

Relationship between sensory evaluation, consumers liking and instrumental data in the car industry

This study aims at understanding the relationships between 3 types of data: instrumental, sensory profiles and consumers liking.

The questions are:

1. Is it possible to explain the overall liking collected from consumers by sensory attributes?
2. Could we find instrumental or physical measurements that explain or translate each sensory attribute?
3. In a less conventional way, could overall liking be directly explained by using instrumental data only?

To provide some answers, an experiment has been carried out in 6 different countries. 100 consumers assessed 20 products in standardized conditions by rating their overall liking. These products have also been described by a sensory panel through 7 sensory attributes (like thermal, fibrous or stickiness). Finally, 23 measurements on these products have been captured by different instruments.

Model performances indicators allow to interpret the relationship previously mentioned (liking-sensory / sensory-instrumental / liking-instrumental).

To go further, this study also focuses on the possible contribution of Bayesian networks method to the analysis and interpretation of results compared with more conventional statistical methods like Preference Mapping, linear regression and/or PLS regression.

This comparison helps to understand how these statistical methods influence results and interpretations. It also highlights if a method provides more information than the others.

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