

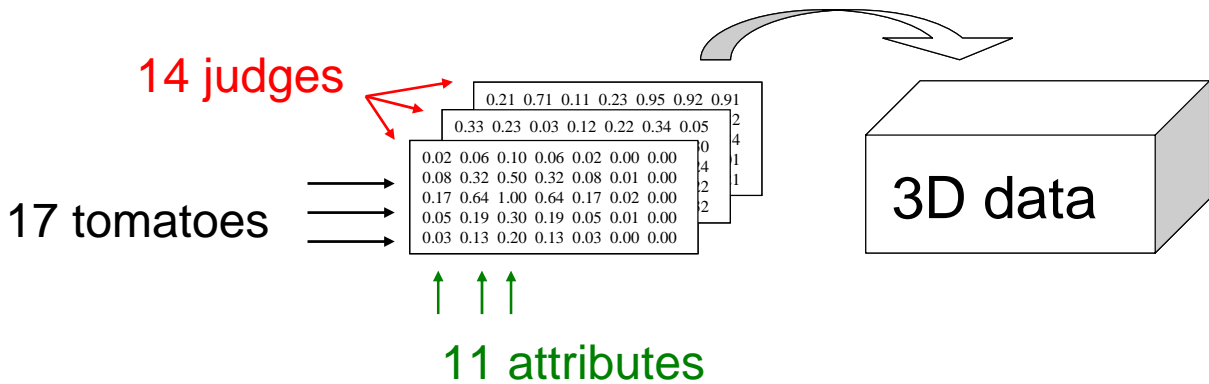


Case Study: Multivariate data analysis in sensory science using The Unscrambler®

Purpose of the study:

- Identification of positive and negative drivers for product (tomato) likings Using 3-way PLS regression for consumer likings

Data Description:

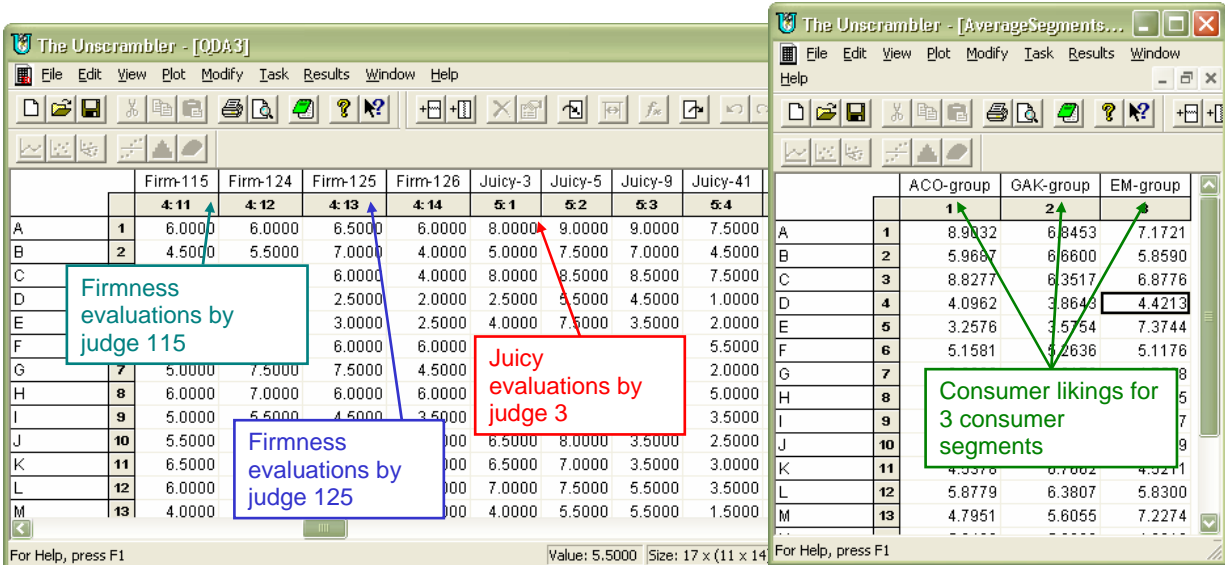


Data consists of 17 types of tomatoes 11 sensory attributes were studied on each type of tomato by 14 judges.

Three consumer segments were identified (GAK, ACO, EM) were identified based on the consumer profile based on consumption, color, flavor, age etc.,

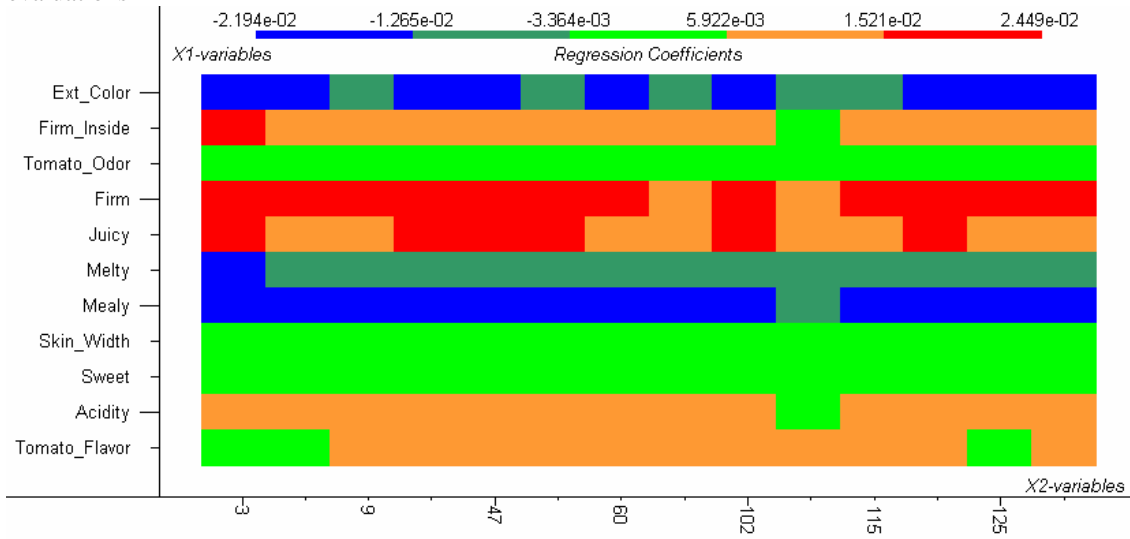
Analysis: 3-Way PLS Regression:

3-way pls regression is applied on to identify positive and negative drivers for three consumer segments.



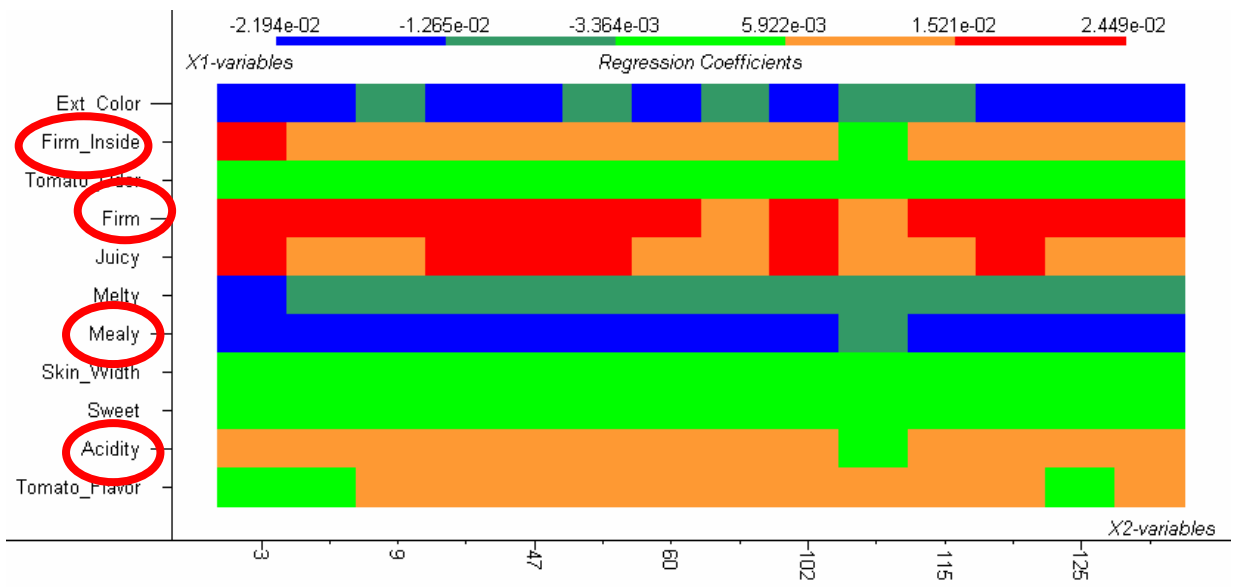


Map plot (regression co-efficient's) describes the panel agreement per attribute in descriptive sensory evaluations

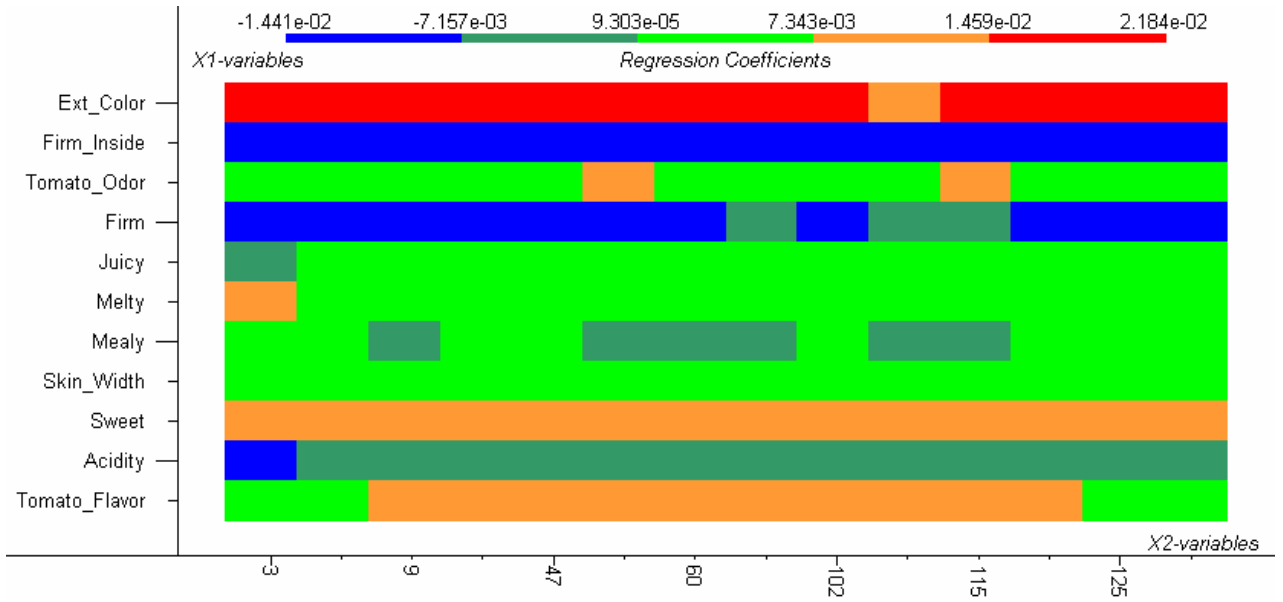


From the above map plot we can say Firm inside, firm, juicy and acidity are positive drivers of liking for the GAK consumer segment; ext color, melty and mealy are negative drivers

Panel agreement GAK consumer segment



Positive and negative drivers of liking for EM consumer segment



3-way regressio..., (Y-var, PC): (EM-group,2) B0W = -0.136774

External color is a positive driver of liking for the EM consumer segment; firm inside, firm and acidity are negative drivers

Conclusion:

- Firm inside, firm, juicy and acidity are positive drivers of liking for the GAK consumer segment; ext color, melty and mealy are negative drivers
- Panelist 103 shows a slight disagreement with the panel for four attributes
- External color is a positive driver of liking for the EM consumer segment; firm inside, firm and acidity are negative drivers