usually $r=2$ or $3$

and

(2) the factor loading matrix, $F$ (nxr)

Information Content of an Attribute

We seek for $r$ factors (typically $r=2$ or $3$), orthogonal, which retain as much information contained in original data matrix is possible.

Variance (the dispersion of values around a mean) is a measure of the information content of an attribute. The larger the variance, the higher the information content.

The factors retained should recover more than 60 to 70 percent of the variance of the original data.
A Pictorial Depiction of Attribute-Based Perceptual Mapping

Attributes

Alternatives

Factors

Alternatives

Factors

Step 4 (Interpret the output)

- The arrow indicates the direction in which that attribute is increasing (The attribute is decreasing in the direction opposite to the arrow).

- The length of the line from the origin to the arrow is an indicator of the variance of that attribute explained by the 2D map. The longer this line, the greater is the importance of that attribute.
Attributes that are both relatively important and close to the horizontal (vertical) axis help interpret the meaning of the axis.

To position an alternative on each attribute, draw an imaginary perpendicular line from the location of the alternative onto that attribute. (These are shown by dashed lines on the map).

Perceptual Map of Laptop Market
(This slide shows only the brands)
(This slide shows only the attributes)

- Low battery life
- Keyboard
- Expandability
- Distinct
- Elegance
- Avant-Garde
- Fast operation
- Good design
- Value
- Graphics
- Screen quality

Unsuccessful
Heavy
Reliable
Difficult to use
Poor setup

(ME Basics 19)

(This slide shows both products & attributes)

- Toshiba
- Compaq
- HP
- IBM
- Dell
- TI
- NEC
- Samsung

Low battery life
New Concept
Expandability
Distinct
Elegant
Avant-Garde
Fast operation
Good design
Value
Graphics
Screen quality

(ME Basics 20)
Joint-Space Maps

Objective: Introduce customer preferences into perceptual maps in

Two Preference Models

Ideal-Point Preference Model

- Preference
- Ideal Point
- Attribute (e.g., sweetness)

Vector Preference Model

- Preference
- Attribute (e.g., quality, service speed)

Incorporating Preference Maps: Ideal-Point Map

as an additional alternative evaluated by customers.

- Distance of a brand from the ideal-brand on the map is a measure of preference for the brand

A is preferred twice as much as B.

\( d_{IA} = 2d_{IB} \)
Incorporating Preference Maps: Vector Map

A simple vector method:

- additional variable (attribute) in the ratings data
  - attribute simultaneously with other attributes on which the products are rated.
  - Preference vector indicates the direction in which preference is increasing in the map.
  - Helps identify which attributes influence consumer preferences
  - Helps identify which brands are most preferred in the aggregate

Preference Vector Map Using MDPREF Vector Model

- A simple vector method:
  - additional variable (attribute) in the ratings data
    - attribute simultaneously with other attributes on which the products are rated.
    - Preference vector indicates the direction in which preference is increasing in the map.
    - Helps identify which attributes influence consumer preferences
    - Helps identify which brands are most preferred in the aggregate

- Preference Vector

- (b) $A$ is preferred to $B$ and $B$ is preferred to $C$.
- With reference to $A$, $C$ is preferred half as much as $B$.
- $(d_{AC} = 2d_{AB})$
Mapping Preferences

PREFMAP3 is a mapping model based on the assumption that respondents who have common perceptions of a set of alternatives may have widely differing preferences for these alternatives.

- PREFMAP3 starts with a perceptual map giving the locations of the product alternatives (developed external to the PREFMAP3 model).
- In the second step it introduces for each respondent either an ideal brand or a preference vector into the map.

This approach is called external unfolding.

Positioning Analysis Software
- G20 is closer to BMW and Saab than to Toyota.
- It is perceived as attractive, successful, high prestige, quiet and roomy.
- In the overall segment customers prefer the BMW or Saab on Infiniti G20.

**CHALLENGE:** By restyling G20 Infiniti may increase its attractiveness this would position G20 southwesterly that would result in a 6.67% market share under first choice rule.
Exercise #5: Positioning the Infiniti G20

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

**Question 2**
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)?