

Circularity in packaging: Customers' mindset and the pandemic situation requirements

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ABSTRACT

The objective of the article is to analyze the attitude of food products consumers towards circularity in packaging and make suggestions on how to combine the reduction in the world's annual amount of waste with health protection measures in society. Consequently, the present environmental situation in the world in terms of waste and recycling, the mindset of consumers, particularly of a new generation, and an issue of the product safety due to the COVID-19 were covered. The study features an inductive approach and a statistical analysis, a literature observation and a market research were conducted within its framework. According to the results of the research the recommendations were given. Their implementation may lead to a significant decline in the volume of packaging waste due to the reconsideration of the purpose of packaging and the change in marketing strategy. Meanwhile, all the necessary precautions to avoid infection will be taken. These suggestions might also lead to more efficient use of resources and to allocation of funds into production of durable goods and research and development activities. The reflection on the role of packaging in the market can be a watershed both in consumers' and producers' attitude towards materials and products. It might help them realize the real value of goods, make them more responsible in terms of consumption, preserve nature and improve the quality of life.

Keywords: packaging, environment, customers' mindset, pandemic

Modern world has become global, reached a high production capacity and solved the problem of food supply for most of the countries. At the same time environmental situation is deteriorating year by year due to the increase in household waste. Millions of tons of packaging are produced, purchased and thrown away on daily basis and the vast majority of litter is not being recycled.

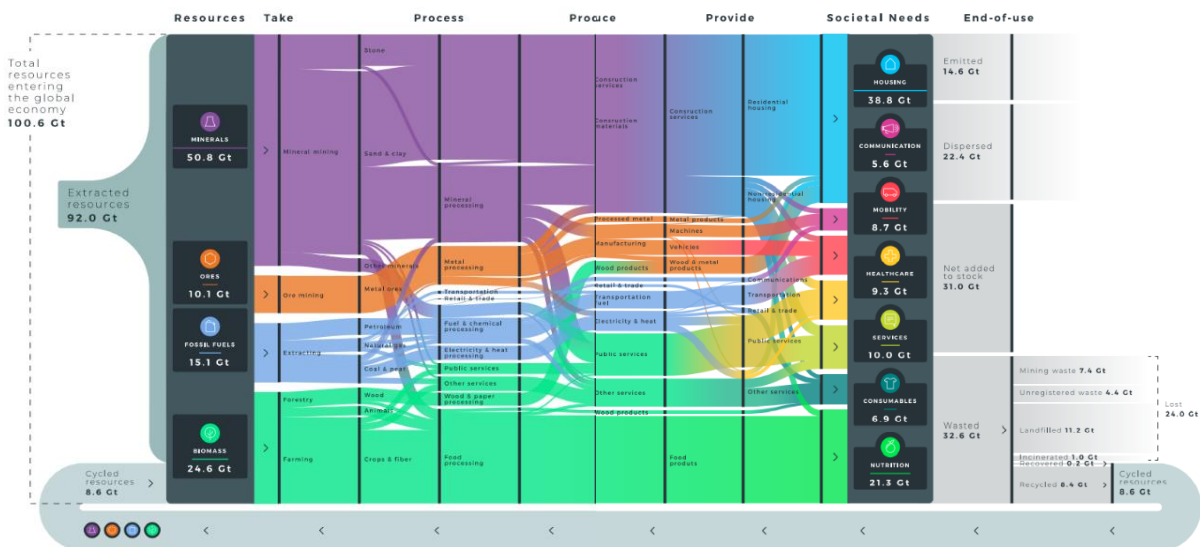
The difference between the total amount of resources used and the share of the recycled or re-consumed final products is called a circularity gap. Its global dynamics is represented in figure 1. The data is based on the Circularity Gap Reports provided by the CGRi [6-8].

Figure 1. Dynamics of the global circularity gap, 2017 – 2019, %



Less than 10% of renewable and non-renewable resources receive so-called “second life” while the rest creates enormous material footprint on the surface of Earth. The detailed analysis of resource use in terms of processing stages, types of goods and final consumption results is shown in figure 2.

Figure 2. The global cycle of resource use, 2019, billion tonnes



According to the graph, consumables (which include various sorts of boxes, bottles, pockets and shopping bags) are amounted to 6.9 billion tonnes and almost all of them end up as litter. Enormous waste of resources and increasing pollution make the issue of packaging circulation vitally important.

These trends are the consequence of people's attitude towards food and beverages they consume and towards the resources used during production process. Several types of mindset that find their realization in behavior of individuals were distinguished and surveyed.

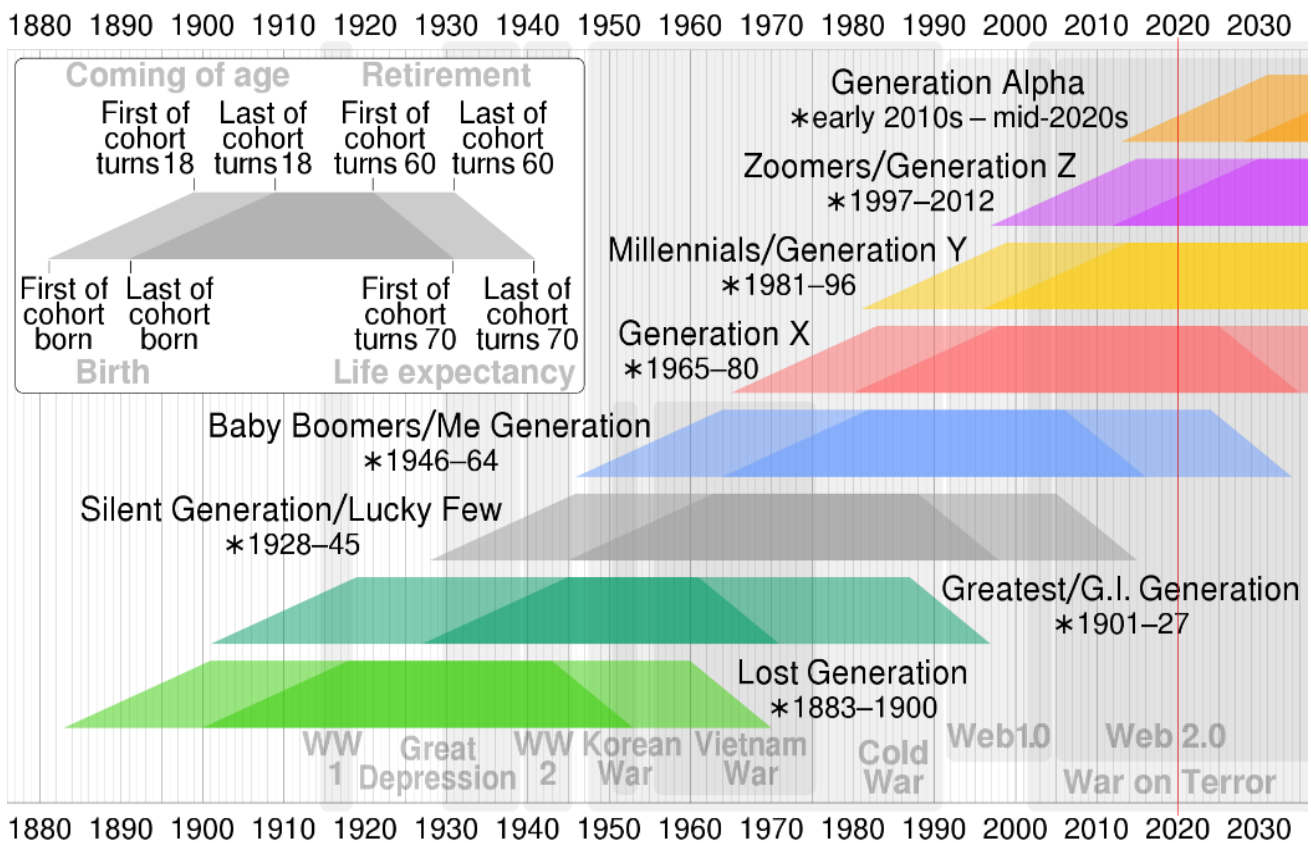
Some people don't care about the environment. Usually, they are representatives of consumerism that originated from the Industrial Revolution and spread around the world during the 20th century due to mass production and distribution of various cheap goods [4]. The problems originated from this mindset are described further in the article.

Some people care about the nature preservation but still contribute to increase in waste pollution. The matter is that in many countries eco-friendly packaging has become a part of fashionable and quite expensive lifestyle. Meanwhile, an average customer is not ready to spend extra money because of some trend, even if it proclaims noble ideas. Representatives of this target segment are persons of both genders, single or married, with middle income. What they want is peace, stability and respectable life. They are not eager to do something special or change their shopping habits. But it would have shown good results if they were able to receive the same product at the same price in a new, recyclable or reusable packaging and create a better future by small deeds on daily basis.

But there are also groups of those admitting the importance of the preservation, restoration and improvement of the environment and realizing this approach in daily life. The message can be traced throughout the history of humankind as a reaction to such processes as urbanization, industrialization and population growth. It proclaims thoughtful and careful use of natural resources, co-existing with nature in harmony and concern of people's health due to the various types of pollution. This common idea found its realization in various forms. Partly it has become a mainstream, a fashionable lifestyle that includes natural food, yoga, sport activities and donations to environmental organizations. Other people express their negative attitude towards plastic footprint by active manifestations, protests and thematical exhibitions.

But the group of primary interest of this research is Generation Z. This term is related to those born from the mid-1990s to the early 2000s. At present they are teenagers or fresh-graduates, which means they are adult enough to form their personal opinion and at the same time they are at the beginning of their working career. Earning power and, consequently, buying power of these young people will be increasing, so this is a highly prospective target segment for enterprises. It is worth to mention that these teenagers have ability to influence their parents' choice and will bring up the next generation. Therefore, their loyalty and commitment to company's values (or their rejection) should not be underestimated (figure 3).

Figure 3. Western world population in scope of age groups



According to a survey conducted by The National Retail Federation and IBM, people born in 1997-2012 care about socio-economic, political and environmental problems more, than any other generation.

Statistics proved that 55% of Generation Z prefer socially-responsible and environmentally friendly brands. Actually, they choose not a brand but a representative of their values and beliefs [9].

So, a significant part of present and potential clients would support a waste reducing program given the right conditions. At the same time many companies try to improve the situation by recycling and making environmentally friendly packaging.

Despite all the measures implemented, the situation is still getting worse. Therefore, it is vitally important to examine existing approaches and understand reasons of their inefficiency. On the basis of the information obtained possible strategies for tackling the problem can be developed.

Analysis of the opinions revealed that the majority consider recycling of waste to be the best solution. The idea sounds good, but its world-life application affects five aspects of lifecycle of any box, bag, can or bottle which may make things rather complicated.

The aspects are:

- 1) materials;
- 2) design;
- 3) technology of creating a product;
- 4) system of litter separation and relevant infrastructure;
- 5) technology of recycling.

Each of them has a range of requirements to match, which are listed in table 1.

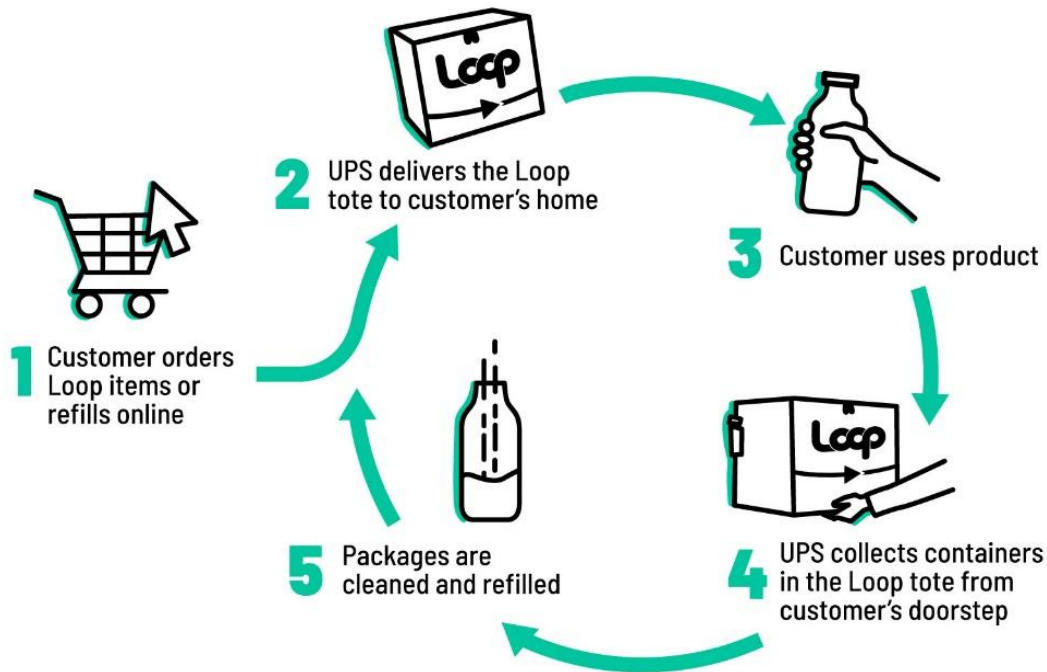
Table 1. Recycling process requirements

| Recycling process requirements |
|---|
| 1. Materials |
| <ul style="list-style-type: none"> - cheap - safe for health and environment - easy to process - recyclable - should provide the final product with all the necessary qualities |
| 2. Design |
| <ul style="list-style-type: none"> - aesthetic - function-related - easy to replicate - features of materials should be taken into consideration |
| 3. Technology of creating a product |
| <ul style="list-style-type: none"> - efficient - economical - simple |
| 4. System of litter separation and relevant infrastructure |
| <ul style="list-style-type: none"> - how to separate - where to separate - where to deliver - how to deliver |
| 5. Technology of recycling |
| <ul style="list-style-type: none"> - efficient - economical - simple |

Therefore, implementing of a recycling system in large scale in real life seems to be a long, difficult and expensive process. A few countries can afford it financially while time is even more scarce resource than money. As the environmental situation is getting worse every year, the total amount of packaging should be reduced.

The other idea is to “bring back the milkman”, a company, that delivers products in durable bottles or containers and then takes them back, wash and refill with new portion of a product. The project called Loop was offered by Tom Szaky and gained popularity among some of the world’s largest consumer goods suppliers, including such companies as Procter & Gamble, Unilever, Nestlé, PepsiCo, Danone and Mars Petcare. It is an interesting alternative way of tackling the problem of household waste [2]. Figure 4 represents process of realization of Loop project.

Figure 4. Packaging lifecycle according to Loop project



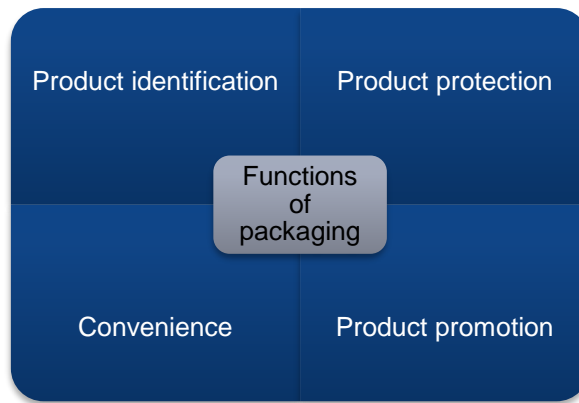
However, it has several weak points. One of them is a deposit on packaging that a buyer is to pay while making an order. It varies from 25 cents for a bottle of Coca-Cola to \$47 for a Pampers diaper bin and is to be returned after the client gives the package item back to a company's representative. Some people can not afford it while others may not be willing to risk their money on plastic utilities.

Another issue arose due to the COVID-19. Since the first wave of pandemic occurred, hygienic factors and health-protecting measures have become highly important. As food happened to be one of the most vulnerable products, it is crucial to use new or personal stuff only. Relying on sanitizers in present situation may lead to fatal consequences. Moreover, customers want to feel safe consuming their meals and they may abandon Loop system because of fear to catch the virus.

It would be reasonable to ask why we need packaging and whether we need it at all. It is a supplementary commodity of secondary importance, so its existence should be justified with some reasons.

For the sake of drawing a reliable conclusion functions of packaging were examined (figure 5).

Figure 5. Functions of packaging



Historically, packaging appeared for practical purposes in order to make storage and transportation convenient. From this point of view shape and size of box or sack are to use given capacity as efficient as possible which means to place maximum amount of product into a limited space. They also serve as units of measurement and allowed to provide consumers with necessary amounts of goods quickly.

Protection of food and beverages from internal and external damage is another crucial factor that makes packaging necessary. The latter helps to prolong a shelf life of a product and reduce possibility of harm caused by water, hits, light or temperature. It also plays an important role in maintaining sanitary conditions, as it prevents goods from dirt and infections.

These functions used to be important when mass production was developing and they came into focus again due to the COVID-19. However, advertising functions of packaging have been emphasized for quite a long period of time as consumerist economy, high competitiveness, high production capacity and wide range of analogue products have been prevailing in the market. Such a priority is partly responsible for constant increase in production of various packages that end up as litter. Therefore, these functions are to be examined thoroughly and the conclusions about their necessity are to be drawn.

The first one is product identification. Any box, can or bottle carries a label of its producer, which provides potential users with information about country of origin, quality of a product, level of reliability and helps to differentiate it from the products of competitors. According to this purpose, package item serves as a channel of communication, that supports consumer rights and a firm's advertising campaign at the same time.

The second marketing function is product promotion. It includes drawing attention and creating an attractive image of a product. In order to increase their competitiveness, companies create new designs of packages and try to differentiate their product with color, shape and size using excessive amounts of materials rather often. For example, a package of chocolate sweets usually consists of cardboard, plastic, paper and polyethylene. Share of these materials in total volume of the box may exceed share of candies which is irrational from resource economy point of view. This approach may work when people move along the shelves of different departments in a shop, so they may accidentally put an extra item into the basket. However, a huge part of trade has shifted into the internet where a customer gets a direct access to the department directly and often chooses a product on a basis of his or her previous experience and price.

Any package transmits a message not only about the product, but also about its final user. Design itself tells about the social status, income level and lifestyle, as it shows one which a person wants to associate himself with. And when the product in a package is bought it creates one's image in society. In order to find a compromise between safety measures and protection of the environment main features of life related to packaging within the COVID-19 framework were determined.

- 1) All products should be protected completely from any external impact. The risk of virus spreading should be minimized. One wants to be sure about safety of a product and both producer and retailer are responsible for providing it.
- 2) There is a shift of preferences towards big volumes. People try to avoid contacts and attend public places as seldom as possible. Delivery services are rather expensive, so a person would like to make an order that will be enough for a long time or do shopping maximum once a week. He tends to purchase a large box or pocket and then divide the product into convenient parts at home.
- 3) Demand on durable containers is going to grow. If a person intends to buy groceries in bulk, he or she will need some receptacles to keep these volumes of products in.
- 4) People want to surround themselves with attractive things. They were spending all their time at home during quarantine in spring 2020 and boredom, lack of diversity and attention to details led to a huge number of flat renovations in that period. Since durable can or jar is more attractive than an ordinary pocket of coffee (for example), it is sensible to expect this kind of replacement in packaging after purchase.

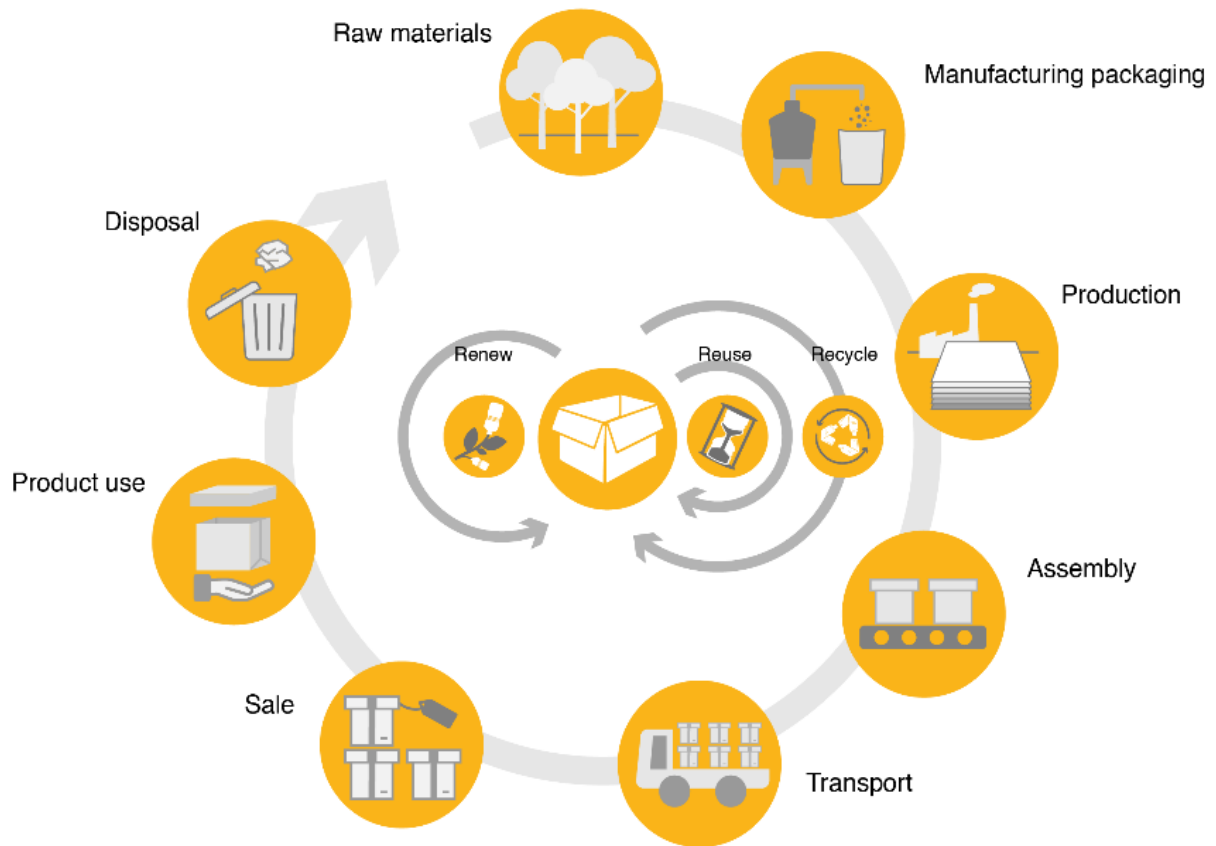
Then the main factors responsible for the waste pollution were specified so as to offer appropriate ways of improving the situation. There are two sides involved and both of them contribute to the creation of household waste.

On the company's side the main issue is an excessive emphasis of marketing functions of packaging. For example, a package of chocolate sweets usually consists of cardboard, plastic, paper and polyethylene. Share of these materials in total volume of the box may exceed share of candies, which is irrational from resource economy point of view.

On the customer's side the main issue is consumerism. The problem is not in endless purchase but in undervaluing products and resources used. The idea of protecting the environment may be offered and people will readily support it. However, they will continue buying and throwing away huge amounts of packaging, this time environmentally friendly ones.

When a person goes to the shop, all he or she sees is a ready product in a package. They are not aware of what is behind the stage: how it was produced, how much efforts and resources it required to make the product appear at this place, at this time, in this form and pocket. . Meanwhile, production of a container is a separate complex process (figure 6).

Figure 6. Packaging production cycle



Moreover, the pace of life has increased and people are usually in a rush. They often do not pay attention on what they eat but quickly rip off and throw away the package, swallow the food and hurry to do something else. They may not notice taste, smell, texture of a product and they will forget about it less than in half an hour. Let alone the package they throw away at the beginning. Therefore, all the efforts, expenditures and resources are totally undervalued.

According to the results of the research the following recommendations were given.

- 1) A company should reduce total amount of packaging by using the necessary minimum only to protect food from being infected. Share of recyclable receptacles ought to be increased within that minimum of package produced.
- 2) Attractive containers of high quality that can be reused are to be offered to households.
- 3) As in many countries eco-friendly packaging is a part of an expensive fashionable lifestyle, its image should be changed and become an affordable choice of a responsible citizen.
- 4) Call for protecting the environment should not be just a message. People need to see the result. They want to see that their actions really make difference in the world and they must believe the company. So, the latter should reconsider its core values, follow them, and avoid anything that can ruin its reputation. It is difficult to gain trust and respect and easy to lose them.
- 5) Educational and informative programs should be launched. It may be documentary films and clips on how products and packaging are produced. Consumers also must know how much

non-renewable resources (water, minerals, fossil fuels, wood etc.) were used to produce a unit of package.

The given recommendations will lead to positive changes in society as well as to significant improvements in companies' operational process.

As marketing role of packaging will lose part of its importance, people might start buying food and beverages because of their qualities and not because of aesthetic design of a box or a bottle. Knowing characteristics of different types of food people will value products and respect work done to produce and deliver them more. This change in attitude may help to overcome consumerist mindset, make individuals more responsible and improve their quality of life. In this case consumers are likely to demand social responsibility from producers, which will make the latter to rethink their core values and, consequently, their manufacturing practices.

The suggestions may also help a company to cut costs of packaging both due to the general decline in number of boxes and bottles used, and to usage of cheap recycled materials for their production. The money released can be relocated into innovations, researches and projects so as to create new materials, technology and products, develop renewable energy sources and introduce system for diminishing pollution. Consequences of these decisions will be an increased efficiency of a company's performance, economical use of resources and preservation of the environment.

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