HAIR OIL SENSORY MAPPING

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BY UTILIZING MODIFIED PAIRED COMPARISON METHOD

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1 INTRODUCTION

To identify the innovation opportunities for hair oil, it's a vital part to understand the landscape of competitors and internal technologies by utilizing sensory mapping.

Half-head paired comparison on subjects' head hair by sensory experts is considered as a fast evaluation method for hair oil.

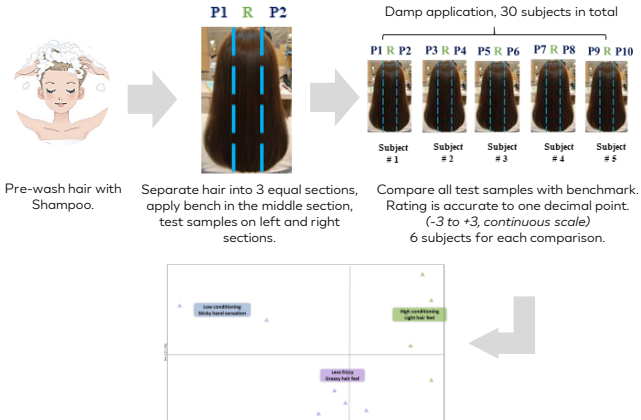
Expert mapping, modified from paired comparison method, enables to generate sensory mapping based on sensory expert test results.

2 MATERIALS & TOOLS

- **Test Type:** Hair sensory expert test*, modified paired comparison method
- **Study Set:** 10 worldwide hair oil top sellers with different technologies
- **Subjects:** 30 subjects with similar hair type (middle damaged straight hair)
- **Evaluation Time point:** Timm (Instant)
- **Applied Statistics:** Multiple Factor Analysis (MFA), Cluster Analysis
- **Attribute** Included in the sensory mapping

Stage	Attribute		
Application	Remaining stickiness		
Wet hair	Soft Smooth	Individualized Coating	
Dry hair	Anti-frizzy Volume Shine Mass Effect	Lightness Soft Smooth	Coating on hair length Coating on hair tips Greasiness on hair Individualized

- **Test Flow:**



Pre-wash hair with Shampoo.

Separate hair into 3 equal sections, apply bench in the middle section, test samples on left and right sections.

Compare all test samples with benchmark. Rating is accurate to one decimal point. *(-3 to +3, continuous scale)* 6 subjects for each comparison.

Obtain average value of 6 subjects for each test sample. Process the data with MFA & Cluster Analysis.

* Hair sensory expert test: Trained professionals evaluate on volunteers' head hair by paired comparison with a set of fixed sensory attributes under controlled evaluation conditions.

3 RESULTS & DISCUSSION

- 10 hair oils are in 3 clusters.
  - i. Green Cluster: high conditioning with light hair feel *(project benchmark is in this cluster)*
  - ii. Blue cluster: sticky hand sensation, low hair conditioning level
  - iii. Purple cluster: Less frizzy & greasy hair feel
- The sensory mapping guides the hair oil development direction by:
  - i. Identify the technical path (in green cluster) to deliver comparable sensory performance with project benchmark.
  - ii. Competitor A can be set as sensorial excellence bench due to its superior dry hair smoothness vs. project benchmark from qualitative reading.

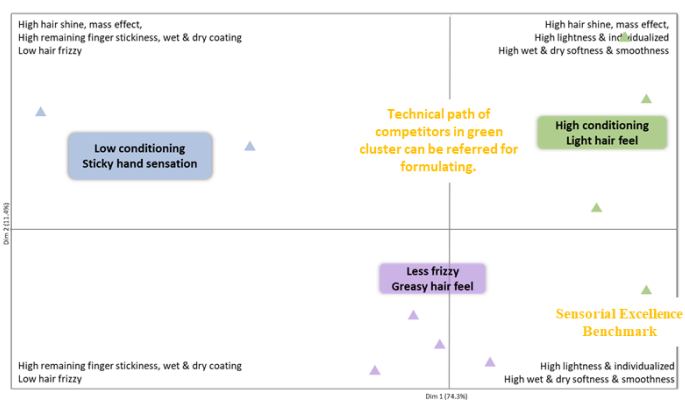


Fig 1: Hair Oil Sensory Mapping

4 CONCLUSIONS

- In this hair oil study, sensory mapping based on sensory expert test result can give an overview of technologies with an adequate sensorial differentiation, which is applicable for innovation opportunity exploration.
- Discrimination was seen between hair oil products in application, wet hair and dry hair stages, which is well aligned with technical hypothesis.

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