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# Communication Concepts for an Innovative Functional Food Product

## Abstract

Communication can be perceived as a pertinent determinant for the success of a firm in competition. This argument is even more plausible when considering that the market of food and beverage products in Germany is approaching a saturated phase. Due to different characteristics of functional food products a communication strategy needs to be developed, which differs from a conventional one. This paper proposes some possible communication messages for functional food, which was developed on the basis of understanding the consumers' psychological factors. For this purpose two different studies were performed. The results of these studies showed that consumers show a higher involvement level towards a functional food product. Consumers displayed more engagement and appeal towards the consumption of functional food products. Functional food products were perceived as relatively more fascinating, valuable and important. Therefore, as compared to conventional food items consumers will go through a longer decision making process before consumption or purchase of a functional food product. Since prior knowledge relates to attitude and motivation,, providing more relevant information is necessary for marketing of a functional food product. Different types of claims and communication messages such as hedonic and utilitarian ones should be considered when a firm intends to set up a communication strategy for a particular functional food product. A cost effectiveness study can be initiated in order to support a firm in making such a decision.

**Key words:** marketing, promotion strategy, psychological set, knowledge and involvement level

## Introduction

In a saturated market consumers are well satisfied with abundant information and similar product offers. In this market however, the consumers' demand is steadily increasing. As a consequence of these product offers communication campaigns are in oversupply and rather vague in the eyes of consumers. In this situation consumers often face failures in capturing the main content of communication messages. It is difficult for many consumers to easily

recognize the benefits and unique points of food products. Therefore, it is not surprising that food firms are competing hard with each other, in order to be able to set up a successful communication program that can ascertain a fast product penetration in the market place. This argument is depicting more or less the German food market. For such market launching a radical innovative product may be key point for a firm in order to win the market. Due to its distinct function a real functional food product can be considered as example of innovative product. A real functional food means a food/beverage product which has a significant and well proved functional benefit, and it is marketed with a proved health claim.

In the German market the development of the “real functional food” market is not rapidly grown. On one side, the global market of all type of functional foods and beverages is very promising. A continuously high annual market growth rate is expected for the foreseeable future. Projections are that the market (including the market of functional foods which marketed with non-proved health claim) will reach a total of US\$ 109 billion in 2010 worldwide (Global Industry Analysis, 2007). This positive trend is supported by the increasing demand of consumers for foods that promote health. Consumers tend to pursue a healthy life style and to regard food as natural medicine. Hence, the functional food concept is considered as a revolution in the food industry (Heasman and Mellentin, 2001). On the other side, in some countries these positive and promising facts can not guarantee a trajectory development of functional food. The controversial issues, which may impede the development of the functional food market, are not only due to a long standing debate on government regulations and legal aspects. But it also includes the dynamics of the consumers’ psychological set and firm’s strategy on innovation may restrain this development (Puspa et al. 2008).

Communication can be perceived as a pertinent determinant for the success of a firm in the competition. This argument is even more plausible when considering the above mentioned saturated market. The marketing-communication process for functional-food (FF) products is perceived to be very crucial, but it is also acknowledged to be more sophisticated due to the evidence that (1) FF-products have specific unique selling-propositions which can be in the form of different kinds of claims, such as functional-, nutrient- and health claims. These claims usually relate to relatively complicated medical and technological terminologies, and in order to be able to provide the consumer with understandable communication messages, these claims should be formulated and communicated correctly using popular consumer

language. Moreover, (2) consumers' perception, knowledge and awareness towards health- and nutrition aspects vary. In this market the presence of an asymmetrical information system among the three involved parties, i.e. medical community and scientists, industry and consumers can be observed.

Some agendas were planned by the European Commission concerning nutrition and health claims for food products. As a part of that plan, the regulation (EC) No 1924/2006 of the European Parliament and of the Council on Nutrition and Health Claims made on food was launched at the end of 2007. Under this new law it is compulsory for the food producers to have the claim approved by the European Food Safety Authority (EFSA), if and when they intend for the new product to carry a nutrition or health claim. The Commission has launched a "positive list" of permitted health claims already approved in member states. These types of health claims include those referring to growth, development and the functions of the body; psychological and behavioural function and weight control. However, any claims referring to the reduction of disease risk or to children's development and health will have to be examined by the EFSA and approved by the Commission as well as any other new claims not already included in the positive list. The authorization will thus be required on a case-by-case basis following the submission of a scientific dossier to the EFSA for assessment. The only common denominator in establishing this approval is the sound of scientific evaluation of the health effect being claimed and it required continuous researches activities that support the approved claim. Therefore, application for authorisations of health claims made on foods requires firms to submit all pertinent scientific data (published and unpublished, data in favour and not in favour) identified that form the basis for substantiation of the health claim (EFSA, 2007).

When considering those above mentioned constraints a firm may face more challenges in bringing a new innovative functional food product to the market. A higher investment in terms of time, effort and financial resources is needed in order to develop and find out new potential substances, to initiate studies or investigations proving health benefits, compiling scientific evidence for supporting the health claim. Due to this higher investment level for the development of a new functional food product-as compared to that for marketing a conventional food and beverage products- bringing a newly developed functional food to the market carries a high risk of sunk cost. The task of a given marketing team is to make sure that the successfully developed product can also be successful in the market.

## **Theoretical background**

One alternative in setting up such a communication strategy is by directly involving a firm's potential consumers. It may be beneficial for a firm to use consumer- based information as a framework for creating a marketing communication. By understanding the consumers' needs for information a firm may be able to set up efficient communication measures. The marketing literature has suggested that some consumer psychological factors, such as the consumer knowledge- and involvement- level, can be perceived as antecedent elements for marketing communication (Solomon, 1996, Assael, 1997).

Studies on the topic of functional foods have shown that consumers' acceptance towards a new functional food vary. This different acceptance may be due to the fact that prospective consumers have a divergent psychological set, such as in the case of awareness of, motives and consumers' evaluation (Urala and Lähteenmäki, 2003; Malla et al., 2007; Niva, 2007; van Kleef et al., 2005), acceptance of functional foods (Bech-Larsen and Grunert, 2003; Lebreque et al., 2006; Verbeke, 2005; Devcich et al., 2007), knowledge about nutrition (Wansink et al., 2005; Ares et al., 2008), attitude towards functional food (Bech-Larsen and Grunert, 2003; Cox et al., 2004; Urala and Lähteenmäki, 2003, 2004; Verbeke, 2005), and willingness to buy or intention to consume functional food (Siegrist et al., 2008; Cox et al., 2004). In this case, understanding psychological set of target consumers will be preminent for marketing a new functional food product.

The consumer's involvement level is a useful basis for developing such a communication and advertising strategy (Assael, 1997; Solomon, 1996; Engel et al., 1994). The involvement level of consumers determines how much information they will require in order to evaluate an innovation. The involvement level is based upon the importance of the product, significant risk, emotional appeal and norm identification (Assael, 1997). At the level of a product class it seems that there is general agreement as to what constitutes the differences between having high and low involvement. Individuals with low involvement (1) show a relative lack of active information seeking, (2) do little comparisons among different brands, (3) have a perception of similarity among different brands and (4) have no special preference for a particular brand (Zaichkowsky, 1985). Learning from the fact that consumers have different involvement and knowledge level towards different product categories it is interesting for

knowing the possible implications of this psychological set especially for marketing of functional food.

Consumer knowledge is another important construct for understanding consumer behavior (Brucks, 1985; Rao and Sieben, 1992; Joshi and Sharma, 2004). Knowledge in the primary base domain is used to learn about and to develop a representation of the new product. Many studies showed the impact of prior inherent knowledge level on information search and processing, the consumer's decision making and adoption process towards an innovation (Brucks, 1985; Srinivasan and Agrawal, 1988; Moreau et al., 2001). Studies have found that consumers with a higher level of knowledge are more selective in what information they examine prior to making a buying choice. Since they are more knowledgeable they have a better understanding of what attributes should be examined in order to make the best choice (Brucks, 1985; Alba and Hutchinson, 1987). The response-hierarchy model (Lavidge and Steiner, 1961 in Kotler, 1994) implicitly explains the relationship between knowledge and attitude (indirectly trust) and shows that knowledge leads to linking (favorable and unfavorable feeling about a certain characteristic of an object) and to preference, conviction and, finally, the purchase decision. Hypothesizing that the psychological set including the knowledge level is the salient basis for determining a future marketing strategy this paper had the first aim to determine some important marketing strategy elements for functional food based on consumers' psychological set, especially consumers' knowledge level.

An efficient communication program that provides a significant economical use will guarantee the success of a new product launching. As has been highlighted above two common questions emerged, when a firm deals with defining a communication strategy for functional foods: (a) what kind of message should be used and (b) how this message should be efficiently delivered to the targeted consumers. The basic understanding derived from our previous study was that, apparently, a firm needs a communication strategy for functional foods different from the one normally used for a conventional food product (Puspa and Kühl, 2009). Furthermore, the main communication message used for currently marketed conventional food and beverage products often relates to emotional or affective issues such as taste, freshness, great pleasure or enjoyment, and newness. Due to the fact that functional food products do have clear distinctive characteristics as compared to conventional foods a firm may have a better opportunity to set up a platform for developing a communication message. Through communicating those distinctive unique features and benefits a firm can

establish the position of their functional food product. Especially for functional food and beverage products, both intrinsic and extrinsic elements contribute significantly to the influence on consumers' acceptance.

In order to position and promote the health benefit a product claim can be used. Claims can be used as a selling proposition of a functional food product in which a health benefit is highlighted. In European countries four types of claim are established, i.e. nutrient claim, nutrition content claim, nutrient structure/function claim, functional claim, and health claim (EU, 2006). A nutrition claim is defined as any representation that states, suggests, or implies that food has a particular nutrition property, including but not limited to energy value, content of protein, fat, carbohydrates, vitamins and minerals. A nutrition content claim is a nutrition claim that describes the level of a nutrient contained in a food, for example, 'High in fiber and low in fat'. Meanwhile, a nutrient structure/function claim was defined as a nutrition claim that describes the role of nutrients in maintaining normal body functions (e.g. calcium building strong bones, probiotic products improving the body's defense mechanisms). Finally, a health claim pertaining to any representative ingredient states, suggests, or implies that a relationship exists between a food, nutrient or other substances contained in a food and a disease or health-related condition. The usage of nutrient- and nutrition content claims for marketing claims are relatively unregulated. The EU law restricts more or less the usage of health claim. For marketing purposes a potential functional product, which has certain proven health benefits can be marketed with one of the types of the above mentioned claims. Although the product may have a significant health benefit to reduce certain risks of disease a firm may decide to sell this product only under a nutrient claim without going through the lengthy and difficult process of health claim approval. Careful consideration should be given by a firm to the selection of the appropriate claim for marketing purposes.

With regards to the methods that can be used for delivering communication the marketing theory has identified at least two types of communication transfer method, i.e. mass communication and personal networking information transfer. Mass communication is targeted to reach a large audience quickly, practically and inexpensively when viewed in terms of cost per individual contacted. However, when compared to interpersonal communication mass communication will achieve a relatively lower efficacy in terms of influence (attraction, probability of interest, and accuracy of comprehension) on the

individual, because there is only a one-way direction of message flow and no feedback opportunity (Engel et al., 1994).

### **Objectives:**

The paper has three main objectives:

- (1) to understand consumers' psychological sets, such as involvement and knowledge towards functional foods and to learn its consequences for setting up a communication strategy for any new functional food product to be introduced,
- (2) to study the effectiveness of different types of claims for marketing communication of a functional food, and
- (3) to define alternative effective communication messages appropriate for an innovative FF.

### **Method:**

Collected data came from two different periods and studies (2005, 2009).

First study:

The first study was designed (1) to understand consumers' psychological sets relevant for marketing of a functional food product, such as consumer's involvement level, knowledge and motivation and (2) to determine all possible communication messages that could be used for marketing of functional food. We conducted a consumers' study using an in-depth personal interview method in Hesse, Germany. A questionnaire-survey was used to collect data from a total of 473 respondents. In order to be able to recruit a significant number of potential consumers of a particular functional food product the "a priori" segmentation method was applied. Three different groups of respondent were recruited, i.e. patient groups, the medical community and healthy respondents as a control group. Patient groups included (A) patients with coronary heart disease (confirmed by angiography, PTCA, bypass operation or myocardial infarction). (B) patients with high serum triglyceride level (all hypertriglyceridemic patients with plasma triglyceride levels of > 200 mg/dl- or according to the NCEP (National Cholesterol Education Program ATP II guideline), with or without the metabolic syndrome. (C) patients with obesity (according to the ITFO (International Task Force on Obesity) guideline with a BMI (Body Mass Index) more than 30 kg/m<sup>2</sup>) with or without other metabolic diseases. Healthy persons were recruited as a control group. Another reason for using this a-priori segmentation model was our initial assumption, which stated that

groups of patient represented a direct target user-pool for functional foods. As they are mostly motivated consumers, who are dealing directly with the disease and are aware of food-disease relation and have a higher level of knowledge of nutrition-disease relationship due to their direct access to the scientific information such as consultations from nutritionists or doctors. A healthy young person group as control represents unmotivated consumer, who are less aware of disease prevention and healthy diet patterns.

Concept testing of a real functional food item (different food products containing Omega-3 fatty acids and mixtures of beneficial fats) was performed with the respondents in order to collect the respondents' opinion, perception and acceptance concerning all defined attributes of functional food. Factor analysis and multiple linear regressions were applied in order to elucidate relevant communication messages according to the opinions and perceptions of the consumers.

Motivation towards a healthy life style and disease prevention measures of these groups was confirmed by measuring some indicators relevant for defining people's motivation such as (1) consumption pattern of ``health food`` such as vegetables and fruits (vegetarian or non-vegetarian), low fat food or sugar, food with low caloric content, and consumption of functional foods, (2) sports activity and (3) consumption of food supplements.

In order to be able to answer our working question concerning the quantity of product information that should be delivered to the consumers, people involvement level towards functional foods was measured by using an involvement level based on a theoretical construct suggested by Assael (1997). Some indicators relevant for the theoretical construct of an involvement level such as (1) people's intention to search for information (2) type and number of sources of information usually used and (3) quality of information usually collected were measured. The quartile analysis of the total summation of all indicators then was used to define people's involvement level towards functional food in general.

## Second study

The second study was designed to understand consumers' perception of the relative importance and value of several types of claims (nutrient claim vs. functional claim vs. health claim) 347 students of the Justus Liebig University of Giessen, Germany were recruited, i.e. yoghurt, margarine, and sauces for spreading.

Conjoint analysis was performed in order to test consumer's acceptance level towards the three different types of claim. Four variables were used to perform a conjoint analysis i.e. 3 basic products, 3 types of claims, 2 different types of ingredients (EPA and DHA, alpha

linolenic acid) and 2 levels of prices (average price of similar conventional products and 20% higher than average prices).

## Results:

### *Sample data*

The two studies showed a rather different respondent's profiles. Study 1 was more or less recruited elderly respondents, while study 2 recruited younger respondents (students). As this study did not intent to make any demographic comparisons therefore sample background was paid a less attention. These two studies complemented one another.

Table 01. Sample profiles

	%		%
<b>Study 1:</b>			
Age:		Income:	
18-30	13	Less than 1000€	15.3
31-40	13	1001-2000€	24.6
41-50	14	2001-3000€	22.9
51-60	17	Over 3001€	18.6
61-70	30	No income	5.5
Over 71	13	Not say	13.1
Gender:			
Female	49		
Male	51		
<b>Study2:</b>			
Gender:		Age:	
Female	85	Average age of	
Male	15	25.5 year	

Source: author's data

### *Psychological set of consumers*

For evaluating the consumers' involvement level toward functional food, our first study used a construct of items for measuring the involvement level, such as (a) intention to search information before buying a product, (b) type of information needed and source of information, and (c) number of sources of information usually used. The respondents' answers to those questions were compiled using a quartile method. The compiled answers were categorized into low- (low score), medium- and high involvement (high score). Table 02 shows the result of this classification. A substantial number of respondents had a medium to

high involvement toward functional food. Only 8.5% of the respondents showed a low involvement level.

TABLE 02. Involvement level toward functional foods

	%
Low involvement	8.5
Medium high involvement	41.9
High involvement	49.9

Source: author's data

Consumers' motivation towards a healthy life style and disease prevention measures can be considered as one of the indicators for measuring people's future acceptance towards new innovative functional food products. Intrinsic motivation to engage in disease prevention was defined as a motive or force that accounts for achieving a certain state of health and trying to avoid certain chronic diseases. These indicators to measure intrinsic motivation include (a) intention to follow a healthy lifestyle such as consumption of vegetables and fruits, consumption of food supplements, frequency of doing exercise/sport, consumption of healthy food items smoking habit. By summing up all scores of the indicators, the motivation score of each respondent was calculated. Finally, a motivation level classification (low, medium and high level) of individual respondents was used. Table 03 indicates the result of consumers' motivation test.

The result of correlation analyses has confirmed that people's motivation towards a healthy life style and disease prevention measures showed a positive relationship with attitude towards the functional food concept (correlation coefficient at a significance level of 0.01 (2-tailed) of 0.120 and 0.270 for Fishbein's and Likert's models, respectively, data is not shown).

TABLE 03. Motivation level

	%
Low motivation	12.7
Medium high motivation	28.8
High motivation	37.7
No answer	19.9

Source: author's data

Knowledge about nutrition and nutrient-disease relationships is also one of the important indicators for evaluating the motivation level for taking disease prevention measures, because it shows internal motivation to search information necessary for health prevention. In order to evaluate whether the

respondents had a good knowledge about nutrition and health in general, some questions concerning nutrition and health aspects related to their diseases were presented. These questions included i.e. which component was useful for preventing osteoporosis or how many calories per day were needed by a healthy adult person and how important nutrient elements are for prevention of atherosclerosis. Scores were calculated by adding the number of right answers ('very good' when the respondents provided at least 80% correct answers, 'average', when the respondents gave 50-79% of correct answers, respondents with correct answers lower than 49% were given bad scores). Only 19.9% of respondent could not really answer the general knowledge test. Further a correlation analysis was done between knowledge level and motivation level. This correlation analysis showed that the knowledge level correlates significantly with the development of people's motivation (a Pearson correlation coefficient of 0.668 at a significant level of 0.01).

TABLE 04. Knowledge level

	%
Bad	19.9
Average/gut	20.3
Very good	40.2
No answer	19.4

Source: Author's data

### *Three different types of claim for marketing*

The conjoint analysis used in the second study showed the consumers' preference towards the different kinds of claims. Three types of claims concerning the function of omega-3 fatty acids, i.e. nutrient claim, functional claim and health claim were considered. In this case conjoint analysis also evaluates the level of awareness concerning the health effect of the functional ingredients tested. The result of this analysis showed that basic product claims were perceived to be important for making the decision to buy a functional product as compared to other variables, such as ingredients and price level (Table 05). The second study confirmed previous findings showing that consumers rather preferred a food product that was perceived to be healthy, such as yogurt rather than fat rich foods (margarine and sauces for spreading) (Table 06). This study confirmed that a health claim was the preferred claim and that the functional claim was preferred to the nutrient claim.

TABLE 05. Importance values of conjoint analysis and correlation coefficient

	Importance value	
Basic product	45.133	
Claim	25.549	
Ingredient	15.478	
Price	13.840	
	Corr coef.	significant
Pearson-r	0.995	0.000
Kendall-Tau	0.458	0.000
Kendall-Tau for Holdouts	1.000	

Source: Author's data

TABLE 06. Utility values of four variables

		Utility	sd
Basic product	Yogurt	0.206	0.018
	Margarine	0.141	0.020
	Spread sausage	-0.347	0.017
Claim	Nutrient claim	-0.019	0.018
	Functional claim	0.006	0.020
	Health claim	0.014	0.019
Ingredient	Omega-3	0.038	0.014
	Alpha linolenic acids	-0.038	0.014
Price	average	0.027	0.014
	20% higher	-0.027	0.014
Constant		3.031	0.014

Source: author's data

### *Possible communication message for a functional food product*

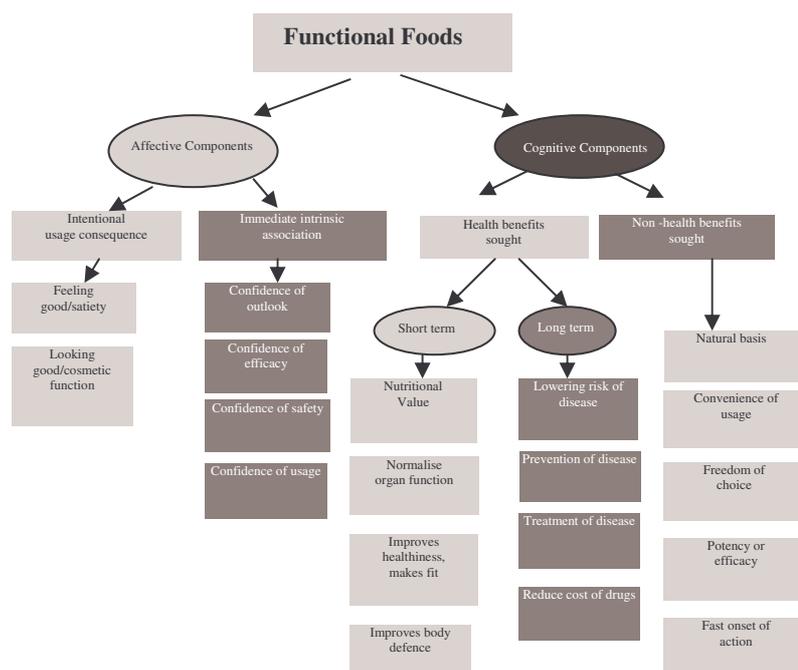
In study 1 the factor analysis yielded two major communication themes in relation to the functional foods attributes: (1) affective components, which cover all communicative messages emphasizing the emotional aspects of consumers, such as feeling, passion, fear, happiness etc. (2) cognitive components, which cover all logic reasons for buying or consuming a product (Figure 01). Further, the affective or emotional elements consist of two main issues i.e. (a) intentional usage consequences, which cover all emotional factors, resulting from the functional consequence of having used or consumed a functional food product. Examples of this are satiety feeling (feeling full), feeling good, and looking good (cosmetic feeling), and (b) immediate intrinsic association, which includes other emotional factors resulting from the intrinsic features of functional food, such as confidence of outlook (resulting from good product appearances), confidence of efficacy (resulting from product effectiveness in performing the health claim), confidence of safety (resulting from product assurance of minimal or no side effects), confidence of usage (resulting from the presence of

guarantee of quality and appropriate applications). The affective components are important due to the evidence that the consumption of a functional food can create a satisfactory feeling of healthiness and active disease prevention measurement to the consumers. By buying a functional food the consumer may build internal self-identity and emotional state.

The cognitive components are covering two main other issues: (1) health benefit sought (relating to all health benefit offered by the functional food product). The health benefit sought can be divided into two parts based on the length of the product reaction time to achieve the health claim, i.e. (1a) short term effect, such as achieving expected nutritive value, improving health and fitness, improving the body's defense mechanisms etc., and (1b) long term effects, such as lowering the risk of disease, prevention of disease, treatment of disease and reduction of the cost of drugs. The second component (2) of cognitive element is non-health benefit sought; this relates to all other aspects beyond the offered health aspects which are perceived as important product features in influencing consumers' belief. The non-health benefits include many other cognitive components such as (2a) providing a natural base of foods, (2b) convenience of usage including features, which offer ease of handling of the product (easy pouring or opening, easy packaging design for keeping purposes, easy disposing of, (2c) freedom of choice, presenting functional food in a variety of end products, (2d) potency and efficacy, the product offering a strong effectiveness regarding the health claim (as potent as a drug), (2e) fast onset of action, performing health benefits in a short period of time.

In order to understand the most appropriate issue relevant for newly launched functional food, a multi-regression analysis with variables of all communication components resulted from factor analysis was performed (Table 08). The result from this regression shows that most cognitive elements were perceived to be more salient for communication of an innovative functional food rather than affective components. The consumers perceived that the cognitive components are more understandable, precise, clearer and more trustworthy for convincing a new innovation. The cognitive elements are useful for the formulation of consumers' belief and for the improvement of consumers' acceptance towards a new innovation.

FIGURE 01. . Communication Messages for functional foods



Source: Author's interpretation

Table 07. Factors and factor loadings

Item (no. of factor)	Loading	Item (no. of factor)	Loading
Feeling good/satiety (7a)	0.635	Lowering risk of disease (2b)	0.738
Looking good/cosmetic function (7b)	0.628	Prevention of diseases (2a)	0.621
Confidence of outlook (3) - Appearances of product - Identity of product	0.685 & 0.726 0.696	Treatment of disease (2d)	0.633
Confidence of safety (1b) -feeling safe: combination with others -feeling safe: proved study - feeling safe: long term usage - feeling safe: developed by research center	0.763 0.800 0.771 0.748	Reduce costs of drugs (2d)	0.633
Confidence of efficacy (1a)	0.845	Natural basis (8)	0.535
Confidence of usage (9) - feel good because of labeled quality - feel good because of guarantee	0.598 0.656	Convenient of usage (as a food product) (4a)	0.556
Nutritional value (8b)	0.758	Freedom of choices (variety of food items) (4b)	0.406
Normalize organ function (2b)	0.662	Potency or efficacy (as a drug) (5b)	0.895
Improve healthiness/makes fit (2f)	0.565	Fast onset of action (as a drug) (5a)	0.798
Improve body defense mechanism (8c)	0.677		

Source: author's data

Table 08. Coefficients of the regression model of all factors

	Coe. B	Sig.
Constant	3.683	0.000
Factor score 1	-0.30	0.450
Factor score 2	0.121	0.002
Factor score 3	-0.019	0.631
Factor score 4	0.003	0.943
Factor score 5	0.106	0.007
Factor score 6	0.109	0.006
Factor score 7	0.194	0.000
Factor score 8	0.083	0.035
Factor score 9	0.125	0.002

### Discussions:

These findings revealed that most of the respondents paid a lot of attention toward product information and that they spent much time to search for, process, evaluate, and learn about the product profiles. In this case, a further argument can be stipulated that consumers' involvement level towards functional food is different from their involvement level towards conventional food products, which is normally considered to be low. The result of these studies was that, apparently, consumers showed more engagement and appeal towards the consumption of functional food products. Functional food products are perceived as relatively more fascinating, valuable and important. Therefore, as compared to normal conventional food items consumers will go through a longer decision making process of consumption or buying of a functional food. Furthermore, this finding confirms that inquiry of product information can be more justified for establishing the decision of consuming or buying a functional food, when compared to a conventional one. In general, consumers need more product information, especially because they actively do brand comparison before making a decision. Moreover, through product information consumers can improve their knowledge level and awareness. This is relevant for functional food, especially for establishing consumers' acceptance towards the health benefit. Since knowledge, perception and acceptance influence the buying decision the presence of comprehensive information will indirectly endow the consumer with performing an efficient and low cost decision making process.

For a firm the present results provide evidence regarding the importance of the flow of Information. Information flows from medical experts, institutions or government bodies confirming or explaining the health benefit of a functional food product will be crucial for marketing a functional food product. The presentation of clinical studies made with the

product may satisfy the consumers' need for information. In this case the communication and promotion strategy for a real functional food product should definitely differ from that for a conventional food product. However, providing enough information can not automatically guarantee successful marketing of a functional food product. A firm may need to understand the level of consumer's prior knowledge on related health issues. Due to the fact that the level of consumers' knowledge and psychological sets (such as attitude, awareness and readiness to consume) vary, a selective promotion strategy focusing on target consumers may be mandatory for successful marketing of a functional food. It has been suggested that a firm needs first define the extent of the segment to be entered and to identify the consumers' knowledge level, acceptance and awareness towards the health benefit offered in that particular segment. Allocating marketing activities direct on target consumers may be more efficient rather than doing a mass communication. An example of target segment for a functional food is patient groups or people who have to do a compulsory disease prevention action. Depending on the offered health claim a functional food product can be directly target to such consumers. Due to the fact that such consumers may have higher motivation, and tend to have a more positive attitude towards the concept of functional food.

Based on marketing theories this paper suggests that to successfully deliver communication messages a firm needs to select media that are appropriate for high involvement consumers. Advertisement on TV and radio are considered to be more appropriate for low involvement consumers (Assael, 1997). Therefore, the impact of using these media as a single promotion tactic for marketing of functional food, especially for establishing the health concept (but not for establishing the brand) is highly questionable.

Claims can be used as one of the product's unique selling propositions and as a core message of a promotion campaign. The claim to be most easily used is the nutrient claim, because there is no complicated registration process to be followed. However, the fact consideration has to be taken into consideration that the other claims will have a higher selling potential. In this case, the usage of more complex claims can be a better guarantee for the success of marketing of a functional food product in spite of the complicated premarketing preparations to be done. A firm needs to perform a cost effectiveness analysis prior to making the decision for choosing a particular claim. Such an analysis should also be performed, when a firm wants to consider using a detailed type of communication messages. Hedonic and utilitarian types

of messages can be used depending on the type of health claim, type of product and consumers' psychological set.

### **Limitations:**

These studies have some limitations which should be taken into considerations when interpreting the result. First of all is that number of respondents were relatively small to represent a German population. The second study was done with student as respondent's pool. This could only represent a certain age population. This study was used a certain type of product sample (food products which contain a blend fats-ingredient mainly Omega-3). This type of product may only represent a certain product class and may not valid for other type of product.

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