



Trends in consumer behavior

How has the food industry changed in industrialized countries?

Summary

Social change has a significant impact on consumer behavior in regards to food. It has changed in the years of economic growth since the Second World War as a large middle class has formed. While food stamps were required directly after the Second World War, society has become increasingly affluent.

Social change has also influenced the food industry, which is under massive pressure with ever shorter development times. Examples might include the determination of shelf-lives for products in general, as well as determining the stability of individual ingredients such as natural coloring. Determining shelf-life is of particular importance because many foods are discarded while still edible and only because the "best before" date has expired. The high rate of food waste also impacts global climate as greenhouse gases are also produced. Thus, the food industry is forced to provide ever more accurate stability data.

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Social change

Social developments

Social change has a significant impact on consumer behavior in regards to food. It has changed in the years of economic growth since the Second World War as a large middle class has formed. While food stamps were required directly after the Second World War, society has become increasingly affluent.

Society has continuously evolved in recent decades. Demographic change is a topic of discussion for many. It is a term characterized by many small changes.

An increasingly aging society plays an important role. Medicine has improved so much in the last century that the average life expectancy has increased to 77 years for men and 82 years for women. Those numbers were only 70 and 76 respectively just 30 years ago. As a result, the retirement age has been increased to 67 years in Germany as the pensions of an ageing population have to be met. In addition, the percentage of older people who are no longer mobile or who require other care is increasing. Financing in Germany should be regulated by a generational contract, which also poses problems in terms of these changes. The reason for this is the decline in the birth rate.

One spoke of a social pyramid in 1900 that could handle the generational contract in which the working population could care for the elderly. In recent years, however, indications are and the trend is predicted to continue that society is likely to develop in the direction of an inverted pyramid.

But why has the birth rate declined?

There are various reasons for this. With certainty, one reason is the growing percentage of working women who want a career for themselves and who do not want to be part of the traditional division of responsibilities.

Social change

Social developments

Another reason for the change in consumer behavior is that the number of single and 2-person households has significantly increased due to the increase in working women and their independence. As a result, large cities battle with housing shortages.

In addition, family life has changed in recent years. Single parents as well as same-sex relationships are increasingly more common. The traditional family with two to four children is becoming more rare because the divorce rate has also risen significantly. Marriage does not have the significance as it did in the 1950s.

All these changes have led to demographic change in society, which not only changes people's lives, but also forces countries to think about and adjust their social services, if necessary.



64.9 million inhabitants
Men Years of Life Women

82.0 million inhabitants
Men Years of Life Women

68.8 million inhabitants
Men Years of Life Women

Birth rates in Germany over the course of time

Social change

Progress

After the Second World War, world trade has changed significantly. There has been a globalization and an exodus of firms to developing countries. This is due to cheaper labor and lower safety standards. The daily routine of many people has also changed. A company is no longer locally based, but has international subsidiaries. A certain degree of flexibility is often required. This flexibility is required not only in travel activities. Employees are also granted increasingly flexible work hours. There is not only a positive side to this, but more expected of employees in terms of hours of operation. For example, the number of people working a night shift has increased in recent years from 6.8% to 9.6% in Germany.

This globalization and high mobility has also affected people's private lives. Vacations have gone from staying at home or in neighboring countries to places around the world.

Impact of social change

Ecological effects

Social change has different effects on the consumer behavior of people and causes different effects that heavily impact the food industry today.

In terms of ecological effects, climate protection plays a particularly important role. Globalization and the faster lifestyles that people live have also changed the climate. Pollution has greatly increased as a result of the many greenhouse gasses caused by driving, flying, etc.

Another effect is animal protection which is also moving more and more into the foreground. Farming is increasingly in disfavor due to various scandals and animal influenzas which spread very quickly in mass breeding.

These two effects mean that consumers place ever more value on regional products. Doing so protects the climate because long transport routes are eliminated and in principle, the consumer then also knows what the farming conditions are in the region. Furthermore, local farmers are supported.

Another major theme is food waste, which is significant in western countries. WRAP (Worldwide Responsible Accredited Production) estimates that about a third of purchased food winds up in the trash. The problem not only lies in wasting food in itself, which could have been needed elsewhere, but also in the fact that food that ends up in the trash also has to be disposed of. In general, the waste is dumped in landfills where methane is formed. The methane has 20 times the greenhouse effect of carbon dioxide. Food waste refers back to environmental projection directly, which is becoming ever more important.

Thus, this effect has a direct impact on the food industry and shelf-life testing because food which is still edible is often discarded.

Impact of social change

Health effects

Another effect is that people are placing more value on their health and are watching what they eat accordingly. The freshness of products plays a particular role, as well as the composition of natural ingredients. An example of this is food coloring in products. In the past, coloring was used to give foods an appealing color because the color of foods influences the (buying) decision of the consumer. The color and presentation of the products is the first thing the consumer sees and therefore arouses certain expectations on the part of the consumer. In the past, artificial coloring had taken on this task. However, certain problems have arisen for the food industry by the change to natural coloring. Natural coloring is not only expensive, but also less stable, which greatly affects the shelf-life of the products.

Consumers have high expectations in terms of the quality of products as it relates to their health awareness and it is more important to them to know where the products come from. Consumers often pay attention, for example, that strawberries are only purchased if grown in Germany and not from southern countries from where they have to travel long distances to get to store shelves.

Impact of social change

Social effects

However, not only ecological and health effects play a role in the food industry, but also social effects. A slim figure is considered attractive today and should be as simple as possible to achieve through the proper consumption of food. Nevertheless, the taste of products is important and fast food products as well as finished products are becoming increasingly popular. Fast lifestyles mean that people do not want to spend their evenings in the kitchen, but want to prepare their dinners as quickly and easily as possible by means of finished products for example. Another social effect is "Fair Trade", which has experienced significant growth. Coffee farmers, for example, are promised a fair wage and middlemen earn less. "Fair Trade" has now even spread from the food industry, where it is an issue especially for coffee and chocolate, to other industries such as the textile industry.

Testing in the food industry

Faster development times have now reached the food industry and are present not only in technology-heavy industries. The consumer continuously demands new products with longer, more accurate shelf-life data. For this purpose, however, time-consuming tests must be performed that simulate various storage conditions. That is nearly impossible, however, because it contradicts the short development times. For this reason, more conservative shelf-life times are used, which promotes food waste.

Another problem with the shelf-life testing is that there is currently no clear rules and guidelines. Thus, a related standard in the pharmaceutical industry is often used in which the photostability of drugs is tested such as ICH guidelines. In ICH guidelines, testing is carried out when at least 98% of the active ingredient is present in the drug, which then results in an end to the expiration date.

For such photostability testing, there are various simulation chambers available on the market with a specific light spectrum that meet these requirements. BINDER also has such chambers in its range of products that are also used in the food industry. With patented light sensors, the light intensity can be accurately measured and illumination automatically switched off if necessary after reaching the maximum value.

Due to the lack of regulation, many manufacturers in the food industry have passed over real shelf-life testing and gone with accelerated testing, which is primarily carried out in such simulation chambers. The chambers then simulate an accelerated shelf-life through increased temperatures and higher humidity from which the actual shelf-life is then derived. However, such testing should only be supplementary and should not completely replace real testing.

Credits

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| Company profile

BINDER is the largest specialist in simulation cabinets for science and industry in the world. The product range includes routine applications, highly specific work in research and development, manufacturing and quality assurance. With 350 employees worldwide, BINDER GmbH anticipates sales of 58 million euros in 2012.

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Credits

| Sources

Federal Statistical Office
(<https://www.destatis.de>)

Spiegel
(<http://www.spiegel.de/wirtschaft/soziales/deutsche-arbeiten-haeufiger-nachts-und-am-samstag-a-850926.html>)

Society of Chemical Industry
(<http://www.soci.org/Chemistry-and-Industry/CnI-Data/2010/15/Off-the-shelf-onto-the-table>)

WRAP
(<http://www.wrapcompliance.org>)

Agrifood Consulting GmbH
(http://www.vzbv.de/cps/rde/xbcr/vzbv/Lebensmittelvermarktung_Marktstudie_2012.pdf)

AgroFOOD industry hi-tech
(http://agro-food-industry.teknoscienze.com/testata.asp?id_testata=215&folder=backissue)

sm:k
(<http://socialmediakiel.de>)