

QUALITY MANAGEMENT ON THE COFFEE MARKET

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Abstract: *An important competition factor is quality. The quality of coffee is mainly due to its flavor, so coffee quality management begins from the moment the tree is planted until the coffee beans are picked up, purchased and processed. This paper analyzes quality management and the quality strategies that have been applied to the coffee market by great competitors for success. Quality management on the coffee market is a set of activities which aims to achieve objectives, through optimal use of resources.*

Key words: *quality, coffee, market, strategies, quality management.*

1. Introduction

Quality is and will always be an important competition factor. ISO 8402 defines quality as "the set of characteristics of an entity that gives it the ability to meet expressed or implied needs" (<https://www.iso.org/standard/20115.html>).

This definition defines the following:

- Quality is not expressed by a single characteristic but by a set of characteristics;
- Quality is not self-contained, it only exists in relation to customer needs;
- Quality is a continuous and not a discrete variable;
- Not only the expressed but also the implicit needs must be met by quality.

Product quality is a strong element for both the producer and the consumer in terms of market economy and fierce competition. For the manufacturer, the market share increases; for the consumer quality increases the confidence in the purchased product / service, in addition to the fact that it ensures the satisfaction of their needs.

Improving quality requires the adoption of a new set of values, attitudes and behaviors of production oriented to customer satisfaction. It is to these values that the staff should adhere to (Madar, 2016), as it is a key goal for each company (Băltescu, 2010).

In terms of "quality management", it is a set of activities that aim at achieving goals through optimal use of resources. This includes planning, coordination, organization, control and quality assurance. In this respect, the enterprise proposes a series of

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strategic objectives, namely economic, social, technical, commercial objectives, which are achieved by means of operational objectives.

The latter consist of: obtaining quality products and services corresponding to the requirements in the requested quantity, at the agreed term and which are available at the place or on the desired market, however, at minimum costs (Ionescu Luca, C.2007).

Higher level management develops quality policy that includes the organization's overall objectives and guidelines for quality. Quality objectives are implemented within a quality management system.

2. Presentation of the Coffee Market

Nowadays, coffee, along with oil, vinegar and cereals, is among the world's largest market among high-value export raw materials, with the economic situation of many prime coffee-producing countries almost entirely dependent on the export of coffee for their national welfare.

Coffee is sold in various forms, and has recently undergone various transformations, ranging from trading to the form in which it is sold. One example could be coffee capsules. Capsule coffee sales rose steadily over the past five years to \$ 10.9 billion, while the coffee industry advanced 35% (www.trb.ro). This success has also prompted other beverage and food producers to invest in capsule products. Thus, Keurig, which holds 85 percent of the US coffee capsule market, estimated at \$ 2.7 billion, has signed an agreement with a manufacturer to make the capsule soup. Also, Nestle, which dominates the segment of coffee capsules in Europe with the Nespresso brand, used the same tea technology by launching the Special T brand in Japan (www.euromonitor.com).

The coffee market in Romania has grown at an accelerated rate due to the migration of Romanian consumers to premium products and the innovations made by coffee makers. According to AC Nielsen data, the market for pure soluble coffee is estimated at about 180 million lei, while the total coffee market is around ROL 1.2 billion (www.trb.ro).

Romania has, along with Bulgaria, one of the lowest coffee consumption rates in Europe. Thus, Romanians drink on average half a cup of coffee a day, much less than the Dutch who consume two cups and a half coffee daily. This is due to the high coffee price in terms of consumer purchasing power but also to the value added tax and the non-harmonized excise duty maintenance (www.trb.ro).

The coffee market in Romania is divided into two parts: the types of coffee purchased for home consumption and the type of premium coffee that mainly caters to customers in cafes, bars and restaurants. Premium coffee makers struggle on the Romanian low-end household market with espresso machines, which limits the possibilities for retail expansion. In this respect, companies are planning to increase their market share over the next year by focusing mainly on filter coffee. Coffee in the filter is much more prevalent in Romania, so the new segment means even greater possibilities to increase the market share for coffee makers.

Coffee is sold in various forms, and marketing has undergone countless changes lately. The coffee business is growing in both Romania and other countries.

The most important players on the coffee market in Romania are: Nestle (Nescafe), Strauss (Doncafe), Tchibo and Kraft Foods (Jacobs) and IllyCaffe (www.zf.ro).

Jacobs coffee imported from Mondelez Romania's portfolio is ranked first in the top-selling coffee brands in a brand-dominated branded product market. Strauss Romania, which has the portfolio for Doncafé and Cafea Fortuna, are the only two companies that own large coffee factories in Romania. Mondelez (with the Jacobs and Nova Brasilia brands) or Tchibo, with the eponymous brand name, do not produce local coffee. Swiss Nestlé also produces several assortments of soluble Nescafé coffee in the Timisoara plant, the coffee slices made here reaching the local and fourteen other markets (www.euromonitor.com/).

On this market, there are also brands such as Amigo, produced by Panfoods or Fortuna, owned by the local Cafea Fortuna producer. At the same time, the coffee market is also activated by premium coffee importers, especially in Horeca, such as Julius Meinl Romania, importer of Julius Meinl coffee, Blue Coffee Service distributing Lavazza coffee or Pro Brands Distribution, importer of Illy Caffe (www.zf.ro).

3. Coffee Quality and Quality Management in the Coffee Market

Quality management on the coffee market is a set of activities which aims to achieve objectives (through optimal use of resources). This includes planning, coordination, organization, control and quality assurance.

The company proposes a series of "strategic objectives": economic, social, technical, commercial. They are achieved through "operational objectives".

The quality of the coffee is mainly due to its flavor, so coffee quality management begins from the moment the tree is planted until the coffee beans are picked up and purchased. They go through a series of steps to get the best of them. In the case of companies on the Romanian coffee market, quality management starts from the place where the coffee beans are purchased and ends with the sale of coffee, passing through steps such as transport, storage, frying, grinding, packing and distribution.

For industrial purposes, four types of coffee are grown: Arabic Coffee, Robusta Coffee, Liberty Coffee and Maragotype Coffee. Most companies choose to sell one or more types of coffee depending on the customer segment they are targeting. Also, the quality of purchased beans should also be considered. Coffee beans are divided into different categories: by type of coffee; by defects; by region; by size; by taste; by color, frying and cooking, by implicit processes: picking, drying mode, washed or unwashed, sorting mode.

Coffee is actually a fruit, not a pot as many believe. The coffee fruit is usually a red or yellow fruit, which contains two seeds, surrounded by a soft layer of mucilage and thin skin, known as parchment. Coffee processing begins with fruit harvesting. Once harvested, coffee beans must be separated from the fruit without losing the flavor that is contained in the mucilage.

The type of coffee sold is a starting point for coffee quality management, and the type of purchased beans is very important in establishing the quality of the coffee. Thus, you

can choose one of the coffee types listed below (Table 1), the most qualitative of which is Arabic coffee.

Table 1

Cofee Arabica	Cofee Robusta
<ul style="list-style-type: none"> •The most cultivated species and is particularly cherished for its high quality fruits; •Two-thirds of the world's coffee production is Arabic Coffee; •The delicate plant requires more intensive care than Robusta; •Arabic coffee has more refined flavor and taste than other coffee species; •Arabic coffee flavor is rich, very fragrant, sweet and slightly sour; •Concentration of caffeine in Arabic coffee is lower than that contained in Robusta coffee. 	<ul style="list-style-type: none"> • Original from the Congo Basin; • It now provides about one-third of world production; • Unlike Arabic coffee, Robusta coffee is less demanding of climate conditions; • Grows at altitudes between sea level and 600 meters, withstand well in warm wet environments with peaks exceeding 30 ° C; • Has a more neutral taste, is less flavorful than Arabic coffee; • It is appreciated in the range of soluble coffee.
Cofee Liberica	Cofee Maragotype
<ul style="list-style-type: none"> • Originating in Africa, Liberia; • Has rapid growth and good resistance to disease; •Cultivated exclusively in the subtropical plains of Africa and South America, where humidity is very high and the temperature is between 20 and 25 ° C. • It is a mediocre quality coffee. 	<ul style="list-style-type: none"> • Come from the neighborhood of Maragotype town, Bahia State of Brazil; •It is a hybrid resulting from the cross between the Arabic and the Liberian species, except for the size of the berries, it kept the characters of the Arabic species; •Coffee beans of this shrub are of superior and medium quality, and their color is greenish. The quality of this coffee can not exceed the quality of Arabic coffee.

The process of making coffee consists mainly of cleaning, roasting, cooling, grinding and packaging operations. Green coffee beans are unpacked manually or by machine, transported in the warehouse and checked to remove debris. Green berries are then weighed and transferred to conveyor belts or pneumatic conveyors to storage silos. From here, green berries are taken to the roasting ovens. They usually work at temperatures between 188 and 282 degrees Celsius, and the beans are fried for a few minutes to about 30 minutes. Ovens are usually horizontal rotating drums that roll green coffee beans into a hot combustion gas stream.

Through the roasting process, essential oils of coffee beans are released, substances that ultimately attribute to coffee the color, aroma, fragrance, taste and specific flavor. How coffee is roasted is very important for getting quality coffee. To obtain country-specific flavors, roasting should be done by separating each batch of coffee. For example, to get quality coffee from East Africa, it should be fried for exactly three minutes, while for the coffee in Santos, Brazil, it takes only two minutes.

The degree of grinding of coffee is dictated by each method of preparation. The shorter the coffee preparation time, the better the coffee is. For example, coffee prepared on the filter, coffee maker and mug requires a coarse grinding, while preparing the jar and espresso, a fine milling. There is also a close correlation between the degree of roasting of the coffee and the type of grinding: stronger roasted berries have a stronger flavor and should be milled more finely, and the medium-roasted grains give a fresh and full taste, being more coarse. To preserve the quality of the coffee, after grinding, it is kept in silos, from where it enters the packing line. Packaging is also very important, and it has to be able to maintain the quality of coffee for a long time.

4. Quality Strategies used on the Coffee Market

The most commonly used strategies on the coffee market are the differentiation, innovation and certification strategies. Like in the wine industry, the certifications are aimed at: the protection of the interests of consumers / producers; the assurance of a smooth functioning of the market; and the encouragement of the production of quality products (Bărbulescu, 2016). In the case of premium coffee, the maximum performance strategy is also used.

One of the main quality strategies approached by coffee market companies is the quality differentiation strategy: such as is the case in other areas, there is a default price quote expected by most consumers / users.

All the main or secondary activities included in the value chain are potential sources of differentiation and completion of competitive advantages, namely: accessibility and quality of raw materials, technological innovation, delivery date and post-sale services.

The strategy of quality differentiation is based on the knowledge of the forms of manifestation and the level of achievement of the quality characteristics of the products or services:

- Reliability, maintainability, availability, and nutritional principles of agrifood products;
- The existence of standards and prices for products and services accessible to different beneficiaries;
- Knowing the requirements of the global market for its own products and services and market segments where there are exclusive producers and distributors;
- Analyzing the potential of the brand and distribution network;

The differentiation strategy can be devised by the type of coffee chosen, the type of grain and other characteristics that influence the quality of the coffee.

Innovation strategy is often used in coffee quality management. Technological innovation is used both for the appliances used to make the finished product and the form in which the coffee is sold. Coffee is sold in different forms. Such an innovation is coffee capsules. Nescafe was the first to introduce the sale of coffee as a capsule, which brought them a great success. This innovation increased their sales and the appliances sold for the preparation of the capsule type coffee.

Many companies, of which we can recall Starbucks, have turned to innovation strategy and have introduced new products such as Green Tea Frappuccino, which has become very popular and helped them to increase sales especially in Asia.

Those who sell premium coffee have also invested in technology such as espresso machines, coffee grinders to get a better quality coffee. However the Romanian market saw a far too high cost of these espressoes when compared to the average income. This led to espresso machines being purchased only by restaurants, bars, etc.

Another innovation in coffee making is the use of NASA technology. The Compass Coffee Café in Washington DC uses a device that contains US space agency technology for roasting and making coffee. The technology involves using a laser machine to measure the amount of coffee in the coffee. The acid level is directly proportional to the degree of coffee roasting, so the two innovators can get the same quality of coffee every time.

The certification strategy is conducted in order to ensure that the organization is able to deliver / deliver products / services on the basis of international quality standards.

The coffee crop certification system has emerged and developed as an absolute necessity for both protecting farmers and preserving biodiversity and developing the sustainability criteria of the regions where we produce green coffee beans. The most known and important certifications for coffee are: Rainforest Alliance, USDA Organic, Fairtrade International and UTZ Certified.

The Rainforest Alliance focuses on environmental certification but goes on to cover other issues such as community-based relationships and the right treatment from the human rights perspective of those who work on the farms where coffee is grown.

USDA Organic is an American certification standard. Products certified with this standard are 100% organic, cultivated on a soil that has not been treated for at least 3 years with synthetic fertilizers, pesticides or herbicides. The same is true for the coffee plant.

Fair Trade is a certification primarily concerned with poverty eradication. For this reason Fair Trade certified coffee was purchased from farmers at a price that would ensure crop profitability.

UTZ Certified emphasizes the transparency and ease of pursuing the process of efficient supply and management of farms - efficient agricultural practices, prevention of soil erosion, minimizing water consumption and minimizing pollution, responsible use of chemicals and habitat protection.

Quality certification is also done through various Quality Institutions. For example, Doncafe coffee has turned to certification by the German DLG institute.

5. Quality strategies applied by Illy Caffè

Headquartered in Trieste, Italy, Illy Caffè produces and sells a unique blend of Arabic coffee, being a leading coffee leader. Illy Caffè offers connoisseurs a total, authentic experience of Italian coffee. Illy Caffè Cafe is available in more than 41,000 of the top restaurants and cafes, sold in over 140 countries worldwide (www.IllyCaffe.com).

Illy Caffè has an extremely well-developed quality management system, developed through the quality strategies it applies successfully, namely:

- Innovation strategy
- Quality differentiation strategy
- Maximum performance strategy
- Strategy through certification
- Environmental strategy

Strategy through innovation

Illy Caffè was founded in 1933 by Francesco IllyCaffè. For three generations, Illy Caffè led the coffee industry through innovation, technology and knowledge. A true inventor and industry leader Francesco Illy Caffè patented the first automatic coffee machine to replace steam compressed air and called it "Illetta" in 1935.

He has continued to make innovations in this area, including the invention of a pressurized packing system for coffee preservation, an improved system still in use. Oxygen is the biggest enemy of roasted coffee, and roasted coffee exposed to air will lose 40% of the flavor after just 8 hours. Another enemy is the humidity that also has a negative effect on the flavor and can give a smell of earth. These problems, which prevented the keeping of fresh coffee, led Francesco Illy Caffè to invent the pressurization in 1930. By pressurization, the air is extracted from the packaging and replaced by an inert gas at a higher pressure than atmospheric air. This method guarantees a longer retention time of up to 2 years. At the same time, it "ages" the coffee, improving its aroma, volatile components coming in contact with the oil contained in the coffee beans. The most important competitive advantages of companies are: innovation capacity, flexibility, capacity to adjust in a short time at new market conditions (Boşcor, 2015).

IllyCaffè has three of the seven great coffee innovations in the past 100 years - the pressurization technique, the ESE - easy serving espresso system (invented and patented by Illy Caffè in 1972) is very widespread, now recognized as a standard: contains 7 grams of ground coffee, pressed for use only on equipment that is compatible with the ESE system) and Illetta's invention.

Another innovation appears in a joint venture with Sortex Ltd, Illy Caffè producing the first electronic machine to examine each Arabian coffee bean, thus eliminating the lower quality ones. The selected grains are later moved to be roasted to obtain the optimum flavor, then cooled. This process is only a small part of the 114 quality checks that coffee must pass before each cup / coffee box is packaged, opened and served by elite consumers around the globe.

Quality differentiation strategy

The Italian company has developed long-term collaborations with the best coffee growers in the world - Brazil, Central America, India and Africa - providing them with know-how and technology and giving them prices above the market price. For over 80 years, Illy Caffè has created an authentic Italian experience with quality, aesthetics and culture (www.illy.com).

Illy Caffè is a leading coffee maker with uncompromising business approach, from standards ranging from grain processing to the finished coffee, using 100% Arabica coffee beans of the highest quality.

Maximum performance strategy

Preserving the quality of the coffee beans before roasting is essential for Illy Caffè. More than any other agricultural product, coffee is subject to a large number of quality controls to produce the best final product.

After purchase, the coffee is put in jute bags of 60 kg, branded Illy Caffè and shipped as fast as possible to Trieste, Italy. During transport, precautions are taken to get the coffee beans to the best conditions. Once they arrive, they are subjected to new quality controls using an automated system and performing equipment. Once the coffee beans have been taken out of the bag, they are placed on a vibrating screen that has the purpose of separating coffee beans from foreign bodies. A vacuum cleaner removes small, light impurities while a magnet removes the metal. At this moment the green coffee is stored in silos.

The last selection consists of "taking pictures" of each coffee bean in order to remove those that do not meet the color standards - a clue that the pot is not ripe or is fermented, does not smell good, things that can compromise the whole harvest. With this equipment each bean is inspected. Illy Caffè believes that this level of verification is essential for coffee beans and is one of the methodologies used exclusively by Illy Caffè to pursue the goal of "zero defects".

Strategy by certification

The quality of Illy Caffè coffee is guaranteed by many certifications and the implementation of many standards (ISO 9001: 2008 - Illy Caffè was the first coffee company in Europe to receive this certification in 1996 for its high-quality production system, HACCP, BRC food certificate, IFS food certificate, etc.).

Environmental strategy

Conservation of ecosystems and environmental management are part of Illy Caffè's sustainability practices. In addition to developing and promoting green cultivation practices, Illy Caffè aims to reduce the environmental impact of the entire production process (www.illy.com).

It is well known that organic products are often bought not only for environmental motives, but also for personal reasons, such as health or taste (Bălăşescu, 2016).

6. Conclusions and Discussions

Product quality is a strong element in market economy and fierce competition, both for the producer and for the consumer: for the producer the market share will increase and for the consumer will increase the confidence in the purchased product / service, will ensure the satisfaction of its needs.

At present, coffee is one of the world's leading export commodities, the most important coffee markets being New York and London. Focusing on the coffee market in Romania, one of the lowest coffee consumption rates in Europe is registered. The coffee market in Romania is divided into two parts: the types of coffee purchased for home consumption and the type of premium coffee that mainly caters to customers in cafes, bars and restaurants.

The main quality strategies approached by the coffee market companies are represented by differentiation strategy and innovation strategy.

In terms of coffee quality certification, the most known and important certifications for coffee are: Rainforest Alliance, USDA Organic, Fairtrade International and UTZ Certified. The coffee crop certification system has emerged and developed as an absolute necessity both for protecting farmers and for preserving biodiversity and developing on the sustainability criteria of the regions where the green coffee beans come from.

Illy Caffè Company has over 80 years of experience in quality, aesthetics and culture. This company is a leading model on the coffee market through its business approach. It complies with standards ranging from grain processing to the finished product. IllyCaffè is associated with three out of seven major coffee innovations over the past 100 years: pressurization, easy-serving-espresso and Iletta (the first automatic coffee machine to replace steam compressed air).

Illy Caffè has set its own standards from the very first day, with passion for quality, technology, producer support, education, and excellence in general, and it is an example to follow.

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