

## **Application of the Kano model to Sensory Science – a new approach to develop the “ideal” fruit smoothie**

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The Kano model which separates attributes in such that are relevant for satisfaction (“attractive attributes”), dissatisfaction (“must-be attributes”) or both (“performance attributes”) is widely used in relation with services. On the other hand, when developing foods and beverages, not such classification is done since the basic principles of the Kano theory cannot be adapted to the area of Sensory Analysis due to the impossibility of asking consumers regarding the importance of single sensory characteristics. Nevertheless, the idea to categorize the product attributes following the Kano approach seems attractive for manufacturers of food and beverages since it allows a more targeted product development and a benefit over competitors when knowing the “important” aspects.

The aim of the present study was to achieve the best fit between the theory of Kano and the practical application in Sensory Science. The empirical part was carried out on 16 fruit smoothies (systematic variations of an existing brand product). The basic approach of PLS regression between descriptive data and affective consumer data for all 16 smoothies was adapted in such a way that first the product set was separated in smoothies which were attractive and relevant for the consumers and in such which were less attractive and which were not considered for re-consumption - individually for each consumer. By running two separate PLS-Regressions both for the relevant and for the irrelevant smoothies it became possible to identify the three Kano categories of product attributes and to provide detailed information how to optimize the smoothie recipe in the best way.

This approach is relevant both for R&D and Marketing. It proves how consumers can get involved in early stages of product development and are enabled to influence the intrinsic product characteristics. Moreover, it shows that the Kano theory can be adapted to Sensory Testing with some modifications.

**Keywords:** Kano, Sensory Marketing, Consumer Needs, Consumption Situation, Sensory attributes, sequential test, Smoothies

Further the results of this approach established practical starting points for product development as well as for