

## CONSUMER NECESSITIES VERSUS PACKAGING REQUIREMENTS SEEN FROM THE RECYCLING PERSPECTIVE

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**Abstract.** *The general implications of the social and economic tendencies in the nutrition, diet and health sector can be summarised in the following words: quality, information, convenience, diversity, availability, health, safety and the environment. Food processing and packaging systems must be adjusted permanently to preserve the balance of consumers' needs in certain production sectors.*

**Key words:** *consumer, necessities, packaging, recycling*

### INTRODUCTION

A brand product is a product sold with the manufacturer's or retailer's label and generally used by consumers as a quality evaluation guide. Sometimes the difference in quality between competing products is almost imperceptible, so packaging will be their selling factor. An interesting or visually attractive package can be the basic marketing element that persuades the impulsive buyer. However, packaging must reflect product quality/brand values to avoid consumer disappointment, to encourage consumers to buy the same product repeatedly and to build brand loyalty. Ideally, a product must exceed all consumer's expectations.

### MATERIAL AND METHODS

Packaging is essential for the consumer's first impression, as it communicates *desirability, acceptance, the image of a healthy diet* etc. Food comes in a variety of products and package combinations that communicate the consumer's own perception of the processed image; for example, food that is freshly prepared/packaged, chilled, frozen, processed at ultra-high temperatures, canned and dried.

*Table 1.*

Consumer's necessities and packaging requirements

Quality	Processing and packaging for flavour, nutrition, texture, colour, freshness, acceptability etc.
Information	Information about the product, legibility, brand, use
Convenience	Easy way to open the product and dispose of it; shelf life, microwave preparation etc.
Availability	Permanently available product
Diversity	A wide range of products available in packages of various sizes and design
Health	For instance, food products with a longer shelf life without preservatives
Safety	Preventing product tampering and falsification
Environment	Environmental compatibility

### RESULTS AND DISCUSSIONS

One of the most important product attributes that influences human sensory perception is flavour, i.e. taste and smell. Flavour can change substantially through processing and/or prolonged storage. Other attributes that may change are colour, structure and nutrient content. The quality of a food product depends not only on the quality of its basic ingredients, additives

or the processing and packaging methods, but also on the distribution and shelf storage conditions. The increasing competition among manufacturers, retailers and packaging suppliers, the audit of the supplier's quality, as well as strict temperature control and more discerning consumers have led to a significant increase in food quality and packaged food supply.

Shelf life can be used as a marketing instrument to promote the concept of *freshness*. Products with extended or long shelf life offer the consumer and/or the retailer the possibility to use them at the right time and the risk of waste is reduced.

Packaging provides the consumer with important information about the product and in many cases about the use of the product. It specifies product weight or volume, ingredients, manufacturer's details, nutritive value, instructions on how to prepare the contents and open the package. Besides the legally required instructions about type and number size, packages give definitions of various product types. Consumers look for more detailed information and at the same time many labels are bilingual. Legibility is important for people who can't see very well, even more important for the elderly.

A major factor in choosing food products and packaging innovations is the demand for convenience food. Modern packaging provides convenience. It is easy to open, handle, reseal and dispose of, it is visible, it can be prepared in the microwave, it has a prolonged shelf life etc. Supply and services in retail stores are expensive. If the store does not have a large variety of products or its stocks are not replenished in due time, especially with basic products like fresh milk, the consumer will be dissatisfied and will shop in stores where he finds what he needs. Modern distribution and packaging systems enable consumers to buy food whenever and wherever they want. The supply has become very diverse in the past years.

Starting with 1970, health and food safety have become major concerns in food choices. Given the attention that mass media have paid to such issues, people pay more attention to the use of food additives and food contamination. Deliberate food falsification and accidents during the production process are included here as well. Nevertheless, many consumers are not fully aware of how important packaging is in preserving food safety and quality. As a result, tamper-resistant films are used in many prepackaged meals, not only to protect consumers, but also to pay more attention to criteria like freshness and shelf life, minimum processing and product origin.

Consumers' buying habits and how they dispose of food packages have a direct influence on the environment. Consumers buy the packaging with the product. Along the years, packaging weight has decreased compared to the packed product. Nevertheless, as a result of the constant changes in demography and consumption patterns, a higher packaging volume has been generated. Packaging volume is what attracts the attention of hard-to-please, criticising consumers. Moreover, the preference for prepackaged meals has increased the share of plastic packaging waste in the general waste flow.

Retailers and manufacturers make frequent use of marketing practices that concern environmental compatibility. Consumers need accurate information and guidance to decide which of their actions are more important. Each link in the packaging chain is responsible with explaining the functions and benefits of its own packaging. Although packaging manufacturers sell quality packages to their customers, i.e. product manufacturers, very little information on quality reaches the end consumer.

The environment has become an increasing issue in the past years. People are still concerned with the environment, despite the negative reactions and lack of trust in the flourishing "green marketing" strategies of the 1990's. The public is more and more aware that thoughtless lifestyles deplete energy sources, cause pollution, decrease soil fertility, affect

biodiversity and result in climate change. Consumption patterns also play a direct role in all these problems.

The problem of product and packaging disposal and recycling has deep implications in public policy. We live in a society in which much is disposed of. This causes environmental issues and waste accumulation. Instructing consumers how to recycle has become a priority in many countries. Japan recycles about 40% of its waste; this relatively high rate is the partial result of the social value that recycling has gained in this country; Japanese citizens see hear classical music or songs for children played from the trucks collecting the garbage. Companies keep searching for ways to make better use of resources, sometimes urged by consumer groups. For instance, McDonald's has caved in to pressures to give up polystyrene packaging and its European restaurants experiment breakfast served on maize starch plates. China also takes the waste problem seriously. Hundreds of Chinese restaurants have started to wash and recycle chopsticks and the government plans to introduce a tax on disposable chopsticks.

Many studies have examined the relevant goals of recycling. It has been reported that the recycling effort anticipates whether people will make it again in the future or not – a pragmatic dimension that is more important than the general attitude towards recycling and the environment in anticipating the intention to recycle. The authors of a study have reached the conclusion that one of the major motivating recycling factors is effectiveness in the highest degree, i.e. how effective the consumer believes recycling is.

Even when measuring difficulties are taken into account, statistics reveal the fact that waste production differs from one European country to another. By the end of the 1980's, in Western European countries, municipal solid waste per capita per year ranged between 231 kg in Portugal and 608 kg in Finland. To make a comparison, in the USA the amount was 864 kg. The different levels of waste are the result of the differences in global income and consumption style.

Waste management also differs in every country. Denmark has several recycling programmes that encourage the population to reduce household waste and recycle as much as possible, since the municipal waste recycling systems charge consumers based on waste weight or volume. The Danish waste management model, which stresses the local responsibility for source separation programmes, is sold globally, through site visits and video tapes. In Germany, law requires manufacturers to take responsibility for used products redistribution and recycling. Other waste disposal programmes have caught the attention of the authorities as well. In Spain, Italy, France and Denmark, the government offers economic incentives to car owners who replace their old cars to reduce air pollution and increase road safety.

Recycling has proved to be only the beginning of a larger process that includes not only the recycling capacity, but also environmental issues related to the production process. Environmental science is no longer reduced to recycling. It applies to all production and consumption aspects and affects product marketing strategies, from tableware to fast-food restaurants. For instance, Ecover, an environment-friendly Belgian detergent and cleaning products manufacturer, appealed to consumers' concern by recycling old TV advertisements of their competitors. A colour image of the company's own brand overlapped black-and-white advertisements from the 1950's. The voice-over explained that the old advertisements were being recycled. It has been said that the concern for the environment is gradually becoming a universal value as a prerequisite of product acceptability. One commentator has explained this with the help of a paradox: "Now that we are concerned with the environment, we will no longer have ecological milk; we will have milk and industrial milk." Smaller, independent manufacturers can also make people more aware of their natural products. In the same way,

various consumer groups can make manufacturers work so as to preserve nature and resources instead of exploiting them.

Certain European retailer chains initiate environment-friendly strategies. Migros, the largest Swiss retailer, has reduced the packaging material, has used train transportation more often and has introduced various forms of non-toxic, well-insulated storage facilities to reduce energy consumption. The German company Tengelmann (chlorine-free goods, milk carton recycling devices), Otto, the world's largest mail order company (respect for the environment as corporative culture, cooperation with World Wildlife Fund), Sainsbury (the Penny Back scheme encourages customers to re-use plastic bags and at the same time raises money for charity institutions) and Tesco (detailed labels, healthy food programmes and organically cultivated produce) from the UK are among the retailers who pioneered environment-friendly strategies.

There are obvious differences in how European countries deal with the environmental issue. In Germany, Denmark and Sweden, this issue is much more important from the political point of view. A study on how environment-friendly the car acquisition process is has indicated that environmental concerns are regarded as highly important first in Germany, then in the UK, France and Spain.

The attitude and the respect towards the environment have proved hard to predict. Some have said that they seem to fade, since an organisation like Greenpeace has had a decrease in their membership. Others have concluded that the attitude may be "green", but the behaviour seems less likely to change. This is what a 1991 study on Danish consumers revealed. Since then, the demand for ecological dairy products, eggs and vegetables has increased not only in Denmark, but in other countries as well. Another sign that the environmental issue is not just a passing interest, but it is becoming a global value, is the attention it is given in the mass media for the young public, like MTV, and in school curricula. Many consumer studies have tried to determine the distinct profile of value for environment-concerned consumers. One question was whether consumers are more self-oriented or more society-oriented. It has been noticed that values like "close relationships with others" and "social justice" are associated with attitudes and behaviour types that are friendly to the environment.

An environment-related issue like using growth hormones in milk and beef is debated frequently as part of the commercial negotiations between the Europe and USA. Based on scientific data, some argue that growth hormones are elements of risk, while others state that they are more a matter of ethics than a risk for consumers.

Recently, the debate on the risks of using growth hormones in beef has been overshadowed by the issues of the BSE. BSE led to a general distrust of beef in Great Britain in 1996, when the disease was first detected in this country and beyond its borders<sup>25</sup>. Since then, the disease has spread in other European countries. As a result, people stopped eating beef in some states, especially in Germany and Italy (where sales have dropped with 30% at a national level). Even in Sweden, where the disease was been detected, 41% of the consumers expressed their doubts on eating beef, 11% reduced their beef consumption, and 2% stopped eating beef permanently. Such food phobias have led to the distrust of modern industrial production methods, especially in the case of food industry. Many consumers have said that "when cows are turned into cannibals just for the sake of making profit, it is obvious that things won't go too well." It has been suggested that we live in a **risk society** in which the way we manufacture our goods generates frequent risks that consumers need to consider when making a decision. Another area in which unknown risks have aroused consumers' scepticism about the advantages of industry is that of GMO's. One of the fears that consumers have expressed in a study about GMO food

acceptance or rejection in Denmark and Sweden is that too much power is concentrated in several giant corporations that dominate both research and industry. At consumers' level, the stake is the confrontation between economic and moral logic, irrespective of the economic interests.

An international study obtained similar results in several European countries. On testing consumers' attitudes and intentions of buying GMO foods, the conclusion was reached that GMO technology was totally rejected in Denmark, Germany, Great Britain and Italy – a country whose consumers were less negative in their reactions because they did not know very much about GMO food. For this study, several materials were tested to estimate the potential of informative campaigns to change consumers' negative attitude. Some of the materials were informative, others were emotional. Nevertheless, whatever information consumers were given, it only made their attitude even more negative. Any hint, positive or not, that a product might or might not contain GMO's turned them against that product. This reveals the deep sceptical nature of European consumers.

As indicated in Directive 2008/98/CE of the European parliament and of the Council of November 19 2008 on waste, Romania has set explicit waste recycling targets. For 2013, the global target for packaging waste recycling is 60%.

The first competition-campaign to inform consumers about package recycling and the Green Dot symbol on packages took place, on the Eco-Rom Ambalaje website, on 9-14 September 2008. Consumers were informed about the importance of using the Green Dot on packaging: The Green Dot is a symbol that shows the buyer that the manufacturer or the importer is a socially responsible company which has made a financial commitment that packages of its products should be collected and recycled. The Green Dot can be applied on a contract basis, by any packaged goods manufacturer or importer able to prove that it meets the recycling objectives set in Romania.

Eco-Rom Ambalaje SA holds the exclusive licence for using this trademark in Romania and can grant it, pursuant to a sub-licensing agreement, to any company that meets the recycling objectives set by the law.”

The Green Dot has become an international registered trademark. Over 460 billion packages bear this symbol and over 130,000 companies are affiliated to the Green Dot System in Europe.



Eco-Rom Ambalaje, the Green Dot licence holder in Romania, fulfils the obligation related to the recovery and recycling of the package materials introduced by manufacturers or importers of packaged products. In 2012, Eco-Rom Ambalaje recycled 61% (398,463 tons) of the amount that these companies introduced on the market (651,126 tons), 12% more than the previous year.

In 2012, following the partnership with more than 200 waste management companies that provide waste collection, sorting and transport services for recycling purposes, 2.7 billion PET bottles (67,902 tons) and 400 million aluminium cans (5,073 tons) were recycled.

At present, one Romanian urban individual generates an average of 346 kg of household waste\* per year, while a rural individual produces, on average 3.5 less (about 95 kg of household waste\*/year). Of these amounts, recyclable waste is 39% in the urban area and 52% in the rural area. Half of them consist of packages.

Of the total amount of recyclable waste, package waste accounts for about 50% (65 kg). Packages make 18% of the total volume of waste that an urban individual generates annually (346 kg of household waste\*), According to a study, ten years ago all package waste was sent to landfills. Currently, 7.5% (5 of the 65 kg that an urban individual generates annually) is collected in 1.1-m<sup>3</sup> containers. The study was conducted by Eco-Rom Ambalaje in September 2012 – August 2013.

Tetra Pak, a company specialised in liquid food processing and packaging, conducts an informative campaign on soft drink and dairy carton recycling. They place special recycling containers and the materials obtained from recycling Tetra Pak packages are used to decorate the Bucharest North Railway Station by the artists of **I Love Bucharest**, a programme for the regeneration of the public area through artistic work.

Another Tetra Pak initiative was the site **Deceiubimcartonul.ro**, described as an umbrella platform for all informative activities and environment-related projects that the company is going to implement in Romania. The website provides both information about selective collection and recycling and new ideas of how to re-use Tetra Pak packages. Moreover, one can access a calendar of activities organized as part of the campaign, such as workshops to make wallets from dairy and soft drink packages. Activities like these address *especially adult consumers*.

## CONCLUSIONS

According to the Draft Partnership Agreement for Romania 2014–2020, presented to the European Commission by the Romanian Ministry of European Funds on June 6 2013, integrated waste management will be a priority in the following financial year. The document deals with the current problems of this field:

- waste collection services are to cover about 70%;
- organisation-related aspects: involving private operators in selective waste collection imposed by the local public authorities; the need to extend selective collection in all counties to reach the targets set in Directive 2008/98/EC;
- there are not enough incinerating plants with energy recovery;
- waste storage – by July 2017, all storage facilities will have to comply with the European legislation and 101 landfills will be closed down. Investments will be made in ecological storage as part of the integrated waste management system.

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