



Sensory Research

Sensory analysis is a small branch of psychology (sometimes referred to as psychophysics) concerned with systematically quantifying human sensory responses to a product. This process essentially uses trained humans as analytical instruments under strictly controlled conditions. This approach helps us to understand the effect and manipulate formulations in a predictable fashion helping clients to develop a successful product.

Creating a product is a complicated process and requires a lot of experience. For example a food technologist, after years of training and experience is able to combine dozens of ingredients and understands how different characters blend and affect one another. Expert formulators, flavourists or perfumers have very precise, complex and professional languages to describe their formulations. The average consumer tends to have a very poor flavour and olfactory (odour) language and may not even mention significant flavour or aroma notes in a product. Consumers tend to use a few hedonic, evaluative and associative terms (quite often just "I like it") that are virtually impossible for us to characterise in a predictable fashion. Sensory analysis uses a team of trained people (a trained panel) with high sensory acuities as a half waypoint between these two worlds, and act as a translator. It enables us to understand the relationships between products and produces unbiased results from statistical data. These results can be combined with the consumers views (market research) and give structure to consumer response. We can then modify formulations to meet consumers' needs and give product development teams a systematic view of opportunities within the marketplace.

The sensory panel will be able to answer the following questions:

- 1) Is the ingredient **detectable**? Or within a product what are the significant ingredients? They can also quantify these.
- 2) **Recognition**, what does this taste of, what does this odour smell like? The sensory panel will be able to characterise the detectable features of a formulation using a precise language directly relating to controlled stimuli.
- 3) **Differences**. The sensory panel will be able to precisely define the differences and relationships between two or more products.

What are sensory properties?

Sensory properties include all aspects of a product or service perceived by one or more of the five senses as part of the product experience. These may be:

- Visual (colour, texture, size, shape, etc.)
- Tactile ("mouthfeel", "skinfeel", surface tactile texture, etc.)



- Auditory (crunch, squeak, etc.)
- Olfaction (taste, flavour and smell)
- Kinaesthetic and/or feeling factors associated with product use (cooling, burning, tingling, etc.)

Why are sensory properties important?

Most people, including product developers, do not realize how extremely important sensory properties are for consumers. In addition to product performance factors, consumers will accept or reject a product based upon whether or not he/she likes one or more of its sensory characteristics. These characteristics have a hierarchy with some are more important than others. For example, a good aroma in a product can create a very strong halo effect that actually boosts perceptions of product performance, and reinforces the brand imagery.

Sensory analysis

Is an objective, precise and reproducible scientific method of obtaining descriptions of the sensory properties of products that are independent of time and location. Rigorous methodologies are used to minimise external influences and the results are subjected to thorough statistical analysis to check variations in responses. It can be used for assessing formulation and ingredient performance, intensity, impact, and full profiles can be produced. These in turn can be statistically related to consumer attitudes and expectations and give a precise guide to formulation development that will meet the consumers needs.

Hedonics

How pleasant is the product? This is a perceptually (and cognitively) a different task and should not therefore be mixed with a sensory analysis. Consumer attitudes are therefore studied using different **consumer panels** who are able to characterise such attributes as suitability, image and preference.

The advantage of consumer and sensory panels

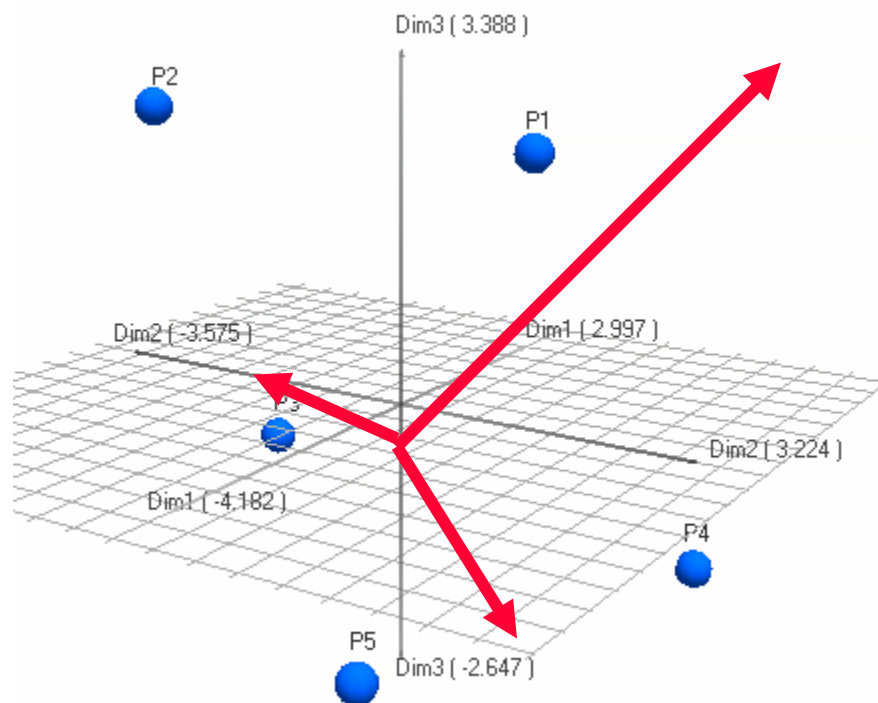
Using trained sensory panels or consumer panels gives us access to consumer reaction, both informal and structured at the very early stages of product development. Such input can be obtained easily, quickly, and at little cost. Thus, clients are no longer compelled to develop expensive early product prototypes with attributes that rely heavily on their own perceptions. Early consumer input, even though it is largely qualitative and non-projectable, offers a prediction of the prototype's acceptability.

This type of research is an evaluative tool, the use of which enables us and our clients to accurately determine key product attributes that are fundamental to the development of the successful product in a particular category.

What kinds of methods do we use?

There are many options, both qualitative and quantitative, that may be used to explore consumer needs and opinions and to provide technical sensory assessments that measure formulation progress. These include:

- * focus groups and one on one interviews
- * descriptive analysis panels
- * consumer tests - central location and home use
- * specialized panels to address specific problems or issues



MDS map of a product space showing key preference drivers



How does sensory analysis fit in to the product development process?

Effective sensory research provides an environment of support and partnership with product development and bench chemists. It is most successful when introduced at the beginning and used through out the development cycle. It can save time and money by assessing iterations without costly (in terms of time and money) consumer testing rounds every time a formulator tweaks a prototype.

What is a winning product?

This answer depends to some extent upon the category but in general a winning formulation should support product concept and imagery and brand preconceptions, delivering a congruent message to the consumer. It should boost product function while enhancing perceptions of overall effectiveness.

Can we help your company develop a winning product?

We specialise in developing briefs and working with raw ingredient suppliers to optimise the development process. Speaking the developers' language and offering continuous feedback during the process between fielding the brief and accepting submissions helps to insure outstanding results. A combination of expert descriptive analysis and consumer screening supports fine-tuning the developments to meet client's objectives.

How can we give your company a competitive advantage?

In today's highly competitive market place, manufacturers strive for every advantage. In many cluttered product categories only a product sensory signals help to distinguish it and, in fact, give it distinction. Adding sensory devices to the product development toolbox aids in faster, more effective identification and optimisation of the signals. Fine-tuning a products sensory profile can significantly enhance consumers' perceptions of product effectiveness and acceptability. The profiles objective is to optimise sensory acceptance or to discover how a specific category is segmented from a sensory point of view (for example, strong flavour seekers and strong flavour "avoiders"). It also leads to a more efficient product development process, through determining the optimum product formulation.

Alongside this our in-depth understanding and profiling of consumer behaviour allows us to identify and optimise key acceptance points, differentiators, emotional and attachment touch points and purchase drivers leading to the understanding of the optimum product image and comprehensive understanding of the potential end-users.