Rapid Product Navigation: A Consumer-Driven Process To Develop an Optimal Product

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Introduction

- Ever-increasing constraints on resources
  - Reduced budgets
  - Very short product development timelines

- Question: How can we most efficiently develop the best product possible?
  - Rapid product navigation (RPN) developed to meet these demands
Other Approaches

- Descriptive analysis
- Iterative CLT/HUT’s
- Design of experiments

What’s missing?
The Voice of the Consumer
Rapid Product Navigation

- Occurs as a series of qualitative discussion groups that are:
  - Consumer-driven
Example Product Map

- **Sweetness**
  - Low
  - Very High

- **Flavor Intensity**
  - Low
  - Very High

- **Competitor**
- **Prototype A**
- **Prototype C**
- **Optimum**
- **Prototype B**
Rapid Product Navigation

- Occurs as a series of qualitative discussion groups that are:
  - Consumer-driven
  - Rapid
  - Highly-effective & powerful
Note: Due to proprietary concerns, actual research data and findings could not be presented. This case study is fictional, but was devised based on actual research experiences with RPN.
Company ABC’s marketing department wanted to launch a new moist smokeless tobacco (MST) product

- Brand Y line extension into the Flavor F segment

- Flavor F segment dominated by competitor’s Product X
Preliminary Product Screening

- Before RPN, must know:
  - Starting prototype for navigation
  - Design elements to be explored
  - Potential consumer segments

- Start very broad and narrow down
  - Reduces the possibility of missed product opportunities

- Method depends on the product category and number of prototypes
Results from Product Screening

- Starting prototype for RPN:
  - Prototype A

- Design elements:
  - Tobacco blend
  - Balance of overall flavor intensity & sweetness
  - Ingredient K

- Potential consumer segments:
  - Only one – adult consumers of Competitor Product X
Product Design Matrix

- Products available for the RPN

- 4 factors of interest \(\rightarrow\) matrix of 36 prototypes
  - But will simplify this example to two factors \(\rightarrow\) 9 prototypes

<table>
<thead>
<tr>
<th>Factor</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweetness</td>
<td>Low, Moderate, High</td>
</tr>
<tr>
<td>Flavor Intensity</td>
<td>Low, Moderate, High</td>
</tr>
</tbody>
</table>
Qualitative Product Space (QPS)

- How to navigate products using consumer language?
- Translate the product design matrix into a sensory product space
- Prototypes mapped by project team
Recruiting Participants

- 4 groups of 6-8 Competitor Product X adult consumers were recruited

- Number of groups needed may vary based on:
  - # design elements to be explored
  - # products per group session – depends on
    - Duration of normal product use
    - Potential for carryover
  - # possible consumer segments

- Recommend 6-8 participants per group
Discussion Flow

Introduction

• Introduce QPS map by placing their own brand on the map
• Warm-up sample to eliminate the first-order effect

Stimulus-Response

• Product evaluations followed by discussion
• Discuss liking, key attributes, comparison to other products, improvements needed
• Place product in QPS map

Summary

• Rank products and discuss rationale
• Identify improvement opportunities
• Complete QPS map by identifying the “ideal” space
RPN Group Discussions

Most important:

- Each group is really 6-8 simultaneous, individual assessments
  - Not looking for group consensus
Rapid Product Navigation

Two approaches to navigating the qualitative product space:

- Within a discussion group
- Across discussion groups
Within-Group Navigation

- Decide the next prototype based on feedback from the previous prototype
  - Use for simpler projects with few factors
  - Repeat process across multiple groups for confidence in results
Within-Group Navigation

- Better flavor intensity
- Not sweet enough

Prototype 7

- More flavor intensity
- Too sweet

Prototype 5

Prototype 4

- Right flavor intensity
- A little too sweet

Prototype 9

Prototype 6

Prototype 8

Prototype 3

Prototype 1

Prototype 2

Perfect!
Design Validation

- Validated results in a quantitative blind home use test
  - Understanding of the key design elements gained during the group discussions drives the questionnaire development
  - Confirm acceptability prior to quantitative test
    - Small-scale HUT
    - Follow-up interviews may provide additional information on minor changes needed
Quantitative Home Use Results

Among Competitor Product X Adult Consumers

(n=170)

Overall Liking

<table>
<thead>
<tr>
<th>Competitor Product X</th>
<th>Final Prototype</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>4.7</td>
<td>5.0A*</td>
</tr>
</tbody>
</table>

Among Competitor Product X Adult Consumers (n=170)
Across-Group Navigation

- Decide prototypes for next group based on feedback from previous group

- Use for complex projects with multiple factors

- Confirm decisions across multiple groups for confidence in results
Conclusion
Conclusion

- Rapid, consumer-driven, highly-effective & powerful
- Reduced 18-24 month development time to 6 months or less
- Adapted for both new product development & product modifications
  - Demonstrated multiple successes across product categories
- Increased understanding
- Built strong collaborative partnerships with Product Development
For More Information

- Article in press in Food Quality and Preference

- Now available online
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