Getting the context right for sensory and consumer testing

To control or not to control?

November 2, 2017

About Carol Raithatha Limited

- Research and insight

- Market to consumer to product

- **Sensory evaluation and Consumer research**

- B2B and desk research

- Soft and alcoholic drinks, sweeteners, ingredients, flavours, fragrances, meat, baked goods, snacks, personal care, home care, pet food, fruit and vegetables

Setting the Scene

- Valid sensory and consumer testing focused on products usually requires some thought and planning about context.

- Place, time, ambience, meal setting, social situation, personal mood, etc. can all be important.

- How are methods being developed and adapted to refer to or recreate real-life contexts while still retaining their reliability?

The reliability/validity trade-off

Controlled in-lab testing

Realistic context testing

Reduce bias and increase reliability by controlling the test and reducing extraneous variables but testing scenario is unrealistic

Increase validity/relevance by making scenario as realistic as possible but this introduces many uncontrollable factors and the potential for bias
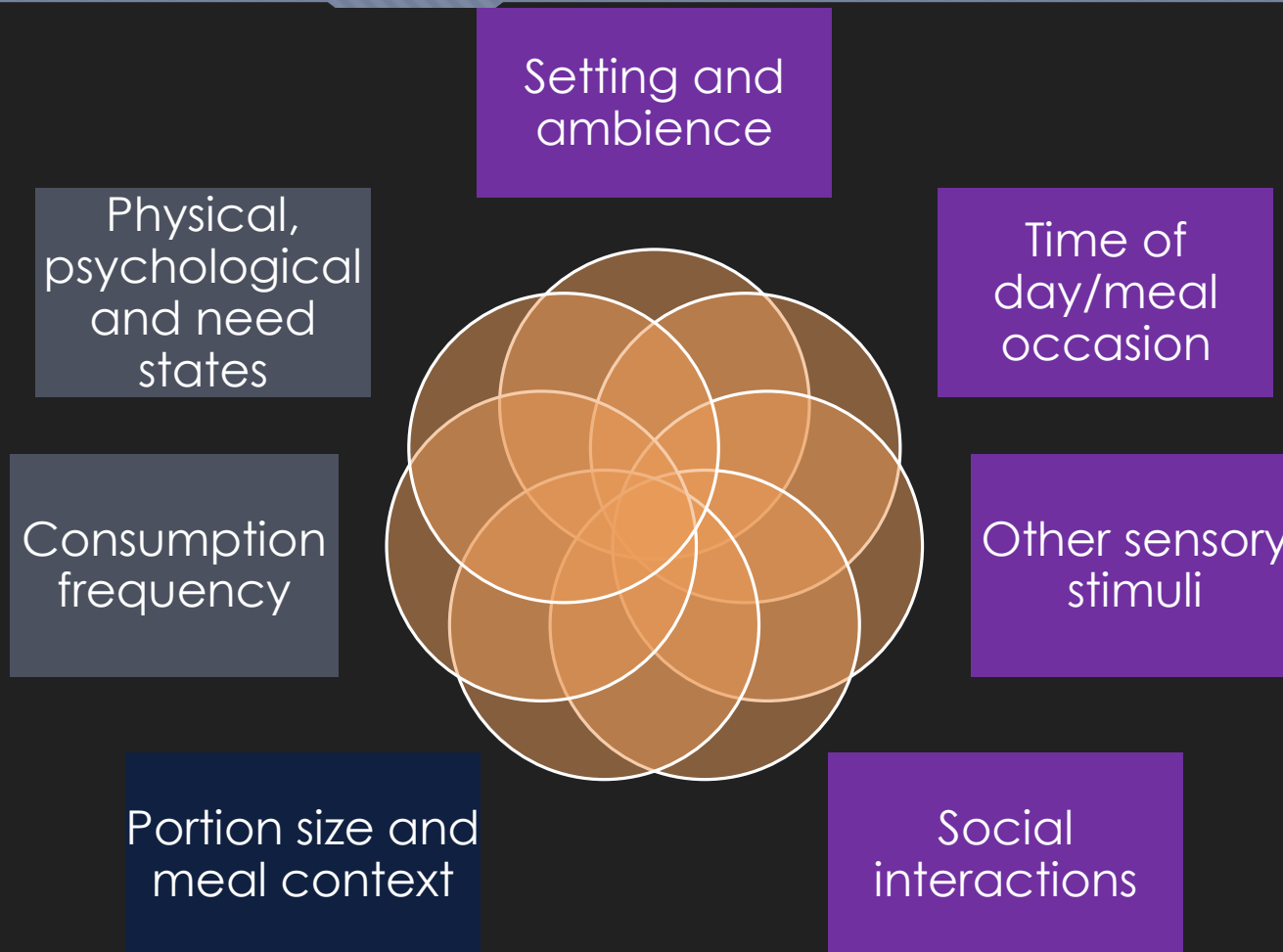
Controlled testing

- Sensory booths
- Preparation area
- Lighting, temperature, sound and air pressure control
- Representative sampling
- Protocols and procedures for preparation, serving and evaluation

Why is context important?

o Which of these flavours do you like the best?

Vanilla	Mint	Coffee
Curry	Strawberry	Beef
Chocolate	Cheese	Honey

In context testing – key factors

Setting and ambience

Physical, psychological and need states

Time of day/meal occasion

Consumption frequency

Other sensory stimuli

Portion size and meal context

Social interactions

The challenge is to create methods that somehow take into account these factors, but still result in clear information and understanding of the product itself and its perception and appreciation.

Context – new directions
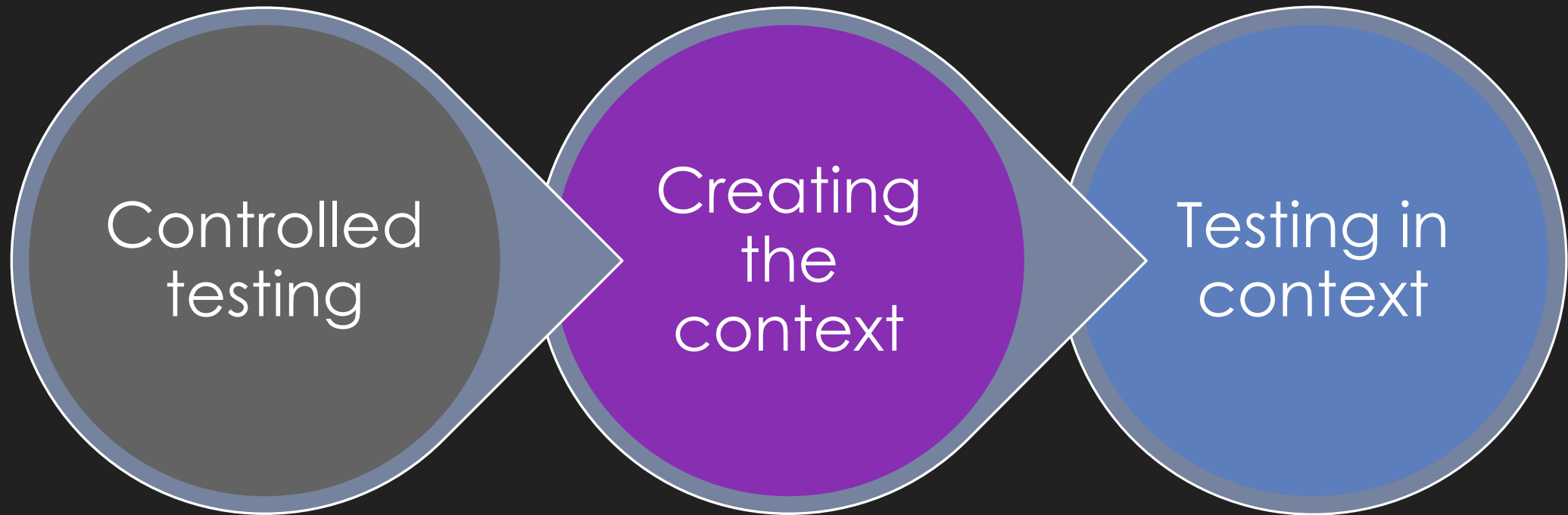
Tools and design for context

IT and statistical tools
- Smart phones and tablets
- Apps
- Virtual and augmented reality
- Video tools
- Sensors
- Data mining

Testing design
- Shorter questions
- Choices
- At key interaction points
- Observation
- Biological response
- Behaviour and purchases

Options for creating the context

- **Evoked context and more realistic volume/timing**
- Virtual contexts/immersive technologies
- "Big Brother" and experimental contexts

Evoked context

Excited?

Thirsty?

Hungry?

Tired?

- Controlled testing but …

- Pre-written situation or consumers create/describe own situation

- Time of day, meal, in-use situation, Environment or Need state

- Nofima research has shown that evoking context can lead consumers to focus on different sensory properties

More realistic portions and usage behaviours

○ Larger sample sizes for profiling or testing acceptance

○ Repeated profiles throughout consumption process

○ Repeat evaluations over usage life/repeat exposures

○ Time intensity and Temporal dominance of sensations

Options for creating the context

○ Evoked context and more realistic volume/timing

○ **Virtual contexts/immersive technologies**

○ "Big Brother" and experimental contexts

Virtual contexts and immersive realities

○ Virtual reality headsets

○ Created environments using augmented reality/projected images/sensory stimulus

○ All the senses?

Virtual Reality Odour Testing

○ https://www.youtube.com/watch?v=8P1eFV-mIM0

"Having a drink in a bar": An immersive approach to explore the effects of context on drink choice

- "To generate contextual effects, two bar-like environments based on the idea of "having a drink in a bar" were created: one with wood furniture and one with blue furniture. In both immersive bars, clips with visual and music stimuli were projected on a wall to change the overall warmth of the ambience."

  Sester et al, 2013

Digitised odour?

Vapor Communications Launches Cyrano, a Digital Scent Speaker and Mood Modification Platform

Source: www.prnewswire.com

Options for creating the context

- Evoked context and more realistic volume/timing
- Virtual contexts/immersive technologies
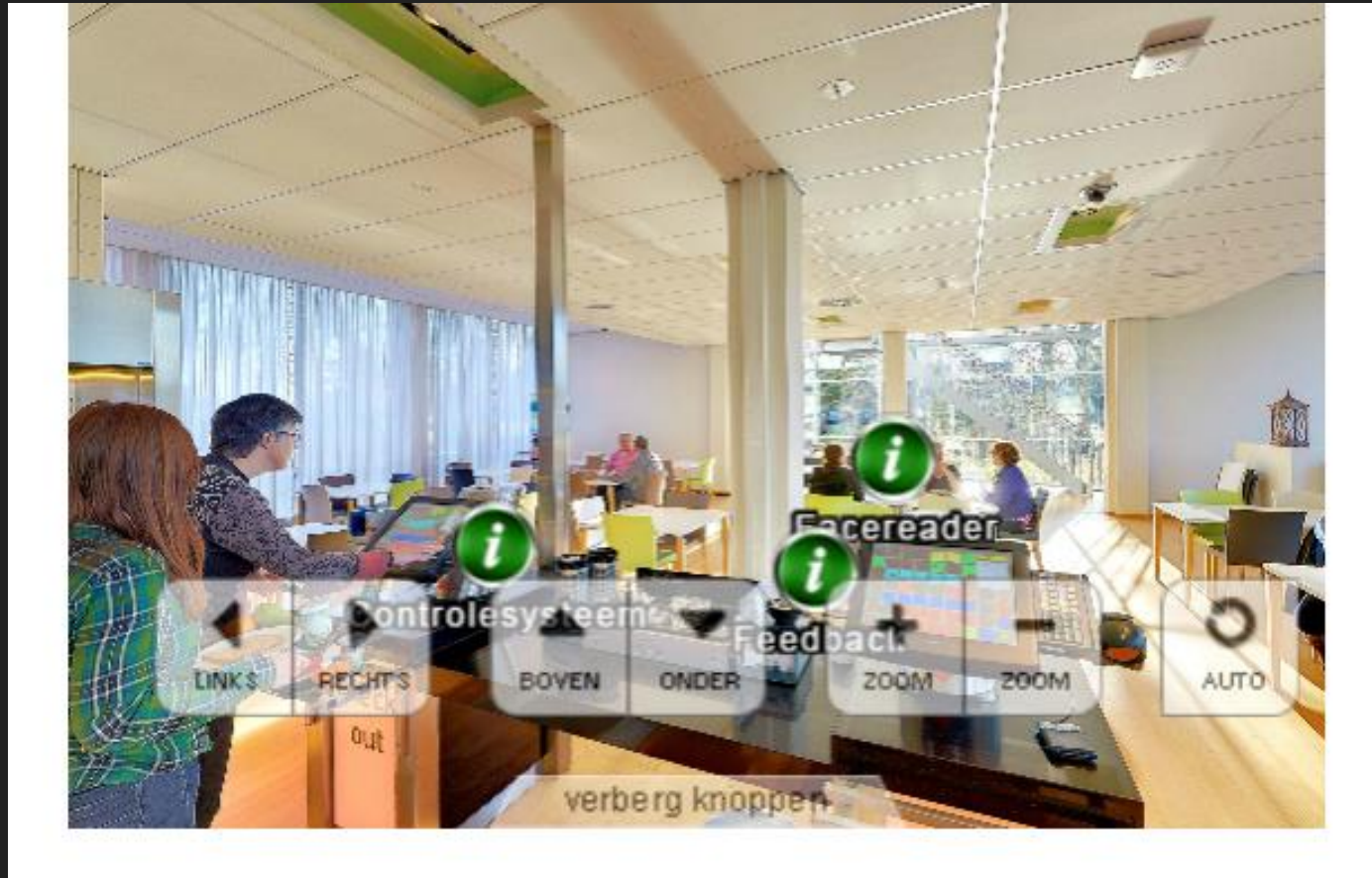- **"Big Brother" and experimental contexts**

Experimental contexts

- Viewing facilities?
- Experimental restaurants
- Test retail environments
- Experimental auctions?

www.theglasgowview.co.uk

The Restaurant of the Future

http://www.wur.nl/en/Expertise-Services/Facilities/Restaurant-of-the-Future-4.htm

Testing in context

- Real time and In use
- Home, school, work, play, travel
- When cooking, eating, cleaning, washing, etc.
- Shorter or longer timescales

Tablets in waterproof cases are being utilized in the Sensory Dimensions Home & Personal Care testing facility (Nottingham, UK) for in-use data collection utilising the EyeQuestion software application.

sensorydimensions
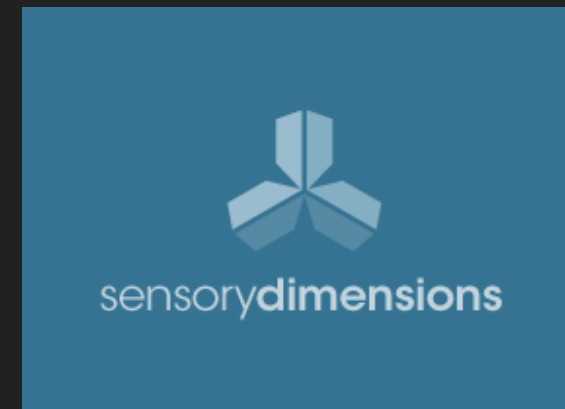
www.sensorydimensions.com
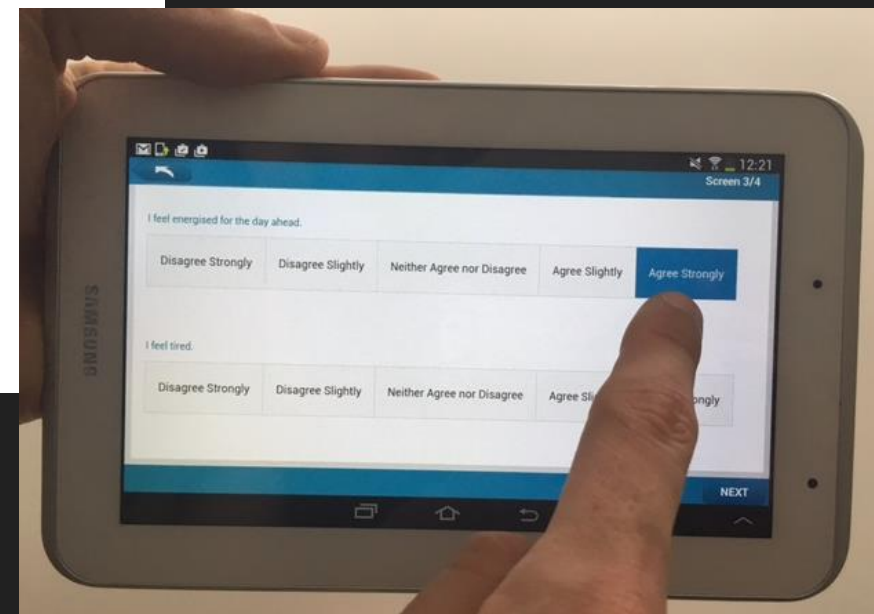
Gathering data using smart phones

https://eyequestion.nl/european-sensory-network-workshop/

Questions/complexities

When is context important? For blind product tests or only branded? Sensory vs. consumer tests?

How to create realistic evoked or created contexts – which factors matter?

How should we measure and account for specific contextual factors in real life situations? How can we know when bias has been introduced?

How to interpret and integrate information coming from controlled vs. in context tests?

Conclusions

- In context methods can improve predictability and usefulness of sensory and consumer results

- But barriers to overcome are understanding biases, interpretation, cost, time, complexity and privacy issues

- Controlled and in-context testing can work together

- The future is multi-modal and multi-design testing, data collection, triangulation

- IT and digital tools are expanding what can be measured easily in context

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