Functional Foods: A Consumer Behaviour Perspective

Ioanna Anninou*, Cardiff Business School
Cardiff University, Aberconway Building, Colum Drive
Cardiff, CF10 3EU
United Kingdom
Thesis Supervisors: Dr. John Pallister (PallisterJG@cardiff.ac.uk), Professor Gordon Foxall
***AnninouI1@cardiff.ac.uk
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Abstract

This study will be realised within the context of functional foods. Such foods have been recently developed by the food industry, promising to improve one's health or to affect beneficially target functions in the body. Their main feature is that they maintain both characteristics of conventional products like taste, pricing, marketing communication *etc* but at the same time bear health related claims like the possibility of coping with a disease. The proposed study offers to bridge the gap between previously applied attitudinal related theories, like the Theory of Planned Behaviour and health related psychology theories, like the Protection Motivation Theory, providing a holistic answer to the reasons behind consumers' choices of such foods. Based on this, a conceptual framework will be developed which can act as a reference point not only for functional foods but for all products, which although do not maintain a medicine nature, can be considered to offer advanced health benefits. The methodology involves the use of multi-methods, comprising of qualitative individual interviews, focus groups and a survey.

Key Words

Functional foods, theoretical model, consumer choice and intention.

Functional Foods- A contemporary marketing and academic issue

The lay notion that 'all food affects heath' seems more than relevant when it comes to consumers' food choices (Saba, 2001). Healthiness and convenience are the two trends that drive the contemporary food markets and the satisfaction of these trends is facilitated by the rapid technological development, which allows for new and innovative products to be produced (Gray et al., 2003).

Among others, organic, vegetarian, premium, convenient, low/ no/ reduced allergen (Mintel Report, 2008b), one available food choice is the category of 'functional foods'. This recently launched category (appeared around mid 1990's in Europe- but exact year differs a lot among countries) consists of foods which may prevent or reduce the risk of diet- related diseases, or may enhance certain physiological functions (Diplock *et al.*, 1999). As consumers become more health conscious and the food industry is searching for ways to grow markets, the demand and market value for health- promoting foods is expected to reach approximately 5% of total food expenditures in the developed world (Just-food, 2008).

Although a definition of functional foods is missing even at a legislative level, a classification which embraces the following characteristics:

- a food which can be consumed as part of a normal diet (not a drug or a capsule)
- a food which is satisfactorily demonstrated to affect beneficially one or more target functions in the body, beyond adequate nutritional effects, in a way that is relevant to either an improved state of health and well- being and/ or reduction of risk of disease
- a food which has gone through some kind of modification (fortification, enrichment, enhancement or removal) of some nutritional ingredients

best describes the concept of functional food as examined in this report.

Examples of functional foods include phytosterol/ stanol- enriched margarines, eggs enhanced with omega-3 fatty acids, milk fortified with calcium and probiotic milk products.

For marketing purposes an examination of consumers' reactions to functional foods has been evaluated as the main driver of their future acceptance and development (Bech-Larsen and Scholderer, 2007). Academically, this product category can be perceived as unique, in the sense that it can touch both upon business and sociological aspects. Businesswise such foods seem to be a great opportunity for market growth as they are outpacing their mainstream counterparts thanks to premium pricing as well as increased penetration from consumer trading up (Mintel, 2008). At the same time, such foods can be more than products to be consumed or rejected but can be placed within a wider system of food choices, perceptions of healthiness and sociology of eating that renders them an ideal context for research.

Research Aim

The idea of functional foods as a very unique category worth of further research was initially shaped during the author's commercial experience in a marketing department of a food company where considerations like the following were formed: "Why a foreign, 'waterish',

expensive yoghurt brand like Activia, which is promising consumers to regulate a slow intestinal transit, gains immediately after launch an important 6% (share in volume) of the total Greek yoghurt market?" This fact had been a surprise even for the most experienced market executives.

The research aim then lies in exploring the factors that drive consumers' intention to adopt/consume functional foods as part of their daily diet and factors that make them reject functional foods as inappropriate.

Following the general research aim, an important aspect of this research design will be exposed at this point; the relevant literature of functional foods is in some sense divided into two categories. The first category is facing functional foods as a homogenous group utilising the term 'functional foods' plus a scientific explanation or product stimulus for better comprehension by consumers (e.g. Verbeke, 2005). The second research category uses specific functional foods (e.g. functional bread, Vassalo *et. al.,* 2009) as objects of the research. A choice between the two approaches has been a debatable issue from the beginning. One very attractive categorization, which has been tested once (Vassalo *et al.,* 2009) in the context of a specific base product, bread, is a distinction between foods offering consumers the opportunity to measure their health promises (e.g. cholesterol lowering products) and products with non- measurable functional claims (e.g. stomach friendly yoghurt), which are based more on consumers trust and feeling (or possibly a placebo effect!). The research will thus focus on these two categories and will examine among others, whether people realise this distinction and whether the feeling of being able to measure the results influences their buying decisions.

Critical Literature Evaluation

The main suggestion behind this research has been that a combination of several elements of theories stemming from both the attitudinal and health related psychology would be more beneficial for coping with the dual dimension of functional foods (as food products and bearers of medicine- like promises) rather than a distinction between these two values.

For example, some researchers like Cox *et al.,* 2004 and Patch *et al.,* 2005a, b based their endeavour on well known theories which have found wide application in various disciplines and fields. Patch *et al.,* 2005 (a and b) used the Theory of Planned Behaviour variables (Ajzen, 1985)- attitudes, subjective norm and perceived behavioural control and intention- to construct self administered questionnaire items which could measure intention to consume omega-3 enriched novel foods. The model (using multiple regression) was found to be

significant determinant of intention to consume functional foods. Although the theory has found wide application in explaining food choice in general (Anderson *et al.*, 1998), its use in health related situations and functional foods analysis has been claimed to be incapable of predicting the complexity of health related choices as it does not include elements of the 'threat appraisal process'. This gap has been bridged by adapting the Protection Motivation Theory (Cox *et al.*, 2004). Protection Motivation Theory (PMT) was originally proposed (Rogers, 1975 as in Cox *et al.,* 2004) with a purpose to provide conceptual clarity to the understanding of fear appeals. A later revision of Protection Motivation Theory (Maddux and Rogers, 1983) extended the theory to a more general theory of persuasive communication, with an emphasis on the cognitive processes mediating behavioural change. It describes adaptive and maladaptive coping with a health threat as a result of two appraisal processes. A process of threat appraisal (the severity of the health threat along with one's vulnerability to this threat) and a process of coping appraisal, in which the behavioural options to diminish the threat (how efficacious the proposed behaviour is at averting the threat and how efficacious one is at carrying out this advocated behaviour- in this case, consuming functional foods), are evaluated.

The model showed evidence of consistency within its constructs and explained a high 59 - 69% of the variation of intention to consume imaginary functional foods[1] targeting memory loss. The study demonstrated that perceived 'efficacy' of functional food (followed by *self-efficacy of the person who acts*) against memory loss, is the most important determinant of intentions to consume. Nevertheless, this theory deals with the health related issues and leaves aside other aspects like product characteristics, pricing, attitudes towards such products, perceived risks or external influences.

Two theories, which could potentially be selected to structure the conceptual model of the research, which is under development, could be a combination of the *Health Belief Model* (Rosenstock, 1974), which addresses elements of the health coping behaviour and a *framework* developed by Rosentlap *et. al.,* (2007) which is very much based on relevant attitudinal literature and especially the Theory of Planned Behaviour and has been developed to explain food novelty purchase intention (see Appendix I). The added benefit of this framework when compared to the Theory of Planned Behaviour itself has been the addition of 'product features', 'consumers' characteristics' and 'communication' element, which are

[1] The products examined were not available in the market at the time of the study

relevant with functional foods but not part of the original Theory of Planned Behaviour. Based on these theories, the following research questions have been formed:

- Examine the differences of intention to consume functional foods with measurable (e.g. cholesterol lowering spreads) and non- measurable claims (stomach friendly yoghurt).
- Identify how and to what extend some personal characteristics (perceived behavioural control, "optimistic bias", perceived susceptibility of a disease) are influencing consumer choice.
- Lay better understanding on the critical relationships that exist among the concepts of trust- benefits- perceived risks and the influence of these relationships on consumer choice.
- Examine the whole complexity of interactions and relationships of the factors which have been identified as influencing intention. This whole complexity has never been examined before.

Nevertheless, following a summer 2009 dissertation project, new insights have been provided.

Preliminary Research: Summer 2009

During the summer of 2009, a preliminary study was realised within the context of functional foods. This project examined consumers' choice process of such foods providing at the same time an idea of consumers' attitudinal traits, proliferating by a holistic, qualitative approach. This exploratory work methodologically utilised several elements of a 'constructionist' grounded theoretical approach, in- depth interviews with a cross section of fifteen consumers and four food industry experts and more importantly the constant comparative method of analysis in order to develop a framework which explains functional foods' buying decision. The main methodological and knowledge gaps of the existing literature of consumer behaviour towards functional foods that justified this research approach have been:

1) An overreliance of the existing literature on theories and approaches pertinent to positivism/ cognitivism (for example Means-End chain theory and laddering technique- Urala and Lähteenmäki, 2003; Krystalis *et al.*, 2008; Jonas and Bechmann, 1998).
2) A lack of a coherent framework which can explain consumers' thinking in terms of functional foods choices

   Also:

3) The timely nature of this study for the European and UK food markets. As market enters maturity (Mintel, 2008a) it is interesting to examine the prevalent ideas.

This study has resulted in the development of a theoretical model. The results, which have been an attempt to arrive at some overall comprehension of the choice factors that interplay in consumers' mind, indicated that they way functional foods are placed within consumers' system of what can be considered as acceptable (healthy) eating, perceived importance of such foods (especially in terms of their own health situation and vulnerability towards a disease), their attitudes towards functional foods (in terms of efficacy, safety, necessity in the food market), specific product characteristics (base product, taste), financial issues, external/ marketing influences and finally the perceived benefits are the most important factors that influence consumers' choice of functional foods. These elements interrelate and interact in consumers' mind in either affirmative or negative ways and form their final decisions. These elements can be depicted in the following diagram:

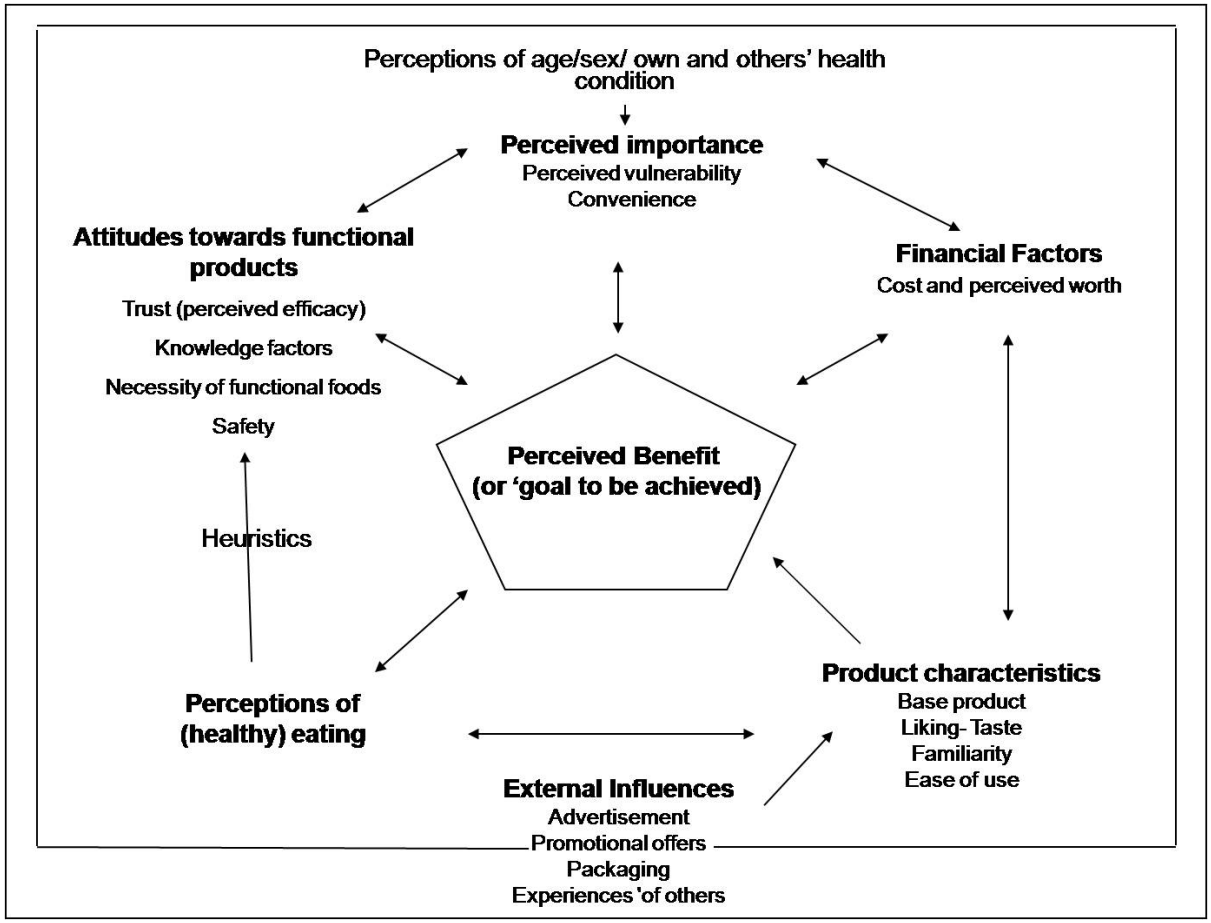


Diagram 1: Decision- making framework; source: preliminary research, 2009

Consumers' decision to choose or not functional foods can be regarded as a multi complex choice. This process, as described above, should be considered of a very general nature and it can differ among different people and the situations they might find themselves into. It should be also noted that this study has several limitations like for example small sample (although purposively a cross section of consumers was chosen). Some of the dimensions that emerged from the data are not new and have been identified by previous research using other theoretical approaches as presented in the evaluation of the literature; this study can nevertheless considered as providing new insights, proliferated by the 'holistic approach'.

Influence on theoretical framework

This qualitative project has been beneficial for the conceptual framework in many aspects. First of all, the circular, non- linear form of the developed structure has been a descriptive effort to depict the fact that the choice elements are not interacting in consumers' mind as a linear and clear process but rather this decision making process entails a great degree of disorder. In addition, choices of functional products seem to be mainly entangled with notions relating to efficacy, pricing (perceived worth), importance for one's health and what can be defined as acceptable (healthy) eating.

An important observation relevant to perceptions of healthy eating, is that previous studies have attempted to address the issue of healthiness largely in terms of quantitavely measure how the base product and claim can affect the perceived healthiness of a functional product (Bech- Larsen and Grunert, 2003), how the objective nutritional knowledge of consumers (measured through the use of the Nutritional Knowledge Questionnaire) can affect their choices (Ares *et. al.,* 2008) and how some personal traits like the general health interest, natural product interest or light product interest can affect consumers' use of functional foods (Landström *et al.,* 2007). Nevertheless, this study revealed that it is not the objective nutritional knowledge of consumers that leads their choices but rather it is more of a combination of the image of every specific product and how this product can become acceptable and incorporated into the system of food healthiness of consumers. These relationships can mainly be examined qualitatively.

Thus this research has provided research questions for investigation:

1) How can this framework of functional food choices be further advanced and refined in order to better and more accurately depict the relationships created?
    - For example how the relationship between attitudes towards such foods, perceived efficacy and perceived worth is formed?

- How are functional foods placed within the food healthiness system of consumers?
- Could diverse segments of consumers be identified through this process of placing functional foods into their food healthiness system? What are their characteristics?

2) Which components of this framework are the best predictors of health related food choices 1) with measurable claims 2) without measurable claims?
3) Is this framework able to predict willingness to use functional food products 1) with measurable claims 2) without measurable claims?

Proposed Methodology

Ontologically the research will be based on the constructivist realism, epistemologically it can harmonize positivistic and interpretive views and methodologically will rest on multi-methods. In relevance to the research questions and the framework to be finalised, a combination of qualitative with quantitative methods seems the most appropriate way to advance. Advancing first with a qualitative approach, a combination of personal interviews and focus groups would be ideal in order to take advantage of the advantages of both methods and triangulate the results. This approach can help refine the framework, overcome the preliminary research limitations, establish it on more scientific grounds and answer the first research question and sub- questions. Thus the final conceptual model will be built upon the results of both research results and further narrative and systematic reviews of existing theories. As a next step, a structured mailed questionnaire will be sent to a representative sample. Results will be analysed via correlation and structural equation modelling.

Conclusion- Tentative Contribution to Knowledge

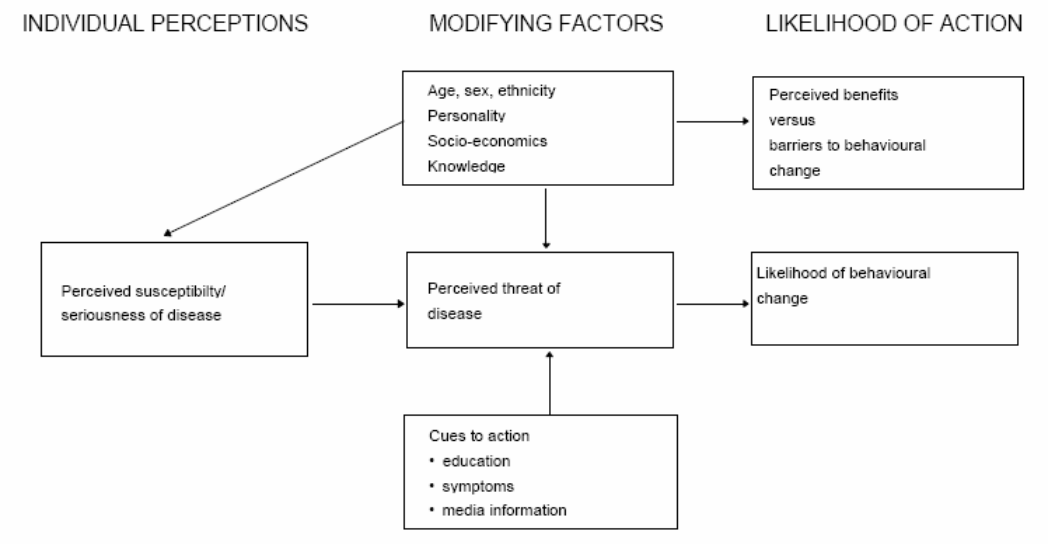
Following this approach, the expected theoretical implications would signify the development and scientific establishment of a new framework which could potentially offer a safe ground not only for the explanation of functional food- related decisions but also for further health-food related contexts like organic foods, food supplements or other foods with a healthy image. In addition, this study will significantly contribute to the noteworthy body of knowledge examining notions of healthy eating.

With healthiness being a mega- trend in food related choices, this study will offer invaluable managerial insights. Anticipated results will indicate how marketing related issues like price or ease of use can interact with personal factors like perceived vulnerability from a disease

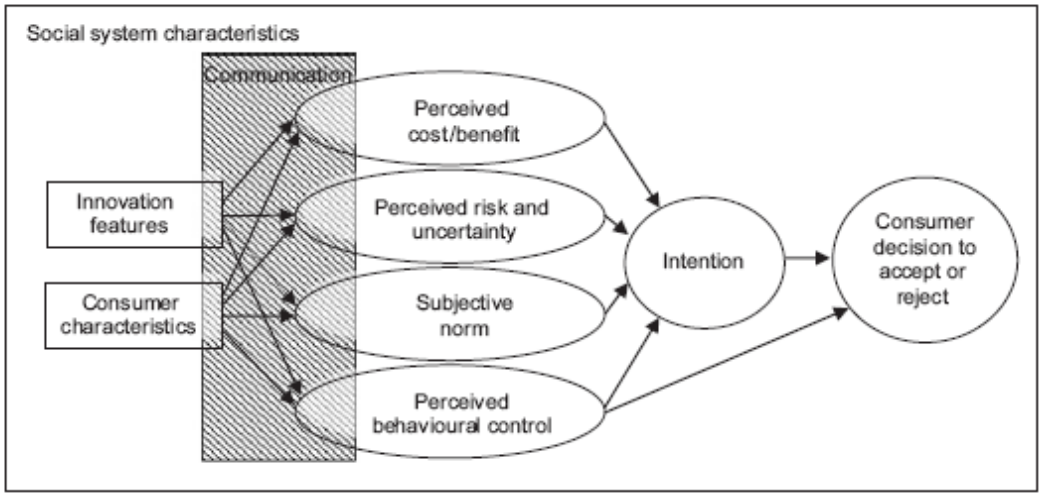
and cognitive factors like trust towards product efficacy and how these ultimately form consumers' final choices. In addition, results will shed light to an unexplored area of how the wording of health claims (an explicit- measurable versus an implicit health claim) is perceived. The study can thus provide indicative recommendations pointing towards the future development, communication and pricing of functional foods.

Appendix

The Health Belief Model (Rosenstock, 1974)



Intention towards novel foods (Ronteltap *et al.*, 2007, p. 5)



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