

## **CONSUMER ATTRIBUTES OF FOOD QUALITY AND COMPETITIVENESS OF A COMPANY'S OFFER**

**M. Grzybowska-Brzezińska; K. Tadajewska; M. Brzezinski\***

### **1. Introduction**

A particular character of competitiveness in product and service markets causes that gaining competitive advantage is starting to have a special meaning for their participants. That is why it seems that competitiveness in free market is a general issue and proper wording of a competitive strategy is gaining a basic meaning for processing and development of an institution or an enterprise [1, p.15]. It is acknowledged that so called internal factors such as forming of production size, a decrease in own cost level, an increase in product or service quality, offer of new types of products and services and an increase in productivity have a dominated influence on the level of competitiveness [2, p.36–45].

During the last years an interest rate concerning the question of quality both among customers and producers has particularly increased as it generally determines a customer satisfaction level and company profits [3, p.43].

For many years quality was perceived by Polish economics as an objective category which is a subject to normalization and was expressed as certain detailed material features which describe physical and chemical properties of a product. The opinion that quality is a relation between assumed and achieved technical parameters in a production process was widely used.

However, later quality was treated as an important element of a competitive struggle. As a result, it was included for company purposes and it became an element of management [4, p.145].

During the last fifty years several systems of quality management have come into being all around the world. The main reasons of their appearance and development are gaining customer confidence and meeting his requirements and expectations. Implementation of quality management systems is aimed to improve functioning of company processes and to minimize business risk.

A great importance of the norm ISO series 9000, which should structure a quality system, is noticed in Polish companies [5, p.19–35; 6, p.12–14]. These are international standards which deal with quality system assurance.

They are concentrated directly on quality processes in which a final product is a result. The use of the series 9000 is, first of all, aimed to gain and sustain quality of a product or service on the level which permanently meet stated and implied customer needs and also to improve quality actions and management methods constantly.

Management, staff, customers and others should have confidence that quality requirements are fulfilled and also will be fulfilled.

It is necessary to draw attention to the fact that quality has particularly become an essential and distinct feature in a competitive market of food products [7, p.43]. In order to assure food safety, economic entities which are present in the market are obliged to implement the standards such as GHP, GMP and HACCP [8, p.32–33]. The new international standard ISO 22000, which has already become the Polish norm PN-EN ISO 22000, standardize and integrate the requirements in the range of assurance and management of food safety. In such a way it enables companies, which are a link in food chain, to manage safety in the whole chain of a product delivery to a consumer.

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© K. Tadajewska; MSc; University of Warmia and Mazury in Olsztyn;

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Standard ISO 22000 is a universal document for the whole food industry. Its main purpose covers delivery of a safe ready-made product to consumers or customers. It means that this norm is addressed not only to food producers, but also to the companies which cooperate with them, for example, packaging producers, companies which supply equipment for food industry, transport companies and warehouses [3, p.84].

The rising competitiveness between food companies, a wide range of similar products manufactured according to the same technology and financial means are resulted into the situation, when producers draw a particular attention to the possibility of standard affirmation on packaging, especially when an increase in consumer consciousness and interest rate in food quality are observed. However, it is necessary to mention that food quality is a complex concept. What is more, the way of its perception has a lot of elements [9, p.48]. According to food technologists, the main quality criteria will be the level of satisfying formal requirements and norms which at the same time should guarantee consumer health safety [10, p.35]. What is food quality for consumers? The answer to this question is a key element which helps to formulate an efficient company quality strategy.

There are a lot of definitions of food quality, approaches and concepts concerning the perception of quality by a consumer and determining features as well [9, p.48].

The definition that can be presented in Polish literature more often is the following: food quality is a level of healthiness, which is singled out through its diet, calorie and nutrition value and health safety. It is also the level of sensor attractiveness (appearance, appearance in intersection, consistency, texture, flavor, smell) and level of availability (unit size, sort recognition, durability, ease in cooking) in consumer and social semantic range and it is essential within limits of the possibilities defined by predictable raw materials, technology and price for these products [9, p.48; 11, p.15–17].

The suggested definition by Luning and the others (2005) sounds similar.

They single out "internal features" (directly related to product properties such as product safety and healthy aspects, sensor properties, product reliability and comfort of use as well as "external features" which do not have to influence directly on physical properties of a product such as properties of a production system, environmental aspects and marketing actions [12, p.13–17].

Taking into consideration meeting customer needs and, at the same time, attributes which are a criteria of a choice and constitute quality determinants, it is necessary to differ three levels of a product:

- Basic product – main advantages taken into account by a consumer. These are all the elements of a product which constitutes its essence.
- Formal product – "changeable combination of product features adapted to consumer needs and requirements, which are decisive in perception level of a product".
- Enriched product – additional consumer advantages [13, p.86].

The set of features which are decisive as for food quality clearly demonstrate the way which was presented by T. Levitt.

He simultaneously referred to a marketing strategy of a product – figure 1 [14, p.104–105; 15, p.15].

It should be remembered that every group of food articles is characterized as individual specific quality determinants in consumer perception [16, p.36]. As for Polish food production branch, milk production has an essential position [17, p.39].

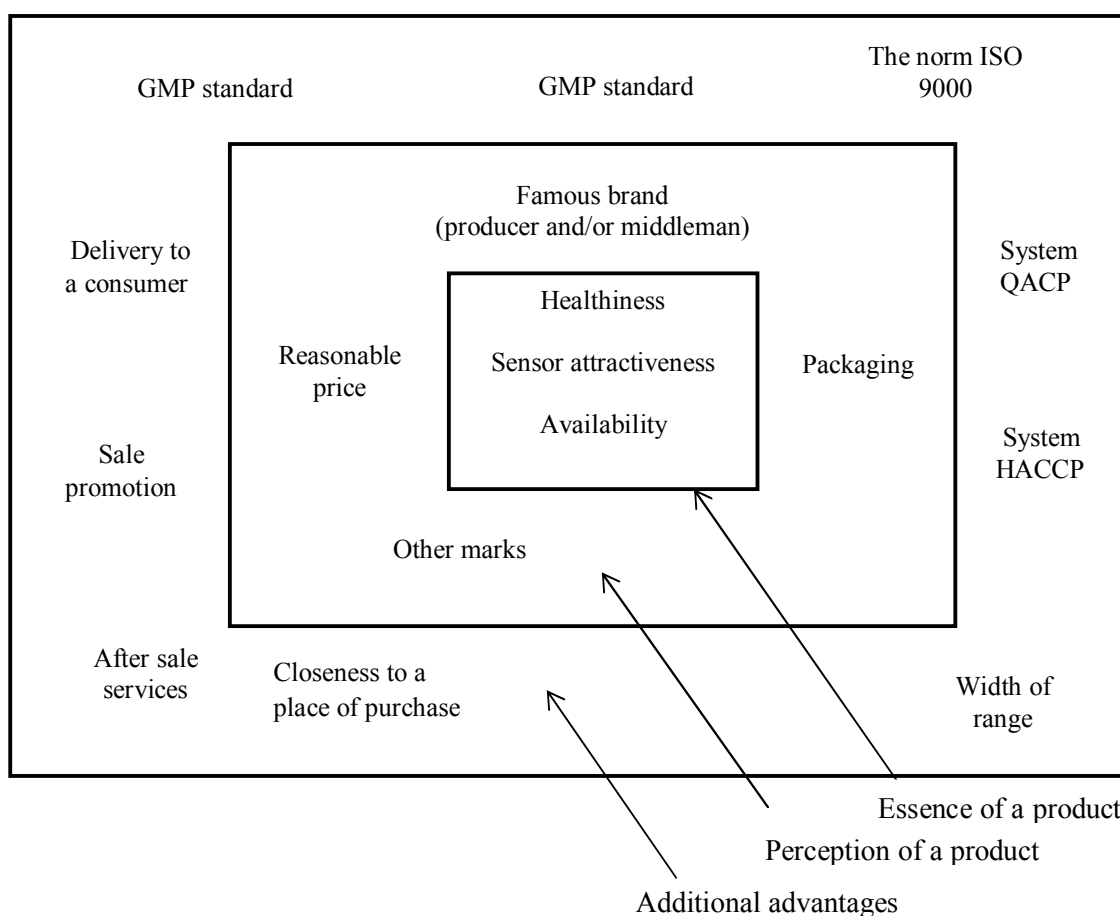
Milk production is an important branch of agricultural economy in Poland. What is more, it is the

fourth milk producer in the European Union after Germany, France and Great Britain. Polish farmers have more than 8% of share in European milk production. A steady increase in milk product consumption has been observed since 2006 in Poland. It is a result of a decrease in milk products price in relation to other food products (including meat and fish) and also an increase in consumer interest rate as for healthy products of high nutrition value.

According to Institute of Agricultural and Food Economics, in 2011 balance milk consumption (except milk used in butter production) was probably about 193 liters per person and it was by more than 1% higher than the previous year and by 11% higher than in 2005, when milk consumption reached historically the lowest level. Milk market characterizes as the market of big competitiveness.

There are more than 200 production units which manufacture milk products.

The market is also fragmented since besides some global brands, regional producers, which offer a wide range of products in their regions, have still a lot of shares in comparison with global brands.



**Fig. 1. Food product from the marketing point of view**

The profile of the expected consumer attributes in milk and yoghurt offer is indicated.

Thesis of the research includes:

1. Consumers assess milk product quality taking into account mainly their smell and flavor value and freshness. Moreover, high nutritive value and health safety are advisable;
2. Consumers' decisions in milk and yoghurt markets to a large extent depend on promotional activities of companies and brand positions in the market.

## **2. The range of material research**

The research was conducted with CAPI method among 170 inhabitants of villages and towns in the north-east of Poland in the spring 2011. The selection of samples was accidental. Among 170 respondents there were 69% of women and 31% of men. The vast majority of respondents were at the age 26-45 years old (45%).

The most respondents had university degree or were secondary school graduates (56%). The biggest group were white collar workers (41%). As for place of living, 35% of respondents lived in the village, the rest group were from towns.

Income of respondents and their average monthly spending on food was taken into account, as well. The vast majority of respondents claim that monthly net income per farm is in PN 1000 – 2500 range (52%). 29% of respondents had a three-person farm, 24% of them had a two-person farm and 21% of them had a four-person farm.

## **3. The results of the research**

As it was mentioned above, there is a great number of food producers in Poland nowadays, including milk producers. They are putting the marks of their quality system certificates on the packages more and more often. These marks have to assure consumers that a company guarantees the level of products. In order to check whether the marks from packages function, respondents were asked if their knowledge about such marks as HACCP, ISO 9001 and ISO 22000 make them more decisive when they purchase the product. Acquaintance with quality marks is not enough among Poles, especially when quality system certificates are concerned. Up to 63,5% of respondents cannot answer what ISO 22000 mark means. Only 11,2% of them declare their acquaintance with it and the impact of this mark on their decisions in milk product purchase. Half of respondents claimed that HACCP mark (57,1%) and ISO 9001 mark (51,2%) are not known to them. As for respondents who declare their acquaintance with these marks, the vast majority declared that they do not influence on their purchase decisions. "Q" quality mark is definitely more known to consumers. Only 28% of them declared that they did not know this quality mark. Among people who are acquainted with "Q" mark there are more consumers, who declared that they pay attention to it when they buy milk products (41,2%) – table 1.

**Tab. 1. Declared acquaintance with quality marks and their impact on purchase decision among respondents [%]**

<b>Details</b>	<b>I know and it has a large impact on the decision to buy</b>	<b>I know but it does not affect the decision to buy</b>	<b>Indifferent</b>
<b>ISO 9001</b>	17,1	31,8	51,2
<b>ISO 22000</b>	11,2	25,3	63,5
<b>HACCP</b>	18,8	24,1	57,1
<b>quality mark "Q"</b>	41,2	30,6	28,2

Source: own study based on the research

Consumer declarations show that they are not aware of what quality management systems are and their functioning can actually affect quality of a final product. Consumers are also accustomed to paying attention to marks on packages. Currently Polish market of milk products has an increasing competition. That is why the main purpose of a company is to learn consumer needs and expectations in order to adapt them to its production profile thus strengthen its position in the market. So respondents were asked to define to which extend specific features are important to them during a food milk and yoghurt purchase. To define the strength of influence percent disintegration of assumed scale of total score starting with 1 point, which means completely unimportant feature and finishing with 5 points-a very important feature – table 2.

The results of the research demonstrate that the group of respondents drew the greatest attention to

expire date during food milk purchase (on average 4,6). Flavor and reasonable price are on the second place (on average 4,2) while guarantee of quality is on the third place (on average 4,0). As for yoghurts, freshness and expire date(on average 4,8)and also sensor features (especially flavor – on average - 4,7; smell – on average 4,1 and consistency – on average 4,0) and reasonable price (on average 4, 2) are the most essential factors for consumers and influence the most on their purchase decision. Advertising and sale promotion were not so important to consumers. It is worth paying attention to the fact that consumers, as a rule, make a decision as for healthy safety of a certain product through the prism of appropriate expire date, not through quality marks from packages. Earlier the research showed that in fact few consumers pay attention to quality marks during a milk product purchase [7, p.47]. The market of milk products in Poland has a rich offer. As a result, in order to affect consumer behavior efficiently it is necessary to identify which features are identifiers of milk product "quality" since this term can be interpreted in different ways. To learn perception of food milk quality, 16 features have been introduced including both market and technological ones. Then respondents were asked to line them according to the criteria of importance where the figure 1 means the most important feature and 16 – the least important (table 3).

**Tab. 2. The importance of factors which are taken into account while they purchase food milk and yoghurt-respondents' opinions [in points]**

FOOD MILK			YOGHURT		
Details	The average points	Standard deviation	Details	The average points	Standard deviation
Expire date	4,6	0,71	Expire date	4,8	0,52
Flavor	4,2	0,96	Flavor	4,7	0,57
Reasonable price	4,2	0,90	Reasonable price	4,2	0,98
Quality guarantee	4,0	1,06	Smell	4,1	0,85
Fat content	3,9	1,11	Consistency	4,0	0,91
Nutritional content	3,8	1,08	Quality guarantee	3,9	1,08
Producer	3,5	1,17	Nutritional content	3,9	1,05
Pro-health actions	3,5	1,15	Color	3,7	1,00
Famous brand	3,4	1,15	Pro-health actions	3,7	1,05
Habit	3,2	1,15	Famous brand	3,6	1,19
Capacity of packaging	3,2	1,15	Capacity of packaging	3,5	1,01
Calorific value	3,1	1,23	Extra content	3,5	1,13
Method of solidification	3,0	1,23	Producer	3,5	1,14
Type of packaging material	2,8	1,19	Calcium content	3,4	1,21
Type of packaging	2,8	1,16	Habit	3,3	1,19
Sale promotion	2,4	1,19	Fat content	3,3	1,29
Advertising	1,8	0,90	Sale promotion	2,6	1,29
			Advertising	2,1	1,04

1 – completely unimportant feature, 5 – very important feature

Source: own study based on the research

According to respondents' opinion, the three features dominated among milk quality identifiers: flavor (on average 3,3), expire date(on average 4,8) and smell (on average 5,3).On the other hand, such features as appearance of packaging (on average 12,5), reliability (on average 12,4) and way of producing (on average 12,2) were the least important.

As for yoghurt quality identifiers, the five features dominated: smell (on average 2,8), expire date

(on average 5,5), nutrition value (on average 5,9), consistency (on average 6,0) and smell (on average 6,0). Such features as appearance of packaging(on average 12,6), ways of producing(on average 12,6), ease in cooking (on average 12,4%) and reliability (on average 12,4) were the least important.

**Tab. 3. The importance of the features which define food milk and yoghurt quality perceived by respondents [points]**

FOOD MILK			YOGHURT		
Details	The average points	Standard deviation	Details	The average points	Standard deviation
Flavor	3,3	3,19	Flavor	2,8	2,88
Expire date	4,8	2,98	Expire date	5,5	3,48
Smell	5,3	3,46	Nutritional content	5,9	3,73
Nutritional content	6,1	3,90	Consistency	6,0	3,39
Health safety	7,0	4,18	Smell	6,0	3,61
Price	7,1	3,87	Contents	7,0	3,63
Contents	7,7	3,92	Health safety	7,4	3,97
Consistency	8,1	3,67	Price	7,8	3,96
Color	8,6	3,43	Color	8,1	3,56
Brand	8,9	3,79	Brand	9,1	3,57
Producer	9,3	3,66	Producer	9,7	3,46
Low calorific value	10,7	4,32	Low calorific value	10,3	4,28
Ease in cooking	11,8	3,16	Ease in cooking	12,4	2,96
Way of producing	12,2	3,61	Reliability	12,4	3,98
Reliability	12,4	4,14	Way of producing	12,6	3,30
Appearance of packaging	12,5	3,66	Appearance of packaging	12,6	3,51

1- the most important feature, 16- the least important feature

Source: own study based on the research

To resume the results of the research it is necessary to indicate that consumers assess quality of milk products through their sensor attractiveness and freshness identified as expire date. Due to the results of the research an attempt to place individual factors which determine the choice of food milk and yoghurt by consumers and, at the same time, being its quality identifiers, to certain levels of a product structure, was done. After that the research concerning the desirable features of food milk and yoghurt was conducted – table 4.

**Tab. 4. Consumer attributes of food milk and yoghurt quality and their desirable features according to respondents' opinion**

	Food milk		Yoghurt	
	Consumer attributes of quality	Desirable features (optimal values)	Consumer attributes of quality	Desirable features (optimal values)
<b>The most essential features</b>	empire date	⇒ 14 days	empire date	⇒ 14 days
	flavour	⇒ natural	flavour	⇒ fruit (strawberry)
	price	⇒ PLN 2,16 per 1 liter	consistency	⇒ cream
	quality guarantee	⇒ quality mark "Q"	price	⇒ PLN 1,26 per 150 g

<b>Essential features forming product perception</b>	fat content ⇨ 3,2%	nutritional content ⇨ standard nutrition content
	nutrition content ⇨ standard nutrition content	pro-health actions ⇨ strains of probiotic bacteria
	method of solidification ⇨ UHT	extra content ⇨ big pieces of fruits
	pro-health actions ⇨ higher content of vitamins	producer ⇨ "Danone"
	producer ⇨ "Mlepol"	quality guarantee ⇨ quality mark "Q"
	brand ⇨ "Łaciate"	type of packaging ⇨ a cup with a lid
	capacity of packaging ⇨ 1 liter	capacity of packaging ⇨ 150-300 g
<b>Additional features</b>	type of packaging ⇨ carton	calcium content ⇨ standard calcium content
	type of packaging material ⇨ laminated carton	fat content ⇨ standard fat content
	promotion ⇨ lower price	promotion ⇨ lower price
	information from advertising ⇨ competitions	information from advertising ⇨ competitions

Source: own study based on the research

#### 4. Conclusion

It is necessary to have a new approach to the issue of quality in order to create company market success. Quality should not be only treated as accordance to appropriate parameters, but even as a main concept related to prediction and meeting consumer needs. The analyses of consumer behavior and a consumer decision in food milk and yoghurt market, which enable to conclude that widely used quality of researched products is assessed through the prism of individual consumer preferences, which are not always related to technological parameters, can be a confirmation of this. The research clearly demonstrates that consumers perceive milk and yoghurt quality using the parameters of sensor attractiveness and freshness. Respondents often declare that trust to brands is a guarantee of high quality, particularly freshness and health safety. The information about production according to the standards ISO 9001, ISO 22000 and HACCP is not, however, essential for them while shopping, because the vast majority of consumers do not know them and do not understand what they mean. It is worth paying attention to the fact that consumers claim in unison insignificance of advertising or special offers as decisive factor while shopping. However, their real behavior shows a certain discrepancy, as in the case of food milk brand and yoghurt producers. Consumer decisions were not related to a particular nutrition value or properties of a product, but mainly to popular packages and promotional actions. Consumer declarations could be an important guideline for producers in a process of competitive product offer forming.

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### Summary

The article makes an attempt to identify the features of milk products which are considered as quality attributes by consumers and also to define the possibility of their use in creating a company offer. Learning consumer attributes of quality in relation to a product as well as favored features which influence on their choice enable producers to improve a product, its parameters and also add the most desirable values from the marketing point of view.

**Key words:** food quality; consumer attributes; marketing.

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