



Consumer-focused innovation for better business returns

How scientific approaches enhance customer-centricity

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31

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Leatherhead Food Research's qualitative research involving senior Innovation, R&D, Marketing and NPD professionals from 27 leading, global food and beverage brands indicates the sector is poised for an age of innovation. This innovation 'heyday' is being fuelled by a realisation that consumers have more complex demands than ever before. In this white paper, Cindy Beeren discusses how placing the consumer at the heart of innovation, via data and sensory science, is the answer to retaining and extending brand relevance.

The way companies go about innovation is changing. In the past, it often involved adapting good ideas from another market and rolling them out in your own. It was largely driven by evolving technical capabilities. Today, however, it is increasingly consumer-driven.

Innovation is a strategic discipline. It must deliver ideas and products which will make the company stand out from competition and drive revenue growth. It needs to have focus, responding to a particular consumer need or addressing an issue which needs to be solved.

Leatherhead Food Research, in conjunction with our sister company Oakland Innovation, undertook qualitative industry research in July 2016 to explore approaches to innovation. It involved 27 in-depth interviews with senior innovation professionals from global food and beverage brands. The consumer featured prominently in discussions.

Our interviewees considered consumer insight important for both incremental product

development and longer-term breakthrough innovation. Many companies articulated the purpose or driver of innovation as being 'continuous improvement for the customer' or 'delivering better experiences for the customer'.

'It forces you to think about the consumer and what they want before you think about your capability.' Brand, VP Marketing

So how do you actually get to the bottom of what consumers want? Sensory and data science can unlock many of the answers, shaping the direction of innovation and keeping it on a customer-centric course.

Five ways science can boost customer-centric innovation

1. Market review to concept review

'[We] rely too much on technologies and force fit it into a concept. Innovation has to start from what motivates the consumer and from there, we should have a good hit rate on the right concept.' Brand, Director of R&D

Consumer-driven innovation needs to take both a macro and micro view of the industry to properly identify the consumer need. Market reviews are a good starting point. Plotting customer activity, developments and trends in specific product spaces can reveal new business opportunities and platforms for growth. Assessing the strength of existing concepts in terms of scale, demand and viability is also crucial. This can facilitate better refinement and specification of new ideas.

Once a new concept has been devised, it should be subjected to an initial customer review. This may involve large scale online surveys, qualitative feedback sessions with targeted focus groups or one-to-one interviews with target consumer representatives.

In each of these scenarios, a concept is presented and feedback obtained. The feedback can provide valuable early insights into consumer preferences as well as suggestions for improvements and price points. Systematically involving consumers in the innovation process from the outset provides a strong foundation from which a concept can quickly be evolved and improved.

2. Benchmarking tests with a temporal methodology

Once a concept is taken to prototype stage, one of the most well-known elements of sensory science can begin: taste testing.

Today, these tests go beyond taste alone to encompass the full end-to-end eating experience across multiple senses. They consider factors such as appearance, aroma, texture and aftertaste and provide valuable insight that can help optimise product formulation.

For instance, a descriptive sensory methodology which has come to the fore recently is Temporal Dominance of Sensations (TDS). Multiple physical sensations – such as sweetness, bitterness, crunchiness, stickiness – are assessed repeatedly by consumers, until the end of the sensation. It is then possible to identify the most dominant taste or texture at exact time-points during evaluation (e.g. first bite/sip, chewing or after-taste).

Consumers select products based on how they make them feel, as well as what they look, smell or taste like. Increasingly, those at the

Real life stories...

Consumer testing can identify major unforeseen barriers that might prevent uptake of a new product.

Before you go to market, ask yourself: 'have we missed anything?'

A functional drink activated via a twist-off lid went down well in concept reviews and taste tests. However, it wasn't until in-street testing began that it became clear that people with long fingernails couldn't open the bottle.

A new chewing gum achieved excellent mean scores across all product attributes. But it became apparent that the target audience would be unlikely to purchase the product, simply because it wouldn't fit in their skinny jeans.

cutting edge of sensory research understand that the emotional effects of products need to be considered alongside physical properties. To achieve this, Temporal Dominance of Emotions (TDE) can be assessed alongside TDS. Sensory science recognises distinct emotions that people can register an association with, when consuming a food or beverage product. They range from 'guilty', 'happy' and 'satisfied' to 'energetic', 'loving', 'nostalgic' and 'wild'.

TDS and TDE testing can be undertaken head-to-head with competitor products to establish whether new developments are 'better than' or 'as good as' alternatives already on the market. This can deliver high value qualitative and quantitative data surrounding product quality and fundamental consumer likes and dislikes.

3. Oral processing

Consumer feedback on the eating and drinking experience is invaluable to new product development teams, however, this is not necessarily enough; it is also important to understand why the product is eliciting such a response. There are strong links between the sensory perception and microstructure of foods. This can be especially significant when reformulating products to reduce or remove ingredients such as salt, sugar or gluten.

Oral processing science and rheology (the deformation and flow of matter) come into play here. It is important to understand how food microstructure and rheological properties change during the eating process. The way food breaks down in the mouth, and the resulting changes to viscosity and texture, have a major impact on the overall eating or

drinking experience. Analysing this can facilitate the optimisation of flavour, taste and texture profiles when combined with sensory information.

Tools such as viscometers, rheometers and texture analysers generate objective data surrounding the mechanics of food fracture and breakdown in the mouth. The rheological data is complemented with microscopy, which looks at the distribution and re-distribution of the key ingredients during the breakdown and formation of bolus (small rounded masses of chewed food).

Such an approach provides powerful insights for those who want to understand the relationship between ingredient functionality, food breakdown mechanics and sensory profiles.

4. Understanding 'real' behaviour

'There is now more emphasis on ethnography and understanding consumers – understanding how a product would be used.'
Brand, Technology Development

In our industry research, many companies talked about the dichotomy between what consumers say they want and their actual behaviour. This is problematic. How can you invest in new products or make fundamental changes to business processes without being certain that they will resonate with consumers?

Some interviewees were interested in developments in consumer research, such as behavioural and ethnographic approaches. Rather than taking what consumers say at face value, these methodologies seek to understand the underlying motivations and drivers for consumer choice.

Immersive sensory testing is another valuable way to get truer insights into what consumers want or enjoy in real life. Using virtual reality technology, videos, or even at-home or on-location testing, can be a powerful enabler. It takes participants beyond the testing hall or focus group setting and can provide a more accurate reflection of customer perception.

'People are desperate to be healthier, but at the same time come Thursday or Friday we all 'blow out' and indulge, which shows a real

contradiction in human nature – we know we should be healthy and a lot of us try at the beginning of the week, but the end of the week is 'blow out'.' Manufacturer, Head of Innovation

Kano-modelling, illustrated in the case study below, is used to provide insight on the importance of product attributes or characteristics, helping product developers work out the attributes which are 'nice to have', 'must have' and ones which will give the 'wow' factor.

Kano-modelling case study

The Kano model – originally developed for the automotive industry – can help ensure new products are geared towards consumer expectations. It plots 'must have' attributes against 'performance' attributes (those resulting in satisfaction when fulfilled and dissatisfaction when not fulfilled) and 'delighter factors' (those providing satisfaction when achieved fully, but no dissatisfaction when not fulfilled). This helps brands make informed choices about ingredients and product characteristics across both basic and luxury items.

Fig. 1 illustrates the output from a kano-modelling exercise exploring the desired ingredients in a fruit and nut mix snacking bag. It shows consumers will be dissatisfied if ingredients such as raisins, cashew nuts and peanuts are not in the final product. The inclusion of almonds will delight them, but they won't be dissatisfied if they don't find them.

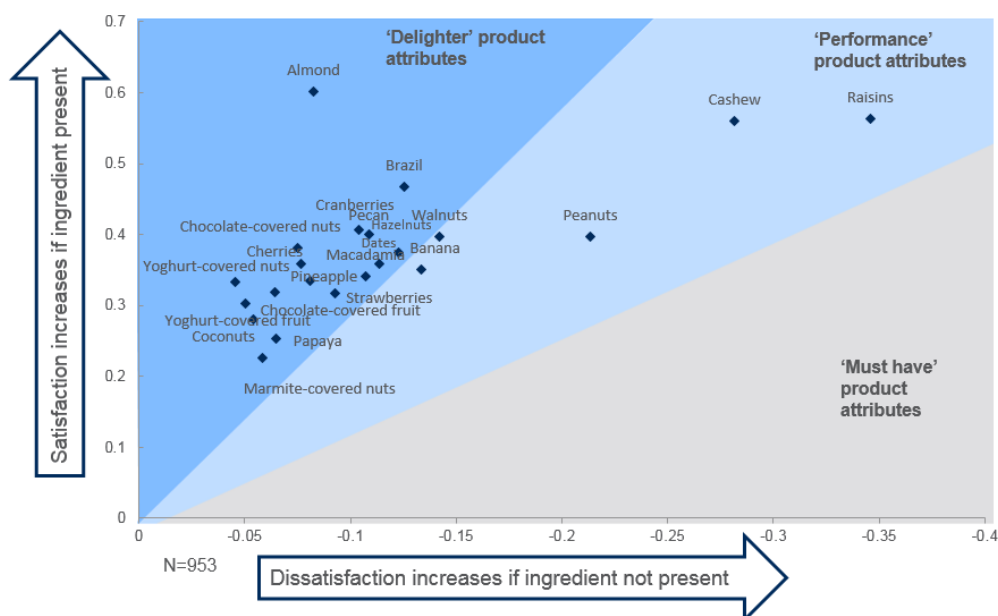


Fig. 1: Kano-model showing desired ingredients in a fruit and nut mix snacking bag

5. Consumer engagement

A key finding of our industry research is that customer-centric innovation is not just about the product. It's also about the overall consumer experience, so wider factors such as how and where the product is presented and delivered need to be considered.

Packaging, price point, advertising and shelf place all play a role here. Also, brands are increasingly looking at ways to establish a closer relationship with consumers.

The digital revolution has accelerated this, providing opportunities to engage via social media or to supply directly via online shopping. From fruit and vegetable boxes straight from the farm, complete meal kits delivered to the doorstep or personalised products, companies are courting their consumers like never before. Fig. 2 below shows the new direct-to-consumer relationships which are enabling companies to have a greater connection with the consumer.

Detailed consumer testing is highly advisable before rolling out new approaches that alter the brand/customer interface. It can provide a strong indication of how people will respond to the concept, and whether it is synergistic with the current brand perception.

A closer relationship with consumers opens the door for greater engagement, dialogue and even co-creation of future products and delivery models. The food and beverage industry is waking up to the reality that the road to relevance starts and ends with the consumer.

Conclusion

All industries must innovate to survive and thrive. The food and beverage sector is no stranger to this, but unprecedented challenges are raising the bar. Innovation inevitably involves an element of risk, whether you're reformulating an existing product or exploring an entirely new proposition. Using scientific

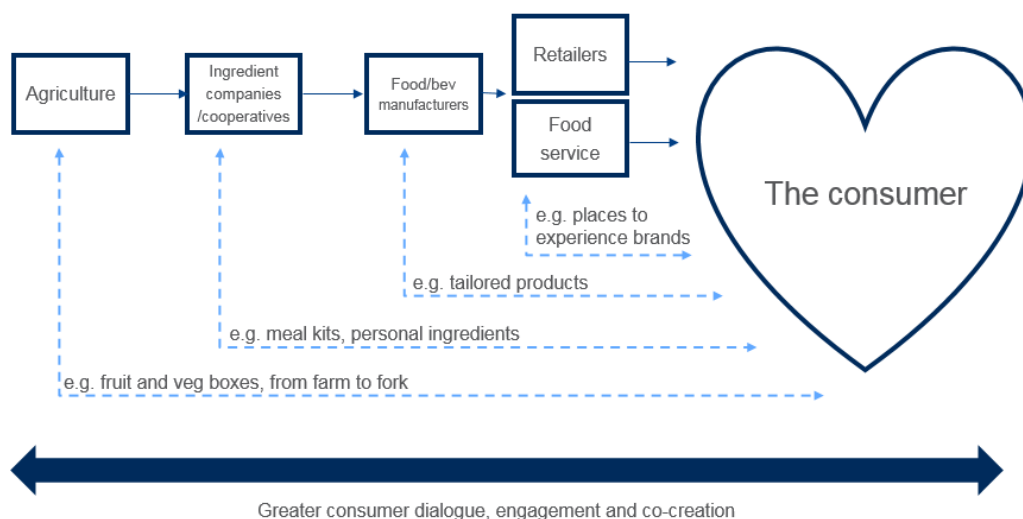


Fig. 2: New direct-to-consumer relationships

methods to ensure the consumer is at the heart of innovation helps to mitigate this risk. It can ensure concepts are firmly rooted in what consumers really want, which isn't necessarily what they say they want. And it facilitates end-to-end customer-centricity across all aspects of the process. The upshot is speedier approaches to innovation and the development of new ideas that are more likely to hit the mark first time.

How Leatherhead can help

Leatherhead Food Research supports clients to create new products and/or to improve them. The Insight and Innovation teams work closely with each other to understand consumer perception and find ways of developing/improving products. If you are interested in learning more, drop us an email on insight@leatherheadfood.com.

About the author

Cindy Beeren leads the Consumer, Sensory and Market Insight department at Leatherhead Food Research. She is a food marketer by training, a chartered scientist and a registered sensory scientist. She has considerable experience in the food and beverage industry, having worked at Mars as a sensory technologist and Danisco as a flavourist before joining Leatherhead.

About Leatherhead Food Research

Leatherhead Food Research provides expertise and support to the global food and drink sector with practical solutions that cover all stages of a product's life cycle from consumer insight, ingredient innovation and sensory testing to food safety consultancy and global regulatory advice. Leatherhead operates a membership programme which represents a who's who of the global food and drinks industry. Supporting all members and clients, large or small, Leatherhead provides consultancy and advice, as well as training, market news, published reports and bespoke projects. Alongside the Member support and project work, our world-renowned experts deliver cutting-edge research in areas that drive long term commercial benefit for the food and drink industry. Leatherhead Food Research is a trading name of Leatherhead Research Ltd, a Science Group Company.

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Science Group plc offers independent advisory and leading-edge product development services focused on science and technology initiatives. Its specialist companies, Sagentia, Oakland Innovation, OTM Consulting and Leatherhead Food Research, collaborate closely with their clients in key vertical markets to deliver clear returns on technology and R&D investments. Science Group plc is listed on the London AIM stock exchange and has more than 350 employees, comprised of scientists, nutritionists, engineers, mathematicians and market experts.

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