

## Understanding consumer perceptions and priorities with relation to food quality

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*Publication date:*  
1992

*Citation for published version (APA):*  
Lassen, J., Jelsøe, E., & Land, B. (1992). *Understanding consumer perceptions and priorities with relation to food quality*. Forskningsrapportserien No. 24

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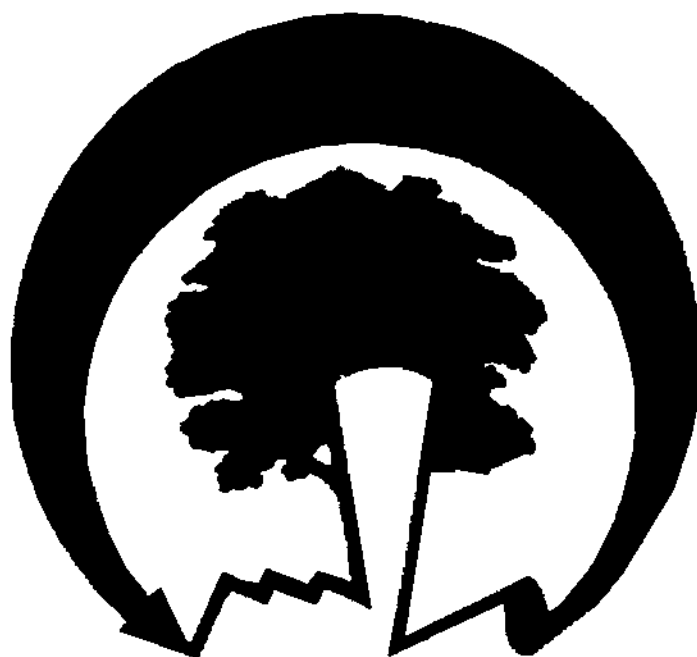
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**UNDERSTANDING CONSUMER  
PERCEPTIONS AND PRIORITIES WITH  
RELATION TO FOOD QUALITY**

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**RESEARCH REPORT NO. 24.**

**JULY 1992.**

**DEPT. OF ENVIRONMENT, TECHNOLOGY AND SOCIAL STUDIES  
ROSKILDE UNIVERSITY CENTRE  
TEK-SAM - FORLAGET**

**Understanding Consumer  
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Paper presented at the First International Multidisciplinary  
Conference on Food Choice, 27-30 July 1992, Brussels

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**Research Report No. 24  
July 1992**

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Tek-Sam Forlaget

# **Understanding Consumer Perceptions and Priorities with Relation to Food Quality.**

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*Abstract: Considerations on the framework for understanding consumer perceptions and priorities in relation to food quality with special attention to the significance of technological change are presented. It is pointed out that consumer perceptions and priorities should be seen in a broad context of changes in food production as well as life styles. The concept of way of life is introduced as a basis for the analysis of life styles of different groups of consumers. Some initial results from a research project about the consumer as an agent in relation to technological change in the food sector are presented and discussed.*

## **1. Introduction.**

Consumer preferences seem to be a matter that have attracted increasing attention for a number of years. Not only nutritionists, who have been concerned about eating behaviour, but also food technologists and food companies who are developing or introducing new technologies and products are increasingly concerned about consumer reactions. Likewise, it is noteworthy that the Danish government's Research and Development Programme in the Danish Food Sector that was launched in 1991 had consumer preferences as one of its four main issues.

The reasons for this focus on consumer preferences which is evident in most Western industrialized countries is rather simple. During the last 15-20 years consumer preferences have been changing, probably faster than ever before in history. New criteria of food quality have become important and food producers have had to face the fact that certain technologies have been rejected by the consumers. In many respects, consumer preferences appear to be a problem for the food producer and, ultimately, the consumer is the one who buys the product. But what does the consumer want?

Very frequently, both food producers and various experts in food science and technology make complaints about consumer behaviour. Consumers act self-contradictory and their perceptions of what are important problems and what are not are full of misconceptions.

Such complaints are still heard but during the 1980'es the food industry has to an increasing extent tried to respond to new consumer preferences, self-contradictory or not, realizing that there is money in it. The fact that consumer preferences develop in ways that are not often

well understood or accepted by food producers and food experts seems at least to be recognized as a condition that are not readily changed. Consumer acceptance of new technologies, their demand for alternative production concepts, etc., are becoming issues for marketing research.

In the present article, we will discuss these developments and especially the framework for understanding the perceptions and priorities of the consumer. We will try to outline some research strategies that we believe can be followed in order to qualify this understanding.

The purpose is not to give the impression that better understanding of consumer perceptions can lead to the formulation of strategies for changing consumer behaviour straight away. Our point is rather that the structure of the food sector itself is a part of the reason for the present situation. We also believe that the consumers' conditions for formulating and render their needs visible as well as their possibilities of seeing through the increasing supply of new food products are important questions in this connection.

## **2. Consumers and the market economy.**

Even a rough outline of the situation of the consumer will illustrate some of the problems facing the consumer with respect to food choices (see also Jelsøe and Elert, 1987).

The concept of the consumer is inherently related to the emergence and extension of market economy. In the market economy production and consumption are separated and interrelated only through the exchange of commodities in the market. Production is subject to economic goals that are fundamentally different from the goals and needs of consumption. Furthermore, the separation between production and consumption implies that the consumer in principle is without knowledge about the origin of the raw materials, the processing of the product, and the conditions of distribution.

In the real world this was only a limited problem as long as food production was mainly based on local produce and the degree of processing was low. However, since the end of last century this situation has changed, and especially after the second world war. Food production has been industrialized and the degree of processing of the food has grown considerably. Production methods have become increasingly science based and increasingly different from those well-known to the consumer from her own household. Furthermore, centralization and large-scale production mean that geographical distances have become much larger between the individual links of the food chain as well as between the food producers and the consumer and at the same time the food chain has been extended as a consequence of the growing degree of processing. Internationalization has become a much more dominant

feature of food production and has developed far beyond the level of trade in raw materials.

These well-known developments of the food sector mean that the majority of consumers know little about the composition of many food products or the quality of the raw materials. Centralization and internationalization mean that there are no longer much relation between local or regional food production and the food that can be bought in local shops. Today, the food sector appear as a comprehensive and complex system with little transparency. The demand among many consumers for more "natural" products is probably a reflection of a widespread uncertainty towards the food that is produced.

### 3. Quality perceptions.<sup>1</sup>

In the present situation there is a strong focus on quality at all levels in the food industry. Quality is a key concept in production management as well as in product development and marketing. In the development and definition of quality criteria the company has access to facilities and qualified personnel. Quality parameters are specified in well-defined and scientific terms and huge amounts of documentation of quality control procedures are often provided. Furthermore, the company in dealing with quality can confine itself to one or a limited number of product categories.

Other agents in the food sector, like supermarket chains, professional users in the catering sector or public food authorities are in a similar situation, although they will have to focus on the whole range of products related to the diet. This gives them the opportunity to establish quality concepts in relation to many foods as well as to the diet as a whole.

To the consumer the situation is different. Obviously, the consumer does not possess resources of time, skills and money for making a professional evaluation of product quality. The quality perception of the consumer is necessarily based on experience from everyday life together with the cultural norms and rules which are results of the learning processes of upbringing. Besides, the consumer will have to deal with all the types of food that form part of the diet. To the consumer food quality is not a scientific concept but something concrete and complex.

This conclusion is hardly controversial. Nevertheless, it is often ignored by food experts discussing consumer behaviour. In the following we will give a few examples of approaches to the discussion about consumers' perceptions of food quality which illustrate this.

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<sup>1</sup> Many of the points in this section are based on Lassen (1992) and Rasmussen (1984).

P.E. Andersen (1981) defines quality in general terms as "a range of positive characteristics showing the utility of a product for a given purpose" (p.7). According to Andersen the purpose in this case is serving as food for humans. This leads to the construction of a quality concept that consists of two main categories of quality, external quality (smell, taste, appearance, texture) and internal quality (composition and biological status). The sub-categories (indicated in the brackets) are further specified by a number of parameters all of which are measurable properties of the product.

Such a concept is very well suited for quality control purposes within a company as it makes it possible to put up a set of specifications which have to be met. As such it is operational for someone who is able to measure or have access to values of the various parameters in question and is able to evaluate the results in relation to the specifications. This is seldom the situation for the average consumer as already mentioned. More interesting, however, is the fact that this concept does not include questions like social, ethical, or environmental aspects of food production, which are important quality aspects to many consumers as can be seen (among other things) from the sales figures of publications like *The Green Consumer Guide*.

The technical approach tends to leave out aspects that do not fit into a concept of measurable parameters. It is also characteristic that Andersen talks about a quality *concept* but as mentioned above consumers do hardly conceptualize their perceptions of food quality. For that reason we find the term quality *perception*, which is the one used here, more appropriate.

A.Huyghebaert (1991) is an example of a food technologist who explicitly refers to the quality expectations of the consumer and wants to relate them to the technological achievements of food production. Huyghebaert introduces a list of quality attributes: safety, nutritive value, sensory quality, convenience, and emotional value. These are further specified in the text and it appears that the last two categories, convenience and emotional value, covers most of the aspects that was left out by Andersen as discussed above. It is however interesting that Huyghebaert apparently finds that consumer demand of for instance free range eggs is a paradox as "it has been demonstrated that neither the nutritive value nor the sensory quality of free range eggs is higher than of normal eggs" (p.90). No matter whether this is true or not, it is noteworthy that the argument which has probably been the most important for the production of free range eggs is not even mentioned. Thus, the primary argument for free range eggs has been that the current system of cage production is a threat to the well-being of the laying hen<sup>2</sup>.

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<sup>2</sup> Much more interesting, therefore, are the discussions about legislation and the legal constraints that has actually been imposed on the size of the area for each laying hen. Similarly market responses in relation to consumer demands for alternative products need attention. See for instance Harrison (1991).

The conclusion by Huyghebaert, therefore, is that "statements by scientists that production aids have no negative effects on a product seem to be of secondary importance (...) The debate is no longer limited to scientific matters. A new process or a product will be scrutinized from different points of view" (p.90). It is probably true that many consumers suspect certain production methods to be unsafe even in cases where thorough investigation has not been able to prove any risk. But it is completely ignored that the "emotional value" includes attitudes towards the way the products have been produced not necessarily because it gives rise to any safety risk to the consumer but because some production methods, for environmental, ethical, or other reasons, are found more desirable than others. Instead it is stated as a general conclusion that there is a problem of tolerance to technology among consumers.

Huyghebaert is well aware that consumers do not perceive quality in technical terms but his discussion of consumers' quality expectations is focusing on their resistance against a number of aspects of food technology and their lack of acceptance of the arguments of food scientists. Consequently, he actually blames the consumers for not accepting scientific arguments despite the fact that their perceptions of quality can never be scientific. Furthermore, he does not seem to accept the fact that quality is more than a number of attributes associated with the product but may include aspects of the way the product is produced. In a historical context many examples of such quality aspects being important may be given. But the strong focus on environmental and ethical aspects of food production in many industrialized countries in recent years is a new development that indicates an extension of consumers' engagement in food production.

The problem in this respect is of course that consumers necessarily lack insight as well as information regarding the development of modern food technology. Huyghebaert's conclusion that the food system needs more transparency is clearly relevant in this connection<sup>3</sup>. The other part of his conclusion is that scientists are convinced about the high quality of foodstuffs in our western society and that the challenge is to bring the message to the consumer. Doubtlessly, there is a communication gap between food scientists and consumers, but it seems that the food scientists should reach a better understanding of the message from the consumers as well.

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<sup>3</sup> More interesting, however, is it to consider how such a development towards more transparency should be accomplished.



**Market oriented approaches.**

In his discussion of the quality concept Andersen (1981) also mentioned another very simple definition of quality: "quality is what the consumers want to buy" (p.8). This represents an approach to the quality discussion which is entirely different from the technical approach used by Andersen himself. In its simple form as presented here it expresses an understanding of consumer behaviour which gives rise to a number of questions. As we will try to demonstrate later consumers' quality perceptions are complex, based on conscious as well as unconscious motives and most frequently the actual food choices represent a compromise between a number of considerations. Thus, it does not seem very realistic to base a definition of quality on the actual food choices unless one perceives consumer behaviour to be essentially rational in character. This is hardly the case.

On the other hand this kind of definition is interesting because it is market oriented. In addition to his definition of quality as "fitness for use" Juran (1974) remarked that "Fitness for use is determined by those features of the product which the user can recognize as beneficial to him (...) To the user, quality is fitness for use, not conformance to specification. The ultimate user seldom knows what is in the specifications". This approach to the discussion overcomes some of the limitations of Andersen's definition.

The point is that market orientation confronts the producer more directly with the perceptions of the consumer. During the 1980's the growing demand for market orientation in company management has fostered an increased awareness of the fact that consumer perceptions of a product may be rather different from what is expected by the producer and that the way consumers conceive quality is totally different from the professional evaluation which is suitable for e.g. production management.

The practical result is expressed in the growing output of "life style products", that is, products that are green, healthy, ethical, exotic, etc. The consumer is literally bombarded with such claims on food products - adding to the confusion about the substance of these categories.

In marketing research there is similarly an effort to develop methods that enable the producer to interpret signals from consumers and transform them into quality criteria that can serve as guidelines for product development and marketing. This involves among other things quite advanced methods of test design and statistical analysis (see for instance Steenkamp and van Trijp, 1991).

Likewise, developments within sensory analysis in order to relate organoleptic judgements of foods to chemical measurements or parameters aim at improving the basis for quality

control as well as providing tools for product development of products with desired characteristics.

These efforts are not attempts to develop an understanding of consumer perceptions. They should rather be considered as attempts to circumvent the problem of consumer preferences and develop a practical approach to product development. This kind of research is expanding at present and the methodological framework for attitude and preference studies as well as sensory analysis are being developed (and, presumably, improved)<sup>4</sup>. If nothing else, this is without no doubt contributing to the understanding of the complexity of consumer perceptions of food quality.

However, these developments should be understood in a context of change processes with respect to living conditions and life styles in general, food habits and dietary patterns in particular, structures and technology in the food sector, internationalization of food production and consumption, etc. These change processes forms the background for and is actually, as pointed out above, the most important reason for the strong focus on food quality and consumer preferences.

#### **4. Quality perceptions and the situation of the consumer.**

Thus, consumer preferences are changing. These changes do not only comprise changes in quality perceptions related to single food products or categories of food (e.g. meat, dairy products etc.) but also *priorities* between different types of food. Quality perceptions relate to food products as well as to the diet.

Furthermore, a number of different considerations are indfluencing the actual food choice. Consumers do actually consider quality aspects like safety, nutritive value, sensory quality, convenience and various aspects of how the product is produced. In assessing safety risks for instance they are using their senses and experience (smell, appearances, etc. of a product contain information about its biological status that most of us can interpret rather easily). Most consumers make this kind of assessments virtually every time they are eating. However, the kind of information that the average consumer can obtain in this way will, no matter how important it is, far from always be sufficient for evaluating the risks associated with industrial food production<sup>5</sup>. This is of course the reason why more or less reliable information in the

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<sup>4</sup> Some of the methodological problems in this connection are pointed out by Lesser et.al (1986).

<sup>5</sup> This kind of problems was not unknown in the period of early industrialization as noted by Gofton (1986) about the situation in Britain in last century: "among the poor, adulteration is so widespread that the Cooperative Society hires a lecturer to tour in the country giving advice as to

media about health or safety risks associated with eating may influence consumers' food choices, some times rather heavily. Food choices will often have to be taken on the basis of insufficient information about product quality, hygiene, nutrition, etc.

At the samme time, the complexity of the choices made by the consumer is increasing. Earlier, tradition played a major role in determining the composition of the diet and for the great majority of the population the purchasing power was rather limited<sup>6</sup>. In such a situation the complexity of food choices is also limited. Tradition is still influencing food choices and so is economy but everything considered the situation for the consumer in modern industrialized societies is one of increasing complexity.

The range of quality aspects which are important to the consumer is growing. As mentioned, subjects like environmental conditions, the well-being of domestic animals, health and nutrition are influencing the quality perceptions of many consumers. They react in different ways to ethical aspects of animal husbandry, introduction of new biotechnologies in food production, etc. This development in quality perceptions also implies, that it is not only the properties of the product but also the way it has been produced which is of importance. On the other hand, the more traditional quality categories are still important. The strong focus on sensory analysis in recent years is at least a good indication of the fact that consumers still want their food to taste good, look appetizing etc. In this respect there is, however, also a significant development. Many consumers regard food as a source of experience. While tradition is becoming a less important determinant of food consumption many consumers are seeking new experiences in eating.

Food prices, too, remain important determinants of food choice. Living conditions in the various countries are influencing the extent to which prices are actually confining choices with respect to quality. Thus, in Denmark in recent years prices have become the single most important factor influencing food choices due to a number of factors including fall in real wages, growing unemployment and increasing expenditures of housing. Despite the fact that many consumers express environmental concern and attitude measurements indicate a willingness among consumers to buy e.g. foods of organic farming the actual market shares for such products are still only a few percent (see Grunert and Kristensen, 1992). Likewise, while producers in the Danish fishing industry reports about favorable prices on fish products

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what food should really taste like" (p.139).

<sup>6</sup> Or as Gofthen (1986) explains: "Amongst the working class, we see a diet based on bread, poor types of meat and a limited number of vegetables; this is largely dictated by economics, of course with considerable differences between regions, and between town and country, but it becomes the 'preferred necessity' for many members of this class. The diet of the upper class is a self-conscious display of power, excess and ostentatious wastage" (p. 139).

in other European countries, notably Italy and France, and a growing demand for high quality products, they complain about the Danish market as being a discount market where high quality products are almost impossible to sell. Even though fish has got a health image in Denmark, too<sup>7</sup>.

Resources of time and knowledge also represent a problem to many consumers. In most industrial countries the time available for household activities has been significantly reduced, first of all because of the increased number of women entering into the labour market (even though the frequency of women on the labour market also varies considerably between the European countries). Apart from being an important reason for the increasing demand for prepared foods this also means less time for planning the purchases and the preparation of the food. Regarding knowledge about food it has perhaps not been reduced in absolute terms but relatively the problem of knowledge is increasing as a consequence of the technological development within food production<sup>8</sup>.

### **The consumers' conditions of acting.**

All in all, many consumers acts self-contradictory and food choices are often compromises. Price, accessibility, and various quality considerations are influencing the decisions with different weights and consciously formulated goals, e.g. about health or environment, interact with habits and tradition. Consumer behaviour may express conflicts for instance between environmental and nutritional considerations, between convenience and freshness, etc. Also, consumers in a number of cases use their influence in the market situation negatively, i.e. by rejecting certain technologies or products, even though the reasons for it do not always seem consistent.

From the viewpoint of a traditional science-based concept of rationality consumer behaviour looks like a non-rational process. From the viewpoint of everyday life it may be rational enough in the sense that the consumer is trying to get coherence in his or her life on the basis of a very incomplete foundation for decision-making.

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<sup>7</sup> This example is based on interviews with representatives of three companies from the fishing industry and two of the largest supermarket chains in Denmark.

<sup>8</sup> This is expressed by C. Freeman (1982) in the following way: "The theory of consumer choice implies perfect information about the available array of products or services. If we are thinking of a housewife looking at the prices and quality of vegetables on a dozen different stalls in a street market this model may not be too far from the truth. But it breaks down where any degree of technical sophistication or product differentiation come into the picture, as with cars, television and other consumer durables, and increasingly with a great variety of processed food and chemical products." (p. 204)

In our opinion, this situation indicates that a decisive question in relation to consumer behaviour is how consumers' conditions for acting can be improved. As we have tried to point out through the discussion above the problems in this respect originate from two circumstances. Firstly, in the technological and structural development in the food sector and, secondly, in the conditions that are connected with the consumers' organization of everyday life, that is, with life styles in a broad sense of the word. It is in such a broad context of changes that consumer perceptions and priorities should be understood.

Consequently, research strategies that aim at qualifying the understanding of consumer perceptions and priorities must take their point of departure in this broad context of change processes (but not necessarily include all aspects in every research project, of course).

#### **4. Ways of life.**

In this final section of the paper we will briefly outline an approach to the analysis of life-styles based of the concept of *way of life*. This concept is expressing basic features of the organization of everyday life as well as the goals and priorities associated with it and sets the framework for food choices and the preparation of foods in the home.

Even a superficial analysis of the consumers, which as a group comprise practically all members of society, will reveal that it is a very unhomogenous group and that different groups of consumers have got rather different goals and also very different economic and social conditions, different experiences and cultural orientations, etc.

Traditional variables of research into living conditions such as income, age, profession, education, etc., does not explain all the differences in quality perceptions and priorities, which characterizes consumption patterns in different families. On the contrary, consumers with apparently the same objective living conditions may act as well as think rather differently. An alternative approach may be found in the type of life-style analysis which is frequently used in marketing research and investigations of consumer behaviour. In this kind of analysis consumers are divided into segments on the basis of a large number of characteristics. We will not go into a discussion of the value of life-style analysis for the planning of marketing campaigns but the coherence in the accumulation of data which is the practical result of this kind of investigations is too small for obtaining a useful concept of how consumer priorities are conditioned by the organization of everyday life.

The concept of way of life, on the other hand, is oriented towards specific forms of everyday life that are qualitatively different, their distinctive marks, settings, and contents which makes it possible to compare and assess them in relation to each other. The way of life is a whole

of daily, weekly and annual events. It describes how working life sets the framework for spare time activities, how eating habits, daily routines, and social conventions are parts of a whole.

According to the concept of way of life as developed by T.Højrup (1983) the main types of ways of life are constructs based on certain basic traits of social life:

- \* the relations between work and spare time,
- \* the character of the work (its contents and the way it is experienced),
- \* time concepts and perceptions,
- \* the role of family life,
- \* the significance of the local community and the character of the social network,
- \* ideologies that can secure the necessary coherence between thoughts and material life.

Højrup proposes that three main types of ways of life are dominant in the modern society: the independent, the wage earner, and the career oriented way of life. In a later publication we will discuss this concept of way of life in more detail.

Further investigations by L.Håstrup (1990) about ways of life and eating habits show that different types of households exist and that there is considerable differences in consumption of food and in meal patterns between these households. She differs between self-sufficiency households and consumer households and the latter is further divided into engaged and unengaged consumers.

Research along these lines in relation to consumer actions must necessarily be based on qualitative research, that is, open interviews with individual consumers or families, so far as information about choices made in relation to purchasing and organization of the household are concerned. Basic information about objective conditions and concrete actions can be provided through questionnaires. Of special interest are the active choices and the underlying quality perceptions and priorities. The next step will be to consider the ways in which such choices influence the development of food production and how and to what extent this can result in goal-directed actions and influence<sup>9</sup>.

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<sup>9</sup> This is a brief description of the intentions of a research project we are currently undertaking. This project receives financial support through the Danish government's Research and Development Programme of the Danish Food Sector and it is part of the marketing sub-programme MAPP - Market-based Process and Product Innovation in the Food Sector. The direction of this programme is located at the Aarhus School of Business.

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