



FOODFRENZ



Report on

Workshop 2: Consumer Foresight

**4 - 5 April 2007
Leopold Hotel,
Brussels.**

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1. FOREWORD: Martin Hall

Consumer trends in food consumption are rapidly changing in Western and Asian markets. Recent decades have seen the convergence of drivers in respect of choice, quality, safety and health, convenience and more recently social and environmental concerns. The modern European consumer wants and expects to have access to products that satisfy all of these needs. Furthermore, this is all mediated by the demand for low cost foods across seasons.

The consumer, often enabled through key gatekeepers such as retailers, is the determinant of product success. Recent years are littered with examples of new products, processes and technical innovations that have failed the fundamental test of consumer acceptance. Some of these developments hold enormous potential to benefit particular groups and/or stimulate economic performance and wealth generation. However, their exploitation will be at best delayed and probably never realised if the consumer is not considered at the outset of their development.

This workshop sought to define and encourage best practice by incorporating foresight of consumer attitudes into the early stages of technical innovation in food production.



2. INTRODUCTION TO THE WORKSHOP: Dr Roger Harker

Food FRENZ is a specific support action to develop a network of New Zealand and European food scientists and industry partners. Its aim is to develop complementary consumer-focused research collaboration across the Food and Beverage sectors. The themes for Food FRENZ are 'personalised nutrition', 'food safety', 'animal health and welfare for food production', 'sustainable food systems' and 'innovative technologies'. As part of the development of the network, a workshop on 'Consumer Foresight' was held in Brussels on Wednesday 4 and Thursday 5 April at the Leopold Hotel, Brussels.

Consumer behaviour is studied using methods from different science disciplines including food / sensory science, economics, marketing research, psychology and social sciences including anthropology. Each of these disciplines brings a unique perspective to understanding of consumer behaviour. It is only through understanding the strengths and weaknesses of the various methods they use that researchers can provide robust consumer foresight. For example, consumer surveys continue to be a core method for providing information about consumers. Yet we know surveys can be subject to a risk that some consumer responses will be biased towards behaviour that is more socially desirable and prestigious. They often behave quite differently when observed shopping. There is increasing recognition that it is important to conduct food-related consumer research in a context that takes into account the eating situation. Meals and other eating occasions often involve considerable social interactions as well as providing nutrition.

There has been considerable research into how consumers respond to positive (functional foods) and negative (food safety and new technologies) food-related issues. These are of considerable interest to Food FRENZ. Furthermore, there are questions as to the extent that consumers are masters of their own food choices. Availability and the extent that consumers have the freedom to make food and beverage choices are often determined by gatekeepers such as retailers and regulators. But more than this, decisions made by supermarkets, media and politicians can strongly influence consumer behaviour *per se*.

This workshop has involved participants from academia and industry giving a range of formal presentations that covered (1) approaches to the collection of consumer information, (2) how this information provides useful insights into consumer trends, and (3) how such information is used to guide food and beverage innovation.

This was followed by workshop sessions in which key drivers of current and future food and beverage consumption were considered. These latter sessions focused on three questions:

- What is foresight and what are its relevance, value and applicability to small and medium sized enterprises (SMEs) and larger companies?
- What are the roles of innovators, consumer scientists and marketers in future foods for diverse markets?



- Who are the gatekeepers? How do they form their opinions and policies and how can their actions be positively influenced?

On the second day of the workshop the participants broke into small groups to discuss three questions that had been identified at the end of the first day. Group summaries were presented to the workshop and this was followed by a general discussion to identify critical points and key recommendations.



3. PRESENTATION PAPERS

3.1 *Consumer trends, attitudes and behaviours shaping the European food and drink industry (Peter Burgess)*

To set the workshop into context, a review of significant trends shaping the food and drink industry, how these trends have and are being reflected in food and drink product development and innovation, and links between attitudes, perceptions and behaviour were considered.

The focus of the review considered European-wide trends that were regarded as mainstream substantive drivers that cut across Food and Drink category, product and EU-25 member state boundaries. However, while the trends discussed were primarily European-wide, it is important to bear in mind that significant differences between states are evident. For example, studies undertaken by GFK illustrate that nowhere in Europe do consumers pay more attention to the price of food than in Germany. 62% of Germans say that price is the most important factor when buying food compared with an international average of 54%, whereas in Italy 63% say quality is the most important criterion when buying food, compared to an international average of 46%.

The trends shaping food and drink product development included growth in ethnic diversity and the influences of foreign travel, demography, changing lifestyles including health related issues such as the prevalence of obesity, as well as income and working patterns.

Key conclusions noted for example included the increasing fragmentation of family structures and the decline in the proportion of Europeans living as 'nuclear' families, the emergence of a cash rich-time poor society which, among other factors, was changing the demand for meal solutions to reflect the change in the pattern of eating occasions.

Trends related to the emergence of environmental concerns such as the development of organic products were also considered. In addition, the development of ethical purchasing, reflected in the growth of the "Fairtrade" movement, was noted as another example of consumers responding to social messages, in this case not only supporting growers in foreign countries but also through the emergence of 'local' food as consumers question the environmental impacts of shipping certain products from distant countries.

An analysis of new products launched over the period 2004-6 reflect the trends noted above with products being characterised by health, premium/indulgence, convenience and/or ethical attributes. A convergence of the market positioning across these attributes was also evident as food and drink manufacturers aim to increase product differentiation by introducing products with multiple attributes.



In addition to this increasing convergence of product positioning attributes, a number of sub-trends identified in a food industry survey, and reflected in product monitoring in the UK undertaken by CCFRA, influencing current and future food and drink product innovation were also considered.

For example, within the health area, the three most important innovation sub-trends identified in the survey were 'wellness & wellbeing' (a lifestyle trend affecting a range of consumer products to help consumers maintain a healthy balance), 'weight management' (referring to balanced nutrition rather than diet specific products) and 'natural organic' (reflecting consumers response to provenance, free-from, environment and ethical concerns) .

Within indulgence, 'low cal/low fat gourmet', (i.e. indulgent products combined with the goodness of healthy ingredients), 'luxury/super premium' and 'regional authenticity' were regarded as the three most important innovation drivers.

And within the convenience trend, the three most important innovation sub-trends included 'on-the-go', (where portability continues to be key), 'freshly prepared' (products that combine convenience with freshness) and 'portion control' were reviewed.

Consideration was then given to the relationships between consumer attitudes and behaviours.

The complexity of these relationships was outlined with particular attention given to the paradox of information dissemination with reference to the issues covered in the DoH 1998 document on 'Communicating about risks to Public Health'.

An approach to effecting attitude/behaviour change was noted with reference to a model developed by Seth et al 'A model of strategy mix choice for planned social change'.

In this model, the authors distinguish between a number of typologies relating attitudes to behaviours along with eight categories of influencing strategies that can be used to pilot change. This model emphasises that it is important to look at segmentations of populations according to their attitudes and behaviours and apply a relevant influencing strategy if one wants to bring about effective change.



3.2 Consumer Behaviour: a Perspective from a Fruit Breeding Institute (Dr F. Roger Harker)

HortResearch is a government-owned Research Company that invests considerable effort into the breeding and development of new fruit cultivars. The need to identify product targets for breeding programmes that reflect consumer as well as industry needs has led to the development of consumer-focused research and development programmes. In this way traditional fruit breeding is perhaps no different from new product development (NPD) for manufactured foods, except that the NPD process takes much longer. For example, a new fruit cultivar may take up to 15 years from making the cross to delivering substantial volumes of produce into the marketplace. The implication of this prolonged NPD process is that we need to recognise that we are breeding for future consumers rather than today's consumers, and thus the fundamental basis of consumer responses needs to be understood.

Consumer choice of foods is usually thought to reflect responses to three mega-trends: the drive for pleasure/indulgence, convenience, and health. Understanding consumer perceptions and preference for flavour is a key component of any fruit breeding programme. Traditionally this has involved the use of trained sensory panels to measure texture, taste and odour in relation to a product space defined in terms of consumer preferences. Much is known about the flavour and texture preferences that drive consumers' choices of fruit. While texture attributes such as 'juiciness' and taste attributes such as 'sweetness' are generally important, there are also consumer segments that are identified in terms of their preferences for different and distinct flavours.

Consumers' need for convenient foods is another megatrend that is being addressed in many fruit breeding programmes. Fruit convenience means no preparation or clean-up, ease of handling, a variety of uses, suitability for entire family and consistent and high availability. This consumer need can be addressed by developing e.g., grape sized kiwifruit with edible skins, or by developing technologies that indicate to consumers that a fruit is ripe and ready to eat. Fruit are well recognised by consumers as a healthy food choice and consumer research using means-end-chain approaches recognise that the need to be healthy and to live a long life are fundamental motivations for fruit consumers. Despite this, the consumption of fruit in many countries is steady if not decreasing. Generally the reasons consumers give for not eating more fruit include: it costs too much, spoils too quickly, they prefer to eat other snacks, and it isn't filling. Such a list of excuses is not particularly enlightening and suggests that understanding the fundamental reasons for not consuming fruit requires more detailed knowledge of consumer behaviour. Increasingly, researchers are starting to consider the role of self efficacy in determining fruit consumption.

Health is another megatrend that is having a major impact on new product development in the food industry, with development of lower fat / sugar / salt foods and sophisticated products such as those that lower cholesterol and those that address bone health. For fresh fruit, the use of health properties to promote consumption is more ambiguous. Consumers' perceptions that fruit are healthy fundamentally underpin choice and consumption of fruit.



These perceptions of healthfulness are often closely mixed in with perceptions that fruit are fresh and natural. While considerable research effort is focused on differentiating among fruit in terms of specific health benefits, the majority of consumers may see all fruit as equally healthy. Commercial success of strategies based on differentiating among whole fresh fruit from various plant species on the basis of specific health benefits will require a better understanding of consumer segments that exist in the marketplace. The use of fruit and fruit derived components as ingredients in other food products may be a different product space.

Research on consumption of fruit is increasingly integrating a broader range of methods into protocols. The consumer is a focus of interest of scientists working in various disciplines: sensory science, experimental economics, marketing, communication research, psychology, social sciences and anthropology. Each discipline has its own unique set of methods and the most robust information on consumption behaviour is obtained when diverse methods provide similar conclusions. In our own research, food related traits such as food neophobia (fear of new foods) and variety seeking behaviour have an impact on choice of new fruits. Furthermore, methods such as experimental markets in which consumers are given the opportunity to purchase products using their own money have provided greater insight on the balance between attributes. For example, consumer choices based on the appearance of novel pears assessed using conjoint methods were contradicted when consumers were offered the opportunity to buy one of the novel but less liked pears!

Another topic of interest to our consumer scientists has been the response of New Zealand consumers to new technologies including GM foods. In New Zealand a Royal Commission on Genetic Modification was established in May 2000. This led to a moratorium on release of genetically modified organisms (GMOs) in New Zealand from November 2001 to October 2003. Our research has led our researchers to conclude, as in other parts of the world, that:

“If attitudes toward biotechnology are a result of beliefs about nature, science business, technology, spirituality, food (among others), the attitudes can’t be changed through provision of new information. Whereas there is potential to change views about the likelihood and consequences of an event, such as perceived risk to public health, there is little potential to similarly alter a person’s spiritual beliefs on their conception of nature” (Kassardjian).

Overall, we believe that a full understanding of the complexity of food consumption behaviour requires the input of the many and diverse research disciplines. It is necessary to understand the fundamental components of food choice (the food, the consumer, the eating situation and setting, and the society within which the food is consumed) as it exists in the present, if it is ever going to be possible to predict the changes that will occur in the future.

For more information: Harker FR, Jaeger SR, Gamble J, Richardson-Harman, N. (2005). Consumer acceptance of new horticultural crops. *The Compact Fruit Tree*, 38 (2): 26-30.



3.3 Trust in Food & Consumer Research Related to Animal Welfare

(Dr Unni Kjærnes)

Food consumption is as much influenced by consumers' habits and social relations as it is by an individual's particular flavour preferences. In this presentation two issues that influence food consumption are considered: (1) the extent that consumers trust the food that is available to them; and (2) the extent that consumer concerns over farm animal welfare influence food choice. In both projects the overall pattern of consumer opinions were investigated across Europe.

'Consumer trust in food: A European study of the social and institutional conditions for the production of trust' was a project undertaken from 2002 to 2004, and involved population surveys and institutional studies in Denmark, Germany, Great Britain, Italy, Norway and Portugal. There were major differences in the extent that consumers trusted foods in general across the six countries, with East German consumers having the least trust in food provisioning, while the British expressed the highest levels of trust in the food available to them. In all countries fresh foods were more trusted than their processed equivalents (e.g. fresh tomato versus canned tomato and beef versus hamburger). In the same way vegetables were generally more trusted than meat products (e.g. fresh and canned tomato versus beef and hamburger). These variations in trust are not solely a matter of individual risk perception and choice but rather represent complex differences among societies. Indeed, trust is both issue- and food-specific and distrust is often about much more than food safety. The modernisation of the food sector can produce both trust and distrust. It is apparent that researchers need to look more closely at market conditions and outcomes when interpreting consumer responses. The performance of food producers and food distribution networks are critical in gaining trust. It is important to compare what consumers are promised, what they expect and what is delivered. The State is important in terms of both how it manages food provisioning at a regulatory level and in terms of its politics, including how responsibilities for food issues are distributed among societal actors. The impact of the State on consumers' trust in food provisioning is often influenced by the clarity and consensus of such responsibilities and the transparency and independence of regulatory decision-making. Trust is also influenced by the extent that the consumers' voice (both consumer involvement and criticism) is taken into account during governmental food-related regulations and decision making.

Particular relationships between food provisioning systems, regulatory arrangements, and households produce different conditions for trust. Different household arrangements will have an influence on the level of trust in distinct types of food provisioning networks. A traditional family structure in which family-oriented meals tend to include more unprocessed foods. Trust is established through the family's personal relationship with food suppliers, typically a butcher or a food market stall. These relationships tend to work in small, local and stable settings, but in extended and complex markets such relationships are not easily established. Generalised distrust in food institutions may be the outcome. The second type is greater trust in institutional-based food solutions. Modern households have a higher proportion of single occupants, their meals include a higher degree of processed foods and shopping for food is often undertaken in supermarkets. For these households, accessibility rather than



provenance tends to be important; they tend to express more trust in institutions, although the level of trust in food depends on the performance of these institutions. There is however a basic difference between institutional trust based mainly on public consumer protection (a 'welfare state' solution) and a more liberalistic, market based type of trust. These types are clearly distinctive regarding consumer involvement, the first focussing on protection, the latter on involvement and choice. The welfare state type of trust is very stable and robust, compared to the market based form of trust, subject to more contingency and politicisation.

Trust refers not only to food safety, but to a wide range of food issues. Consumers' concern for animal welfare is an issue with the potential to affect food choices. Again this concern is influenced by social interrelations. The concerns over animal welfare are affected by intuitive consumer understanding of good/bad welfare in which there are few clear distinctions between caring for animals and caring for people. In many countries, the standard of animal welfare is hardly subject to market differentiation, relying instead mostly on public inspections and industry efforts. Consumers often have little choice in term of products that specifically address animal welfare concerns and often there is a lack of information. As a consequence, many consumers do not see the problems and/or do not feel that they own the responsibility/power to correct animal welfare issues. People who are concerned by animal welfare issues often resort to types of action other than food choice.

Still, many consumers want to contribute to better welfare through their shopping. Animal welfare is by many seen as part of a package of positive product attributes including quality, taste, provenance, small-scale or extensive production, and organic foods. This reflects how animal welfare is often marketed. For some consumers, animal welfare is also linked strongly with political consumerism, activist positions and collective mobilisation, but is less likely to be associated with vegetarianism. In the presentation, an attempt is made to map consumer perceptions in different countries in terms of whether the solution to animal welfare issues are best addressed through increased food provenance and quality, State intervention, or at the retailer level. Further information on these topics can be obtained for 'Trust in Food' at www.trustinfood.org and for 'Welfare Quality' at www.welfarequality.net.

In conclusion:

- For food provisioning, the level of trust in institutions and relations with other parts of society are more important than individual characteristics.
- Consumer activism can be an important factor, but only in certain circumstances.
- Trust is important for issues like food quality and safety, but less so for animal welfare. The level of trust depends on the framing of the issues, and perceptions of responsibility relative to the experience of consumers.
- Animal welfare is mainly seen as a 'good cause', but there is not much 'consumer choice' in relation to this issue.
- Studies of trust and of animal welfare suggest that people are generally positive to modernisation of the food sector, but not unconditionally. It is important that the performance and power of organisations and regulators are well balanced with consumer influences.



3.4 Consumer Foresight – A Commercial Perspective (Dr Jeremy Hill)

Introduction

To create the science and technology needed for tomorrow's foods will require significant investment in longer term research and development programmes. To increase the value extracted from this effort will require an excellent understanding of what will drive consumer purchase behaviour five to ten years or more in the future. For higher value categories such as functional foods or nutraceutical foods, success will be as much based on trusted brands, foods that taste great and price as the health benefits these foods are marketed to provide. Pricing functional foods is particularly challenging as we do not have a good understanding of the relationship between the health benefit and what is "value for money" for the consumer. Developing new consumer goods marketed on the basis of health benefits is one thing, creating functional ingredients for such foods would appear to be even more challenging with many companies failing to succeed in this space. In addition to the many years of development required, to get regulatory approval to market functional foods clinical trials are must be undertaken, often costing millions of dollars. To increase our success rate with functional foods and ingredients and minimise the risks associated with such large investments we need to be much better at consumer foresight.

Fonterra is the world's largest cross-border trader of dairy products. Fonterra exports over 1000 different products to 120 countries. Of the fourteen billion litres of milk that Fonterra processes in New Zealand only 5.0% is consumed domestically with the remainder exported. Thus Fonterra's customers and consumers live in a variety of cultures and have different expectations of the role of food in their lives. Understanding and meeting the needs of this varied consumer base is critical to Fonterra's success. However, building the science and technology needed to create new food categories and truly unique product offerings can take many years and significant investments. So how can we improve the accuracy of our predictions of what consumers will want in the future? Using functional foods as an example some of the factors driving consumer behaviour are explored.

Understanding Consumers: Consumers view of "Functional Foods"

Food is food. Consumers do not consciously differentiate between functional food and other food. The descriptor "Functional Food" is not used by consumers. The functional food term is used by the food industry not their consumers.

Factors driving consumer purchase behaviour

Brands are a key influence on consumer buying decisions - even for functional foods. Strong brands can influence acceptance of health benefits. The launch of a new brand with a new benefit is a challenge and consumers need additional reassurance. Pharma companies lack of well known food brands was attributed to consumers rejecting their functional food launches. Price is also very important and is critical for mass market success. It is also important to remove the consumer's capability for price comparison to achieve added value, a tactic often used with shot formats for milk-based functional foods such as the 65mls used by Yakult and Danone for their probiotic drinks.



Consumer education takes a long time - soy had a decade-long campaign before it got significant consumer awareness of heart health benefits. Consumers respond positively to products with health benefits that are linked to major public health campaigns. The consumers understanding of the links between functional ingredient and health benefit can result in consumer product acceptance, but consumers understand simple ingredients – electrolytes and carbohydrates. The converse is probably true.

Consumers can respond positively to death marketing but this is usually associated with a trusted brand. Life marketing messages are easier to communicate to consumers. Danone's Actimel is a good example "For healthy people who want to stay healthy".

In marketing functional foods, consumers are looking for a health benefit in a product with great taste and at a price they are willing to pay. Great taste is a given, but we do not have a good understanding of the relationship between the health benefit and what is "value for money" for the consumer. The health benefit may be the least important factor in the buying decision of the consumer.

Fast moving consumer goods companies are looking for:

- Ingredients that provide some technical insulation from competition
- Claims supported with "hard science"
- Ethical claims (especially for big players)

But creating new ingredients for functional foods can be even more challenging as highlighted in the February 2005 issue of New Nutrition Business:

"Over the last decade hundreds of new businesses have been spawned to bring to market new health ingredients based on new nutrition technologies. They have one thing in common, few have enjoyed the degree of success their founders hoped for, fewer still have made much money. Commercialising new nutrition science has turned out to be much tougher than anyone thought it would. There are more and more "added value" ingredients with people trying to find a home for them."

Although companies use a variety of tools to understand and meet consumer needs, most of these tools tend to have a more immediate focus. Predicting what consumers will need in the future is a challenge, but one we must overcome if we are to increase the success rate and value we can extract from longer term research programmes.



3.5 Consumer Acceptability of Novel Foods and Food Technologies: What Can Be Done to Prevent Problems Before They Occur? (Dr Kirsten Brandt)

Summary and conclusions from workshop held by the European Federation of Food Science and Technology (EFFoST).

Successful market introduction of food produced using a new technology is critically dependant upon public, scientific and regulatory acceptance. Technical performance alone is not sufficient. In the past, many new technologies have run into problems with public perception and concerns, which have drastically impeded their introduction or success on the market. Due to this, the benefits for both the consumer and food manufacturer these technologies can offer have not been achieved.

In hindsight, some of the “public relations failures” might have been prevented, if the development and promotion of the technologies had been planned a different way. EFFoST’s Special Interest Group Consumer Acceptance of New Technologies aims to bring together relevant views and expertise and support information events such as workshops in the context of relevant conferences and initiatives to increase awareness, understanding and implementation of the topic.

In many cases consumers have been much less enthusiastic about novel foods and novel food technologies than the scientists who developed the technologies, and as a result substantial R&D investments have been much less successful than expected.

A substantial research effort into consumer perceptions of novel technologies for food production has in fact already provided a good understanding of the factors involved in the development of consumer values and their reactions to information and products, in particular in relation to genetically modified organisms. However, it is not much of a consolation to understand in hindsight why a particular technology was rejected by the consumers as soon as it was introduced on the market. It would be far more useful to be able to identify the winners and losers at a much earlier stage of development, before most of the scientific and technical investments have taken place.

The challenge is to develop awareness of the need and methods for systematic assessments of those characteristics of a technology that are important to determine the consumer acceptability, such as its impact on fair trade relations, so this is done as early as possible in the development process.

The questions addressed by the workshop were:

- How can the relevant information necessary for informed opinion on the acceptability of an emerging technology be obtained before or early in a development process?
- How can the roles of the key stakeholders (researchers, science media, consumer groups, regulators etc.) be optimised in this early involvement?



The key conclusions from the workshop were:

- Most or all new technologies run a risk of being vilified by campaigners looking for a “good story”
- Economic pressures for rapid market introduction exacerbate the problems and increase the risk of rejection
- The only strategy that is generally likely to be successful (but is not always feasible), is to provide positive experiences for many individuals well before full scale marketing



4. WHAT IS FORESIGHT AND WHAT IS ITS RELEVANCE, VALUE AND APPLICABILITY TO SME'S AND LARGER COMPANIES?

Critical points

- 'Consumer foresight' is the ability to anticipate and connect to the future needs of consumers over a 10-year plus horizon and develop a route map and consumer-centric culture in the food and beverage industry that will increase the likelihood of delivering products and services that meet if not exceed the needs of individuals and society.
- In order to develop 'consumer foresight' it is important to track consumer behaviour (beliefs, attitudes, perceptions, preferences and food choices) from the past to the present in order to identify trends that can be used to develop a series of scenarios that represent future options for food consumption within societies.
- 'Consumer foresight' will provide valuable insights that are relevant to consumers, food and beverage industry, government and policy makers, as well as science and technology providers.
- A range of benefits will arise from successful 'consumer foresight': for the food industry there will be improved competitive position and financial success; for governments there will be reduced costs and general benefits to society as a whole; and for science organisations there will be successful development and implementation of new technologies and associated human and organisational capability development.
- Success in terms of 'consumer foresight' could have a dramatic impact on the return on investment in research and development for large / multinational companies by increasing the rate of success of new products and services (see worked example in Box 1).
- Many SMEs are dynamic businesses that are in a state of constant change in order to maintain competitive advantage and respond to changes in the marketplace. For many SMEs success is not so much defined in terms of returns of investment as it is defined by their survival. In the same way, that it was possible to infer the value arising from 'consumer foresight' for individual large companies / multinational companies (Box 1), it is possible to infer an increase in survival rate for SMEs. For example, if it was assumed that about 20 out of a 100 SMEs survive over a ten-year period, then a 5% increase in the success rate of product innovations through improved 'consumer foresight' might be expected to improve the survival rate of SMEs by 25% (i.e. 25 rather than 20 of the 100 SMEs will survive).
- In general, SMEs do not currently engage in 'consumer foresight'. The barriers to investment may be overcome by creating viable clusters of SMEs with similar foresight needs.



Recommendations

- Improve SME involvement in 'consumer foresight' by facilitating collective approaches by clusters of SMEs with similar 'foresight' needs.
- Facilitate greater dissemination of relevant and existing 'consumer foresight' to SMEs.
- Review and identify best practice in 'foresighting'. This will involve evaluation of existing 'foresighting' approaches and, if necessary, development of appropriate methods and protocols. It is anticipated that the process of development and review of 'foresighting' will require continuing evaluation of its success in realistically predicting future food consumption issues.
- Foresight must be a continuous dynamic process with ongoing review, so you can bring NPD closer to the real needs of consumers.

Box 1

Worked example of improved return of investment arising 'consumer foresight'

- Assume a €50M per annum investment in research and development of new food and beverage products over a ten year period, which results in a total investment of €500M.
- If a company were looking for a modest four-fold return on its investment, it would be looking for a €2B return.
- The €2Billion return on investment would probably arise from the 20% of research and development projects that were successful¹.
- If 'consumer foresight' improved the success rate of new product research and development from 20% to 25%, then this could result in the return on investment increasing from €2B to €2.5B. In other words, a 5% increase in success rate in the innovation process leverages a 25% increase in returns on investment.

1. ¹ Generally failure rates for new products are 95% in the US and 90% in the EU. Source: Clancy, K. J., & Krieg, P. C. (2003). Surviving Innovation. Common testing mistakes can derail a promising new product launch. (Downloaded from the World Wide Web on 22 November 2007). http://www.copernicusmarketing.com/about/docs/surviving_innovation.htm



5. WHAT IS THE ROLE OF INNOVATORS, CONSUMER SCIENTISTS AND MARKETEERS IN FUTURE FOODS FOR DIVERSE MARKETS?

Critical points

- Innovators in the Food and Beverage industry are the visionaries, implementers and champions of change. It is important to recognise that they not only create new ideas, but also implement changes in a way that captures value for industry, consumers and society.
- Food innovation can arise through concepts developed by individual industry participants with diverse roles and skills, including food technologists, marketers, non-food disciplines and consumers. However, in most cases the success of a new food and/or beverage is dependent on an holistic focus to food- and beverage-related new product development, which engages with all these diverse skill-bases.
- Given that successful food innovation requires the input of many different participants (see above), then it is important that all these people participate in development of 'consumer foresight' initiatives.
- The increasing diversity within markets presents an ongoing challenge and opportunity to food innovators as the marketplace is increasingly influenced by glocalisation², local food re-emergence, and growing cultural diversity.
- The market diversity described above reflects the increasing attention being focused on the voice of the consumer both individually and collectively, and, along with this, there is an increasing requirement for transparency of all components of the entire food chain. Effective innovators in the food and beverage SMEs need to integrate all these components to make products targeted to each consumer.
- It is sometimes difficult for food technology innovators in SMEs to connect with marketers and consumer scientists in a manner that allows robust development and evaluation of new food concepts. In many cases, the issues are not merely access to these skill-bases, but also differences in philosophy, language and motivation. It was thought that there was a need for more investment in developing consumer science capability to alleviate some of these issues.
- Gatekeepers such as government regulators as well as retailers also play a key role in food and beverage innovation.

² Glocalisation: "Most developing countries are both integrating with the world economy and devolving power to local governments and communities. This combination of globalisation and localisation is best called glocalisation. The centralised nation-state is giving way to both supra-national and sub-national institutions. Underlying both trends is a single force: the empowerment of individuals and communities at the expense of the monolithic nation state. Glocalisation improves the voice, participation and prosperity of individuals and communities." Source: The Economic Times, June 16 & 23, 2002. (Downloaded from the World Wide Web on 22 November 2007).

http://www.swaminomics.org/et_articles/et20020623_glocalisation.htm



Recommendations

- The multidisciplinary nature of food and beverage innovation needs to be recognised and maintained.
- It is essential to improve recognition and respect among all participants in order to achieve integration and improved success rate of the food innovation process.
- To this end it is important to provide multidisciplinary forums to stimulate and hear creativity and to disseminate structured overview, guidelines and founding principles along with key results across all food science disciplines.
- SMEs' access to and level of understanding of information on the diversity and dynamics of marketing (in all markets) needs to be improved.
- It is critical that gatekeepers (e.g. retailers and regulators) become integrated into any process that aims to develop 'consumer foresight'.



6. WHO ARE THE GATEKEEPERS? HOW DO THEY FORM THEIR OPINIONS AND POLICIES AND HOW CAN THEIR ACTIONS BE POSITIVELY INFLUENCED?

Critical points

- Gatekeepers “turn the tap on and off” in terms of consumer access to foods and beverages. Key gatekeepers include retailers, regulators and policy makers, and investors in new product development. All these organisations have in common their ability to make decisions that directly influence consumers’ free choices as to what food and beverages they will or won’t consume. Scientists and science often hold a critical role in decision-making at the start of the food innovation process (science → SMEs → retailer → consumers). As such, scientists can influence food and beverage innovation through their preconceptions and dogma, which can direct research down one route instead of another. However, this was considered a consequence of the nuances of individual scientists rather than a deliberate policy of science organisations and therefore science/scientists were not considered ‘true gatekeepers’.
- The food and beverage gatekeepers are not islands unto themselves. Rather they are subject to the influence of a wide range of organisations and individuals. Organisations that exert pressure on, and sometimes influence gatekeepers include: (1) media, increasingly now the internet; (2) consumer advocacy groups and other pressure groups (generally non-government organisations, NGOs); (3) industry (mainly multinational enterprises, MNEs); (4) medical professionals who are among the most trusted professions in terms of food and nutritional advice; (5) the court of public opinion, particularly how it relates to national and regional interests.
- The gatekeepers and their level of influence can vary widely from country to country. In some countries central government holds greater influence over food supply, while in countries such as the UK it was felt that retailers had a greater impact on consumers’ food choices.
- Gatekeepers sometimes tend to be reactive and work to short timescales out of necessity. They may operate this way to stay in power or to keep people re-purchasing from their outlets. As a result of this, time horizons for many gatekeepers can be relatively short.
- Among academics there was a concern over the way in which some ‘players’ seek to influence gatekeepers and public opinion. In particular, there was concern over extreme and polarising views that are often politically expedient, rather than responding to the need for rational debate.
- In order to minimise the above influencers, it was recognised that in pursuing innovation there was a high need for ethical and open communication. Science needs to be as open as possible and to avoid being seen as secretive. Approaches to this will probably need to diverge according to national and/or societal differences. It is important to have good and open relationships with the media and carefully consider the impact of information being released (see Box 2).



- Gatekeepers are positively influenced by food and beverage innovations in which it can be demonstrated to consumers that the innovation is based on science that is transparent, honest, and demonstrates social and environmental responsibility, as well as providing improvements in health, nutrition and public health, or some other benefit to the consumer. Governments are particularly influenced by improved public health as well as science innovations that are transparent and honest and socially responsible. In addition to these, retailers will be looking for food innovations that are safe and traceable, can be tied into strong brands that offer exclusivity, and can be used in positive press to promote their stores.
- Food and beverage innovations that involve manipulation of natural organisms should be anticipated to take time before they become accepted by some societies.
- There are often feedback loops among media, consumers and gatekeepers that result in dynamic interactions.

Recommendations

- It is important to encourage stakeholder engagement with gatekeepers early in food and beverage innovation. This should reduce the risk that new products and/or technologies will be rejected by gatekeepers and/or consumers.
- Early engagement with gatekeepers could be encouraged by establishing mechanisms to involve gatekeepers and their influencers in the development of 'consumer foresight'.
- It will be important to promote the benefits of strategic thinking by the food and beverage industry (MNEs and SMEs), gatekeepers and the groups that influence gatekeepers.
- It is important to seek to understand and possibly influence consumer opinion at the outset of the innovation process through effective and transparent communication. Consumer opinion should be solicited at regular intervals throughout development of new technologies, products and services (perhaps at yearly intervals if appropriate). Should the innovation process become disengaged from consumer opinion, the process should be halted.



Box 2

Recommendations on communicating risk to the public

(An extract from: Communicating about risks to public health: Pointers to good practice, Department of Health, London: The Stationary Office, 1997)

Media Triggers

A possible risk to public health is more likely to become a major story if the following are prominent *or can readily be made to become so*:

1. Questions of **blame**
2. Alleged **secrets and attempted “cover-ups”**
3. **“Human interest”** through identifiable heroes, villains, dupes, etc. (as well as victims)
4. Links with **existing high-profile issues or personalities**
5. **Conflict** (between experts and/or between experts and public)
6. **Signal value**: the story as a portent of further ills (“What next”)
7. **Many people exposed** to the risk, even if at low levels (“It could be you”)
8. Strong **visual impact**
9. **Sex and/or crime**
10. **“Snowballing” of reportage**: the fact that something is a ‘major story’ is often itself a story, and thus becomes self-fulfilling as media compete for coverage.



7. MORE INFORMATION AND CONTACTS

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