Improvement of consumer fit in preference mapping

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Nowadays Preference Mapping is a commonly used tool to relate sensory to consumer data. One of the weaknesses of this tool is that, usually, only 40-60% of the consumers can be fitted. The objective of this study was to improve consumer fit. We conjectured that using only the first two principal components causes the unsatisfactory consumer fit. Consequently, we modified Preference Mapping by including higher-order principal components in the fitting procedure.

The currently proposed modification was tested on a data set obtained for 11 apples. A trained sensory panel evaluated the sensory aspects of the apples and 300 consumers expressed their appreciation for the same apples. By means of Preference Mapping the two data sets were related. Subsequently, three consumer segments were determined. The modification resulted in an increase from 60 to 87% fitted consumers.