





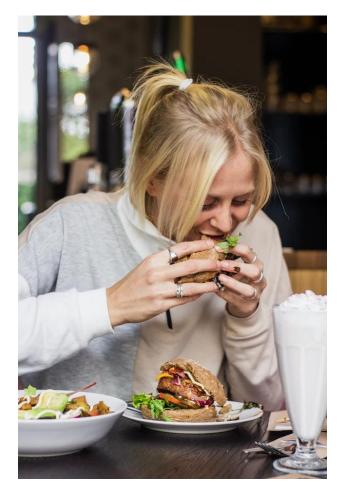




Fang Zhong Jiangnan University

Yummy?

Yucky?





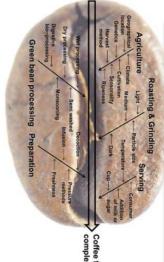
Overrate or Underrate

- Sweet?
- Green?
- Creamy?
- Hot?



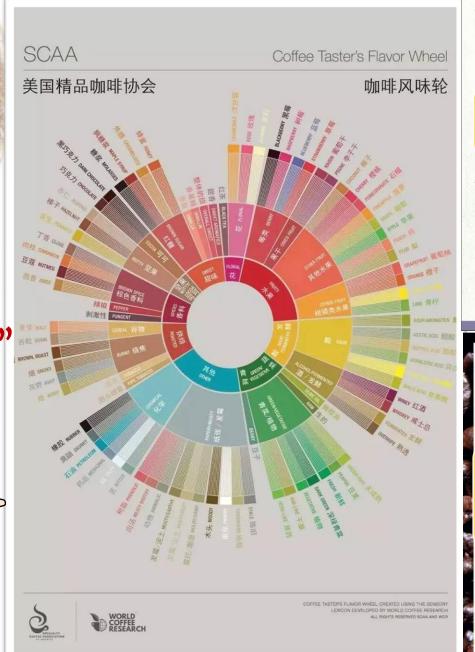






How to "standardize" Descriptive Languages









Wooden notes, heavy texture, low acidity, flavor ranges from earthy, cedary, and spicy to fermented fruit, cocoa, herbs, leather and tobacco

WORLD RANKING AS A PRODUCER (INDONESIA): 3RD LARGEST PRODUCER IN THE WORLD

GILING BASAHAND WASHED



10% ARABICA

are aged for rustic flavor MAIN TYPES: 90% ROBUSTA

HARVEST: **JUNE-OCTOBER**

WORLD RANKINGASA PRODUCER (INDONESIA): 3RD LARGEST PRODUCER IN THE WORLD 78 COFFEES OF THE WORLD

SULAWESI

Of all the islands in Indonesia, Sulawesi grows the most Arabica trees, Well-processed coffees display flavors of grapefruit, berries, nuts, and spices. Coffees often taste savory, and most have low acidity and thick texture.

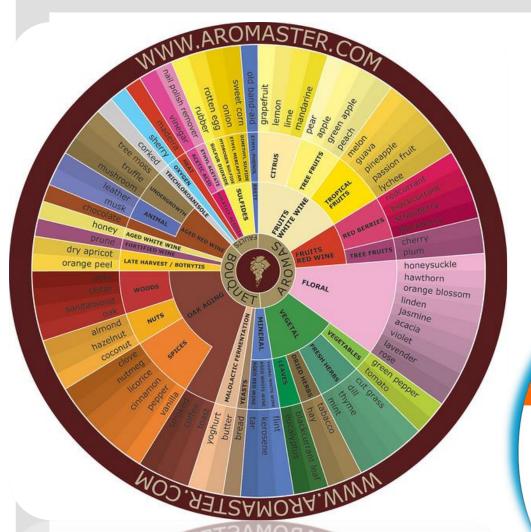
2 percent of Indonesia's Arabica produced ner ve

Unique flavors:

Grapefruit, berries, nuts, and spices. Taste savory, low

acidity and thick texture

PRODUCER IN THE WORLD



food pairing



Select Wine:

Pinot Noir

Grenache

Pinotage Malbec

Gamay

Merlot

Tempranillo

Red Zinfandel

Ruby Cabernet

Syrah

Cabernet Sauvignon

most popular red grape. Blackcurrents and ripe berry fruits, flavour enhanced by oak aging. Often blended with Merlot.

Cabernet Sauvignon

Versatile rich, full of flavour and body. The Worlds

Casseroles, stuffed aubergine, curry, lamb roast/grilled pork, beef, veal, duck, pate, cheddar/blue cheese, sausage kidneys, poultry, pizza, pasta in

> Bordeaux Claret (Medoc) (St Emillion)

> > France, Australia, USA, S.America, S. Africa, N. Zealand,

Old World wines come from the traditional vineyards of Western Europe including France, Spain, Germany and Italy. Wines tend to be identified by

New World or Old World?

geographical location or place rather than by grape variety or blend, but the small print on the label will reveal

New World wines come from countries such as USA, South Africa, South America, Australia and New Zealand.

Most New World wines are described by a single grape or a blend of two or more grapes. The small print on the label will reveal

Red wine and

Sauvignon Blanc

Highly favoured in the Loire and Bordeaux ducing quality bone dry wines, planting hout Europe and the New World reached New Zealand in the 1970's, who now lead the world with their fine examples of crisp dry grassy gooseberry flavours

> Thai Food, white fish, white meats, pasta in white sauce, poultry, pizza, cold meats, strong cheeses, ham, irish stew, asparagus, quiche, slads, appetisers

> > New Zealand,

White Bordeaux, White Loire (Sancerre, Poilly Fumé) Select Wine:

Sauvignon Blanc Riesling (Rhine) Pinot Grigio/Gris Colombard Gewürtztraminer Müller-Thurgau Semillon Chardonnay Chenin Blanc White Zinfandel White Grenache Portuguese Rosé

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Red Wine Selector

White wine and food pairing

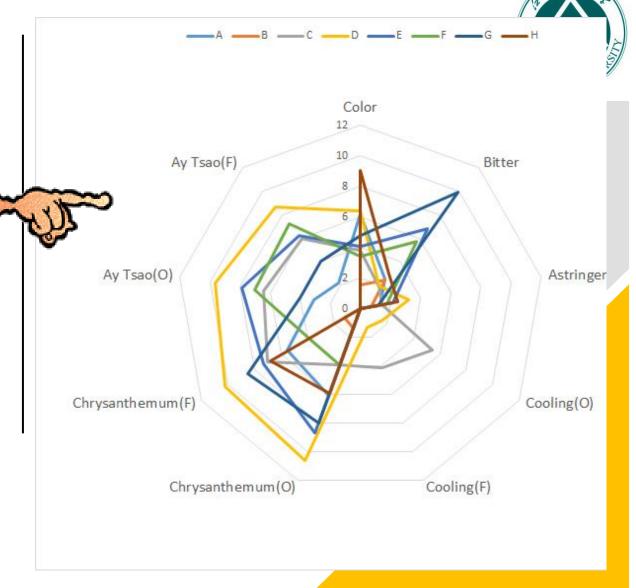
White Wine Selector

WINE FLAVOR WHEEL



DETAILED
SENSORY PROFILES

So What are the other benefits?



Benefits? -Examples

✓ Advertising claims











Benefits? -Examples

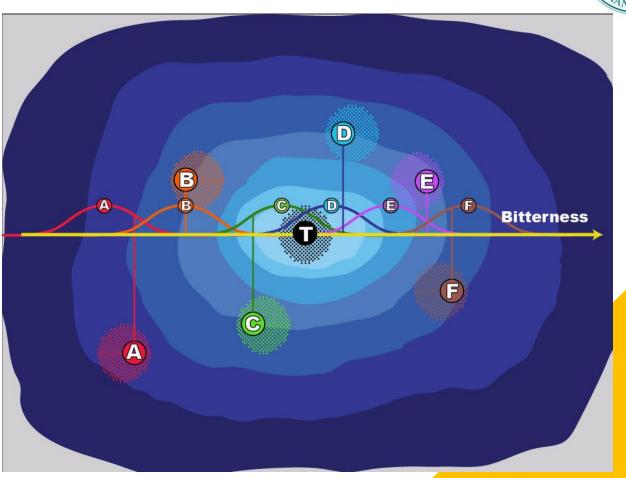
- ✓ Set up a control for quality assurance (QA) or quality control (QC)
 - □ Define the sensoryproperties of a control forQA and QC.



THE NAN UNITED

Benefits? -Examples

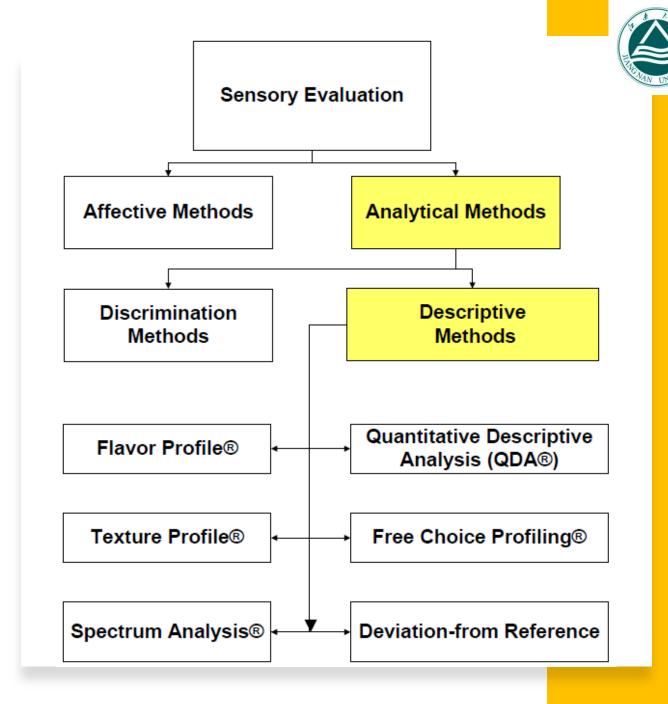
✓ Correlate with consumers' liking mapping to elicit the sensory profile of an ideal product





A type of sensory method that provides product similarities and differences.

Qualitative + Quantitative evaluation





How is that developed?





General Procedures

- Recruiting panelists
- Developing an attribute lexicon
- Training panelists
- Validating panelists
- Collecting and analyzing data (actual evaluation)
- Maintaining panelists



- *Screen* via an online survey
- *Interview* candidates in person
- Panelists' *qualities to look for*.
 - interested in research
 - responsible, mature, and scientific-minded
 - avoid loud and/or dominant personalities ···















Spectrum: as an example



✓ A basic format for creating a screening mark scheme in Excel

Candidate Name	Candidate Basic Taste Tests: Name 1 = correct			Total Basic Tastes	Basic Tests:		Total Discrim' Tests	Odour Description: 3 = exact, 2 = close, 1 = attempt):) ,	Odour Matching: 1 = correct				Total Odour Tests	Descrip tive Tests	Total Descrip tive Tests	Ra 1	ınki l = o	ng Te	est: ct	Total Ranking Tests	Total Score (Max possible=)				
																											Т		
		П																											
																										\top			
		П																							\neg				

	Discrimination Tests: 1 = correct						r Descrip = close, 1			Odou	ır Matchi	ng: 1 = co	orrect		Descriptive Test 2		SCORE TOTAL
Candidate Name	Test 1	Test 2	Test 3	Test 4	Total Discrim' Tests	Odour 1	Odour 2	Odour 3	Odour 4	Odour 1	Odour 2	Odour 3	Odour 4	Total Odour Tests	3 = good, 2 = fair, 1 = poor	Total Descriptive Tests	Possible Max Score = 49
Α	1	0	1	0	2	1	3	2	2	1	1	1	1	12	2	3	26
В	1	0	1	1	3	2	2	1	2	1	1	1	1	11	2	5	39
С	0	0	0	0	0	2	2	2	2	1	1	0	1	11	1	3	24
D	0	1	1	1	3	1	2	2	2	1	1	1	1	11	2	4	28
Е	1	0	1	1	3	1	2	2	2	0	1	1	1	10	2	5	32
F	1	1	1	1	4	1	2	2	1	1	1	0	0	8	1	2	20
G	1	0	1	0	2	2	1	2	3	0	1	0	1	10	2	4	27
Н	1	1	0	1	3	1	2	2	2	1	1	1	1	11	3	5	34



Spectrum: as an example

Product assessment

Qualitative evaluation: Descriptor



Quantitative evaluation: Intensity scaling



Definitions of Attributes for		
Attributes	Definition	Reference
Green	Sharp, slightly pungent aromatics associated with green plant/vegetable matter, such as asparagus, Brussels sprouts, celery, green beans, parsley, spinach, etc.	Fresh parsley water = 9.0 (flavour) 25 g of fresh parsley, rinse, chop, and add 300 mL of water. Let it sit for 15 min. Filter and serve liquid part
Asparagus	The slightly brown, slightly earthy aromatics associated with cooked green asparagus	Asparagus water = 6.5 (flavour) Weigh 40 g of fresh asparagus, wash, dice, add 300 mL of water, cover, microwave for 3 min on high. Serve liquid part
Beany	The brown, somewhat musty earthy aromatics associated with cooked legumes, such as garbanzo beans and lima beans	Kroger Small Green Lima Beans (Kroger Co., Cincinnati, OH) = 5.0 (flavour) Measure juice out of can. Dilute: take 1 part of lima beans juice, and mix with 4 part of water
Brussels sprouts	The somewhat sharp, slightly sour, pungent aromatics associated with cooked cabbage, Brussels sprouts and cauliflower	Brussels sprout water = 6.5 (flavour) Weigh 20 g, wash, dice, add 300 mL of water, cover, microwave for 3 min. Filter and serve liquid part
Celery	The slightly sweet, green, brown, slightly bitter aromatics associated with cooked dried celery leaves	McCormick Celery Flakes (McCormick & Co, Inc., Hunt Valley, MD) water = 6.5 (flavour) Weigh 1.5 g, add 300 mL of water, cover, microwave for 3 min on high. Filter and serve liquid part
Green beans	A viney, green, slightly brown, woody aromatics associated with processed green beans	Del Monte Cut Green Beans (Del Monte Foods, San Francisco, CA (No Sodium) = 5.5 (flavour) Measure juice out of can. Dilute: take 1 part of green beans juice, mix with 4 part of water
Green herb-like	The aromatics associated with dry green herbs such as bay leaves, thyme, basil	Mixture of McCormick bay leaves, McCormick ground thyme, and McCormick basil = 6.0 (aroma) Mix 0.5 g of each herb. Grind using mortar and pestle. Add 100 mL of water. Mix well. Put 5 mL of herb water in a medium-size snifter. Add 200 mL of water. Cover



Green tea lexicon. Source: Lee & Chambers (2007).

5. GENERATION OF LATHER

How much time did it take to LATHER? (# of up and down "passes" on your arm / # of squeezes on pour or washington needed to LATHER up,

1 - Immediate 7 - Took Time

How to validate panel performance?

Overall process of panel performance measurement

Evaluate general data quality

(Relevance of attributes, non-use of attributes, attribute distributions, panellist scale usage, missing data, sampling issues, etc.)

Evaluate repeatability (RMSE values, panelist ranges for product \mathbf{X} attribute pairs, etc.)

Evaluate discrimination

(Significant product effect for key/expected attributes, overall panel vs. individual discrimination, etc.)

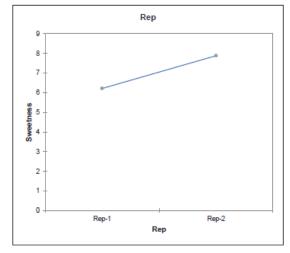
Evaluate consistency

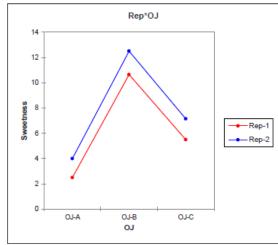
(Number of significant interactions, individuals causing issues by inspection of panellist by product graphs, etc.)

Evaluate overall performance and validity

(Summary tabular/graphical measures of overall panel performance, multivariate analysis, ability of profile outputs to tie in with action standards, etc.)

- Replications F-ratio in ANOVA
- Judge by replication interaction
 F-ratio in ANOVA





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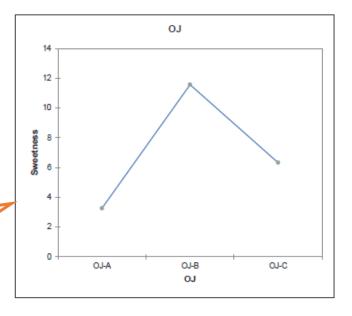
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Samples F-ratio in ANOVA



How to validate panel performance?

Overall process of panel performance measurement

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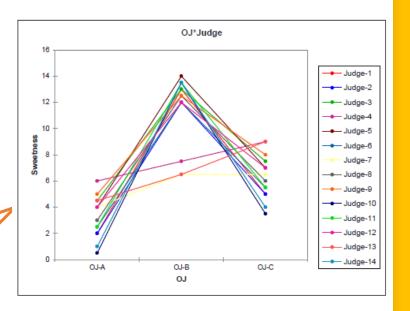
Evaluate consistency (Number of significant interaction, individuals causing issues by inspection of panelist by product graphs, etc.)

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Judge by Sample interaction
 F- ratio in ANOVA

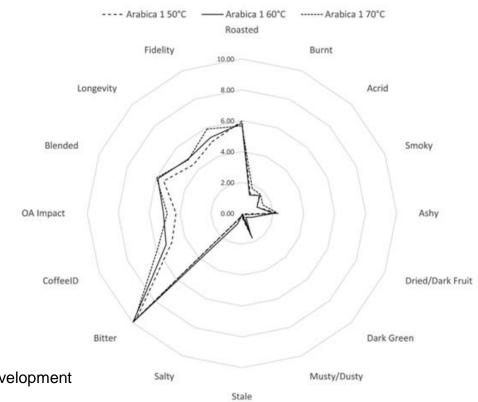




Other simplified Descriptive Analysis

Quantitative Descriptive Analysis (QDA) as an Example

QDA is a consumer based method, not technical or expert based like profile methods, and it provides quantitation data about *consumer noticeable* product similarities and differences.



QDA was first introduced in 1974 by Herbert Stone, Ph.D., and Joel L. Sidel after its development at the Stanford Research Institute in Palo Alto, CA.

QDA VS. SPECTRUM

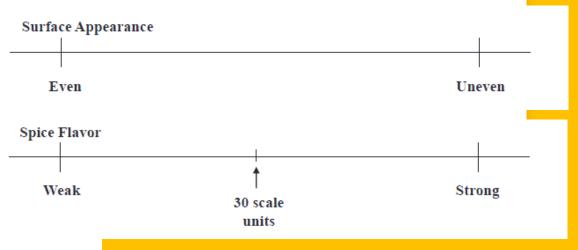
Who are the participators?

- General population, likers and users of product category; Either employee or non-employee; Nontechnical;
- Product(s) specific discrimination trials, <u>no</u>
 <u>stereotypical screening procedures</u>

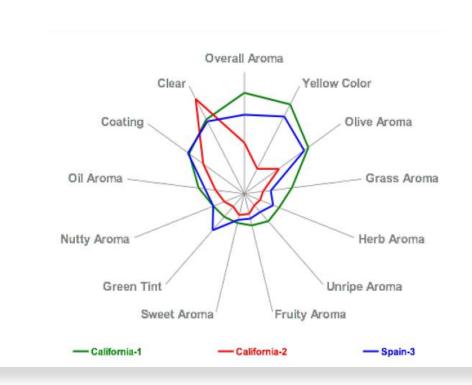
What is the test protocol?

- Test products used in the language development sessions; Language and definitions in an everyday conversation language;
- The key is to ensure that the subjects are "familiar" with the products. No surprises in the booth!
- Simplified scale with no reference before language development









Benefits of QDA: LESS EFFORTS, SHORTER TIME

- A QDA test is a complete "picture" of an array of products.
- When combined with attitudinal and imagery measures it has important business implications.
- A descriptive panel records what is perceived, it cannot provide an unbiased preference judgment.
- A descriptive panel measures what is perceived using all attributes, but all attributes are not equally important.