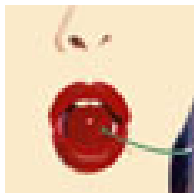


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Research and Sensory Marketing

Comparative aspects of sensory profiling and consumer tests for food and non-food products

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Contents of the presentation

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 - Comparison of sensory use in Fd & NFd industries
 - Common characteristics and specificity
- **Sensory tests / consumer tests**
 - Objectives, Methods, Examples
- **Food and non food perspectives**
 - Relative impact of sensory Versus other properties
 - Test designs of multi-sensory studies

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Introduction

What are we discussing today ?

- **Food / Non Food**
 - Eaten products : mainly foods, drinks, candies ...
 - Non eaten products : mainly cosmetics/perfumes, materials
- **Sensory profiling**
 - Trained panels
 - Defined attributes
 - Blind replicated evaluation
- **Consumer quantitative tests**
 - Targeted consumers
 - Overall liking and simple items
 - Blind single evaluation

The questions addressed

- **Why are sensory methods used in Fd & NFd industries? What type of results are expected ?**
- **What type of methods are used? Are there shared methodologies ?**
- **How are they designed and practically organized ?**
- **How specific are they ? How methods may evolve taking advantage of each specific know-how ?**

Objectives of sensory profiling

In R&D projects	Fd	NFd
▪To compare various prototypes under development	++	++
▪To know the competitive market place	++	++
▪To understand the effect of ingredients & processes	++	+
▪To correlate sensory & instrumental/consumer data	++	+

In Marketing projects	Fd	NFd
▪To understand customers' preference	++	+
▪To know the competitive market place	++	+
▪To define a concept positioning	+	+

In quality projects	Fd	NFd
▪To define standards /to identify defects	++	+
▪To accredit suppliers	++	+

Objectives of QUANT consumer tests

In R&D projects	Fd	NFd
▪To correlate sensory and consumer data	++	+
▪To compare various prototypes under development	++	++
▪To know the competitive market place	+	++

In Marketing projects	Fd	NFd
▪To estimate the chances of success of a product	++	++
▪To understand customers' expectations & preference	++	++
▪To know the competitive market place	++	++
▪To correlate sensory and consumer data	++	+

Fd / NFd Relative uses of methods

- **Sensory profiling**
 - Food industries tend to use it more than Non Food
- **Consumer Quantitative tests**
 - Non Food industries tend to use them more than Food

→ However, these tendencies are general and depend on:

- Company's strategy
- Type of products



Sensory profiling methodologies



Involved senses

	Fd	NFd
<ul style="list-style-type: none"> ▪ Vision <ul style="list-style-type: none"> ▪ Colour, transparency, constitutive elements ▪ Shape 	<p>++</p> <p>++</p> <p>+</p>	<p>++</p> <p>++</p> <p>++</p>
<ul style="list-style-type: none"> ▪ Olfaction <ul style="list-style-type: none"> ▪ Direct sniffing ▪ In-mouth 	<p>++</p> <p>+</p> <p>++</p>	<p>+</p> <p>+</p> <p>+</p>
<ul style="list-style-type: none"> ▪ Taste <ul style="list-style-type: none"> ▪ Immediate / after-taste 	<p>++</p> <p>++</p>	<p>+</p> <p>+</p>
<ul style="list-style-type: none"> ▪ Touch <ul style="list-style-type: none"> ▪ Hand ▪ In-mouth ▪ Body 	<p>++</p> <p>++</p> <p>++</p>	<p>++</p> <p>++</p> <p>+</p> <p>+</p>
<ul style="list-style-type: none"> ▪ Sound <ul style="list-style-type: none"> ▪ Hand ▪ In-mouth 	<p>+</p> <p></p> <p>+</p>	<p>++</p> <p>++</p> <p></p>

Protocols

	Fd	NFd
<ul style="list-style-type: none"> ▪ Selection & set-up ▪ Internal panels ▪ External panel ▪ Outsourced panels 	<p>++</p> <p>+</p> <p>++</p> <p>++</p>	<p>++</p> <p>++</p> <p>+</p> <p>+</p>
<ul style="list-style-type: none"> ▪ Attributes & definition ▪ Professional list ▪ Consensus list 	<p>++</p> <p>+</p> <p>++</p>	<p>++</p> <p>++</p> <p>+</p>
<ul style="list-style-type: none"> ▪ Training ▪ Practical work ▪ Performance checking 	<p>++</p> <p>++</p> <p>++</p>	<p>++</p> <p>++</p> <p>+</p>
<ul style="list-style-type: none"> ▪ Evaluation ▪ Blind ▪ Replicated ▪ In-use 	<p>++</p> <p>++</p> <p>++</p>	<p>++</p> <p>++</p> <p>++</p> <p>+</p>

Example of a non food sensory profile



- **Product**
 - Diapers
- **Objectives**
 - To optimize a new product in comparison to the leader
- **Panel**
 - 15 women
 - Testing the product at home with the baby
- **Training**
 - At home (with babies)
 - + in room (after notes)

Questionnaire (paper)



■ Attributes

- Resistance of the lateral straps (at set-up, after use...)
- Elasticity at set-up, Opening easiness ...

Question « Résistance à la mise en place, enfant debout ou assis »

pas résistant

0	1	2	3	4	5
---	---	---	---	---	---

très résistant

Côté déchiré: gauche de l'enfant / droit de l'enfant / les deux

Question « Résistance à l'utilisation »

pas résistant

0	1	2	3	4	5
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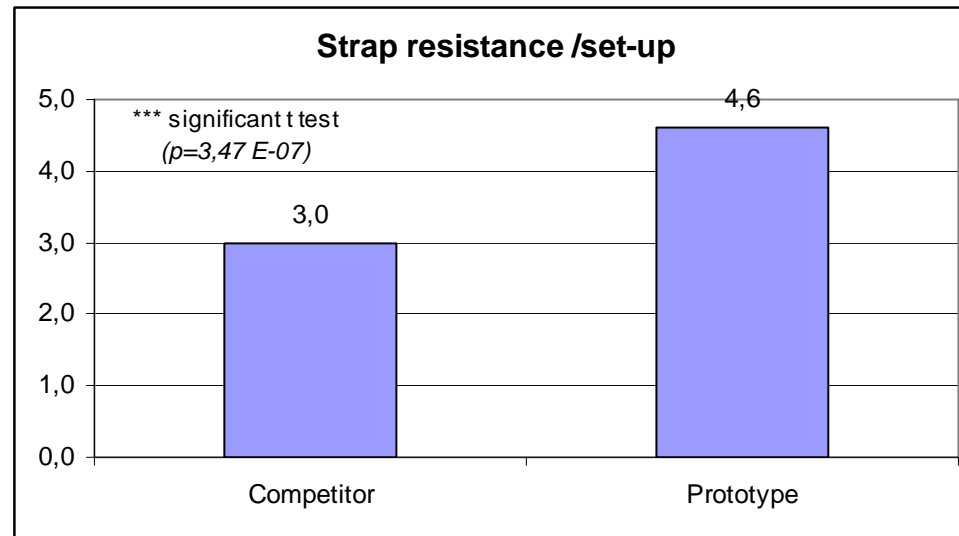
très résistant

Côté déchiré: gauche de l'enfant / droit de l'enfant / les deux

Results



- **Example of obtained results**



- **Conclusions**

- Successive tests allowed to improve product performances
- A final consumer in-use test checked the good level of performance of the new launched diaper



Consumer quantitative tests methodologies



Items of interest

	Fd	NFd
▪Overall liking	++	++
▪Uni-dimensional sensory liking ▪Color, hand Texture, Flavour, Appearance, Sound	++	+
▪Purchase intents	++	++
▪Fit to Concept	+	++
▪Fit to Brand	++	++
▪Agreement to symbolic values / benefits	+	++
▪Functional items	+	++

Protocols

	Fd	NFd
<ul style="list-style-type: none"> ▪ Consumer target <ul style="list-style-type: none"> ▪ Gender, age ... ▪ Brand quotas ▪ Frequency uses ▪ Naivety 	<p>++</p> <p>++</p> <p>+</p> <p>++</p> <p>+</p>	<p>++</p> <p>++</p> <p>++</p> <p>++</p> <p>++</p>
<ul style="list-style-type: none"> ▪ Questionnaire length Sensory, functional, image ... 	<p>+</p>	<p>++</p>
<ul style="list-style-type: none"> ▪ Number of samples 	<p>++</p>	<p>+</p>
<ul style="list-style-type: none"> ▪ Fieldwork <ul style="list-style-type: none"> ▪ Sensory lab ▪ In-use 	<p>++</p> <p>++</p> <p>+</p>	<p>++</p> <p>+</p> <p>++</p>
<ul style="list-style-type: none"> ▪ Statistics <ul style="list-style-type: none"> ▪ Segmentation, link to sensory ... 	<p>++</p>	<p>+</p>

Example of a non food consumer test

**Adapted study to ensure confidentiality*

- **Product**
 - Shower gel
 - 3 formula (1 current KR26 + 2 alternatives)
- **Objectives**
 - To identify the best alternative of a current ingredient
- **Panel**
 - 60 women recruited according to age and brand quotas
 - In-use test
- **Protocol**
 - Each sample daily tested for 1 week
 - As many times as needed
 - Questionnaire filled after 1 wk use

Questionnaire

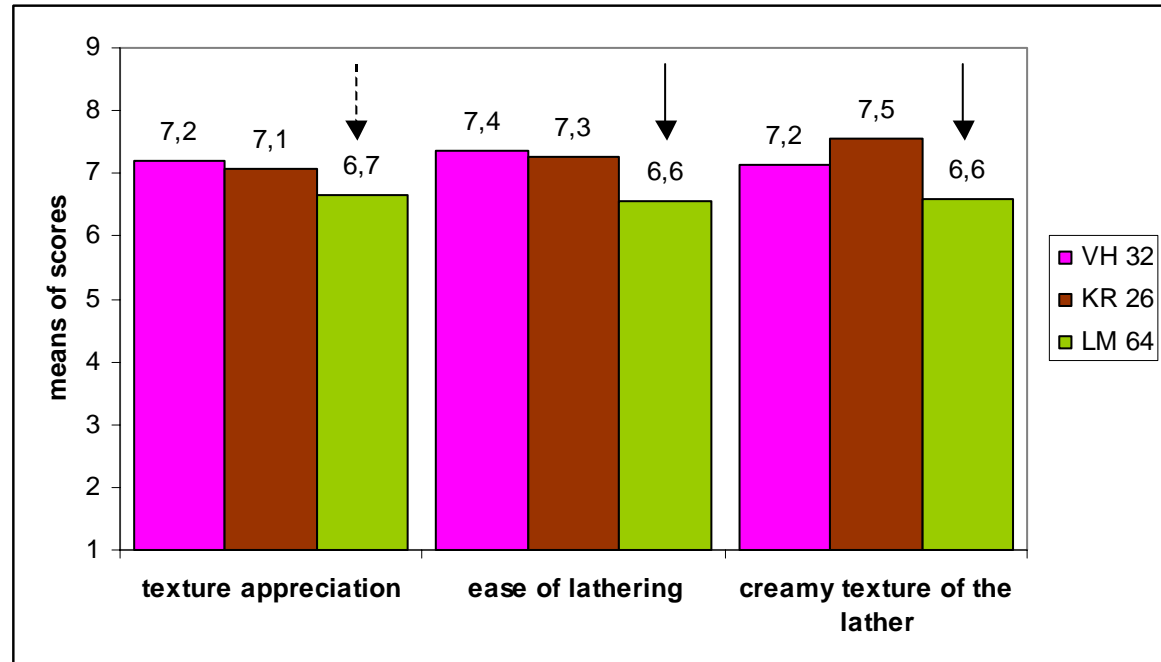
**Adapted study to
ensure confidentiality*

- **Various usage stages**
 - when pouring the product into the hands,
 - when applying it on the body,
 - after the washing
- **24 items**
 - overall liking, texture liking, fluidity, usage performance, lather quality ...
- **9-point scales and Just About Right scales**
- **2 opened questions**
 - likes and dislikes

Results

**Adapted study to ensure confidentiality*

■ Example of obtained results



■ Conclusions

- LM64 has a less appreciated texture than the 2 others
- LM64 lather appears less easily and presents a less creamy texture.
- → The best alternative regarding an ingredient change is sample VH 32.

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Food and non food perspectives

5 senses ...

OLFACTION

aroma

environment

materials perfumes

motor



softness

TOUCH

SOMESTHESIA

KINESTHESIA

commands

seating

movement

hair / skin feel

thermal perception

smoothness



pack / product interaction

TASTE

immediate

after-taste

appearance

SIGHT

shape

transparency

color

light effects

opening and closing

material contact

AUDITION

environment acoustics

mechanics mastication sound



Other dimensions ...

Functionality

Usage context

Ergonomics



Design

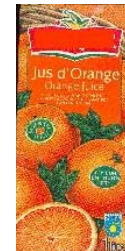
Brand image

Symbolic benefits



Advertisement

Cost



Personal /social image

Range level

Methodological consequences : numerous parameters

- **Sensory importance**
 - Emotional value, symbolic benefit
- **Context effects**
 - Usage, day time, frequency
- **Brand image**
 - Famous name, range level
- **Price**
 - Quality expectation
- **Packaging**
 - Fit to concept and product
- **Adequate protocols & questionnaires**
 - In-use / Lab condition
 - Closed / opened questions
 - Intensity /JAR scales
 - Consumer / expert vocabulary

Perspectives

- **Interactions between sensory modalities**
 - Designs of multi-sensory studies
 - Role of context
 - Impact of time and space
- **Interactions with other product dimensions**
 - Relative impact of sensory Versus other properties
 - Ergonomics / functionality
 - Design / aesthetics...
- **Understanding inter-individual differences**
 - Perception
 - Preference
 - Behaviour

Fd / NFd

- **Involved senses**
 - All 5 senses involved in Fd & NFd industries
 - Dependent on product usage
- **Protocols**
 - Professionalism in both sectors
 - Longer history in sensory evaluation for Food
- **Specificity**
 - Food : preparation, fatigue, shorter sessions
 - Non food : monadic, in-use phases, brand / shape bias



Food?





Non Food?



Sectors' segmentation? *rather than food & non food ...*

- **Basic products**
 - Ordinary, daily use, low personal commitment
- **Functional products**
 - Utility, nutritional or health benefit
- **Pleasurable products**
 - Individual or shared pleasure
- **Luxury products**
 - Social image, personal well-being

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Thank you for your attention

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