Multi Challenges for a Multisensory Panel

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Introduction

Sensory science is defined as a scientific method used to evoke, measure, analyze, and interpret those responses to products as perceived through the senses of sight, smell, touch, taste, and hearing (Stone and Sidel, 1993). This definition encompasses both analytical methods, such as descriptive and discriminative testing and hedonic methods, including qualitative and quantitative consumer testing used to address sensory research objectives.

Background

To select and train a sensory panel with the purpose of using all their senses in evaluating products is a challenge. There are different types of standards on how to select and train sensory analytical panels. However, there are no standard covering all senses.

Some guidance to select and train a multisensory panel might be found in the ISO standard ISO8586:2012. Criteria for tastes and odours are clear and concise. Some advices concerning tactile senses (perception of texture) and vision (colour vision) are given. To find guidance in measuring the sensorial perception of audio and vision the literature might be consulted eg by Zackarov and Bech (2006), Legarth and Zacharov (2009) and Rossi (2013).

Focus

The challenges for a multisensory approach are many. In this study our focus is on:

- Selection of an analytical multisensory panel
- Training and how to keep a multisensory panel updated

Results and Discussion

Guidance to select and train a sensory panel might be found in the earlier mentioned litrature. However, in order to select and train a multisensory panel the criteria for each of the assessors has to be set quite moderately compared to selcetion criteria for panels focusing on only one or two of the senses.

From preliminary work in the HIT (Human Interation Technology) Laboratory (Boork et al, 2015; Glebe et al, 2013; Wendin et al, 2013) at SP Technical Research Institute of Sweden we suggest personal interviews along with the following criteria for each of the senses (Table below).

Sense	Criterias
Vision	1)Normal vision on each of the eyes (correction by glasses or lenses is considered ok); 2)No diagnosed eye diseases; 3) Colour vision; 4)Two fully functioning eyes
Audio	1) Normal degree of Hearing Loss, ie within the dynamic range -10 to 25 dB HL, and the frequency range 125 to 8000 Hz and; 2)No hearing aids are allowed
Tactile	Perceive differences between materials with different textures by the use of 1)lips, 2)fingers and 3)hands.
Olfaction	Identify a number of specified odours
Taste	1)Detect and 2)identify basic tastes of qualities and intensities based on ISO-standards.

The initial training is recommended to focus on one sense at the time while performing difference testings. The training is then continued with 2 or more senses. It Is further recommended to create amusing and interesting training occassions.

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