

# THE IMPLICATIONS OF THE ENVIRONMENTAL MARKETING FACTORS WITHIN THE LIGHTING SOURCES AND FIXTURES MARKET

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## *Abstract:*

*Every company functionality is influenced by the environment in which they operate. In the present economical environment, the enterprise cannot survive in a market based on competition without continuously struggling to keep informed about the surroundings. The aim of this paper is to identify at the right time the new opportunities of development and also the threats which may compromise the company's results or, even worse, may put the company in a difficult position. This research is important for the development of the enterprise's strategies. The analysis of the marketing environment varies according to the field of the enterprise's activity. Therefore, this article is a case study that examines the influence of environmental factors on the lighting sources and fixtures market (LSF). The originality and quality of the case stem from the attempt to analyze a dynamic field characterized by the buyers' change of preferences and their receptivity to what is new, which requires increased consideration for the influence of environmental factors. The challenges of analyzing this domain consist of the transformations that take place with the new lighting technologies proposed by manufacturers to meet the users' preferences. This review is relevant to the LSF market, but it can also be extended to other related fields.*

*Keywords: marketing environment, analysis, environmental factors, influence, lighting sources and fixtures market*

## **1. Introduction**

The analysis of the enterprise's marketing environment is complex: it contains multiple issues that the company is not always able to fix (especially the components of its macroenvironment). Other components of the external environment can directly influence the enterprise (factors that make up its microenvironment). Business, decisions and undertaking actions depend on its internal environment. However, the potential cannot be exploited without undertaking a continuous research of the environment.

The purpose of this article is to analyze the environmental impact of marketing on the lighting sources and fixtures (LSF) market, a field that has recently generated worldwide concerns for reducing energy consumption and carbon dioxide emissions generated by

the use of these products and for increasing the users' safety on illuminated sources operation. At the same time, more people are becoming more concerned about increasing the quality of light emitted by light sources to protect human health, since human activities are influenced by the lighting quality, as several studies have shown.

The paper's final aim is to develop proposals for the companies participating in this market.

## **2. Research methodology**

The current paper is a **case study** which connects the relevant theory, gathered from representative works for the marketing literature, with the practice from a current and important field for a country's economy. Through this case study we analyzed the current situation on the LSF market and the influences from

the marketing environment on the activity of the participants within this market.

**Our own contributions** are the analysis and the interpretation of these influences, by making some recommendations of counteracting the threats and capitalizing the benefits and creating the premises for the managers of the firms participating in this study case to take the best decisions for the development of their businesses or activities.

**The case study's array of problems** refers both to the macroeconomic analysis and the microeconomic one. Through the permanent analysis of the environment we can avoid other issues and we can capitalize the opportunities. The component elements of the problems concern the marketing environment's components.

This case study sets out to attract the attention of practitioners from the analyzed field to diminish the uncertainty degree, to anticipate and prevent some influences that will inevitably take place in the marketing environment.

**The case study's usefulness** rests in the contribution to the decision making for founding the strategies towards the managers of the firms within the LSF field for a better client servicing.

The proposed **solutions** for the analyzed problems are not unique. They depend on the nature of the participants within the market and the strategy employed by each participant. However, the suggested solutions should be transposed in practice so that each participant can fix their issues or deficiencies and improve their activity as a consequence of the signaled influences, as well as creating some collaboration connections, or even partnerships with the other participants.

**The study's limits:** There are, of course, other ways to approach these problems and to analyze the results, depending upon the researcher's vision and experience. This case study was carried out by gathering, processing and

analyzing relevant and especially qualitative information.

Despite all its limitations, we opted for the case study method because we wanted to study **problems with all their complexities**, without taking out of context any variables, like it sometimes happens with the quantitative researches, since all the context details are particularly important for the studied field.

### 3. The influence of the marketing macro-environment on the LSF market

The whole perspective of forces and factors beyond the company's marketing environment will be analyzed at the beginning of this study. All the members of the company together with the external forces which may influence the development or the sustenance of the present exchanges compose the company's environmental marketing (Kotler and Dubois, 1992). The influences exerted on a LSF producing enterprise by its external environment factors and forces may be either beneficial or dangerous and threatening. The external environment is divided into the company's marketing macroenvironment and microenvironment.

The macroenvironmental influences have a significant impact on the business activity, but it can only control or change this influence in order to monitor the situation and be prepared for any potential changes. The main components of macroenvironment and their influence are analyzed below.

#### • Demographic environment

The population is the main direct carrier of request (Ristea, Ioan-Franc et al, 2002). *Age structure* affects the LSF request as adults are the ones who decide to purchase these products. The size and structure of the family, especially *the size and number of homes* directly determine the size of the request. There is a close connection between the real estate market and the LSF market. For example, the increase of the demand for housing implies an increase of the demand for LSF endowments. Also, the

trend of the increasing divorce rate, resulting in families with fewer members influence the purchasing behavior of LSF, since there will be fewer people involved in the decision to purchase LSF, which makes it easier for the producer, to know the decision making-acquisition mechanism of the end user. The *downward trend in the birth rate* (both at a national and European level) represents a threat and will act on long-term as restricting the total market.

Another indicator to be taken into account in the analysis of this market is *the education level of the population* (Ristea, Ioan-Franc et al, 2010). The more educated the population is, the more easy it is to decide on the advantages and technical characteristics of LSF. For example, although saver lamps are designed to reduce energy consumption, the light released by them is very tiring. Recent statistics (www.insee.ro) show a low level of education for the whole Romanian population (within the European Union Romania has the lowest percentage of people who have a high education; there is also a high increase in the illiteracy rate and school dropout). The level of education determines the level of information about the specifications and features of the products and the degree of receptivity to new products and technologies as well.

#### • **Technological environment**

In the lighting market, the technological environment is highly dynamic. Thus, new technologies can lead to market opportunities that can be exploited by manufacturers as a market demand (Anghel și Petrescu, 2002; Pop și Dumitru, 2001).

The technological developments triggered inventions and innovations as a result of research and development activities. Recent researches in the U.S. laboratories (one of these laboratories is the Lighting Design Lab in Seattle, information obtained from the study: Commercial and Industrial Lighting Study, 2000) have discovered new technologies in daylighting. But their application depends on the knowledge of the

existence of these technologies and the level of the users' and the prescribers' receptivity to what is new in the market (it refers to designers, installers, architects).

**The positive effects of the technological environment** (Hill și O'Sullivan, 1997) on a company inside the LSF area may be:

- *creating new ways to meet consumer needs.* Electric filament lamps (classic bulbs) used to provide partial solutions for the customers' needs, meaning they lighted a room, but they were unattractive and polluting. New technologies have spotlights, LEDs, and other products more effective and aesthetic that better satisfy the consumer's needs;

- *identification of latent needs.* Occasionally, new technologies allow satisfying certain needs (which were never even recognized). New LSF do not only light rooms or streets, but are designed to provide a luminous intensity so that they don't strain the eyes;

- *the technologic environment can help find new customers.* Sometimes, new technologies enable companies to service new segments of consumers who previously did not have sufficient potential for a profitable transaction or with whom it was physically impossible to achieve this transaction. New lighting technologies, as well as others from different fields have enabled the creation of light industrial products, which are the components of other products such as cars, refrigerators, etc.

- *changing patterns of demand.* New technologies can lead to lifestyle changes and to the change of the associated request model. The trend is to exploit the natural potential (i.e. in the energy field, alternative sources are developed such as wind and solar energy, like in the lighting field, daylight has the most benefits);

- *the change in the nature of the competition inside an industry.* Consumers / users are not interested in artificial boundaries between industries. They want the best products and services that meet their needs and it is possible

that new technologies arise in industries which are not related to the analyzed technology (i.e. UV lamps used in artificial tanning may affect the competition between entertainment offers and leisure time).

- *increased efficiency of marketing.*

By using new technologies, the companies are able to improve the efficiency with which they serve customers not only by reducing costs, but also by winning new customers by offering better services than the competitors.

The most important negative effect generated by the technological development is the increasing pollution (Ristea, Ioan-Franc et al, 2010). Technological environment must be analyzed in close correlation with the technological endowment of the country or the region analyzed. The degree of population supplied with durable goods, electrical and electronic appliances directly influence the market size lighting.

• **The economic environment**

Closely examined together with the demographic environment, the economic environment provides the necessary elements for a *better assessment* of the market potential which the company can rely on (Balaure, Bălan et al, 2002). It has components that influence the structure of the demand carriers (Kotler si Armstrong, 2003). Consumers are important for the enterprise, because personal consumption is between one-half and two-thirds of GDP. If the consumers' incomes increase, according to Engel's laws, the share of expenditures for the purchase of food decreases, the household spending remains relatively constant, and expenditures with other destinations, as well as the economies', grow. The statistics of the last years (www.insse.ro) show a decrease in the purchasing power and an increase in the share of expenditures for food and also a reduction in food expenditures for goods and services. This represents a threat for LSF bidders on the Romanian market. Also, the policy of granting consumption

credits which encouraged until 2007-2008 the housing redevelopment, positively influenced the level of electrical equipment purchases up to that time. However, since October 2008 until present time (at the same time with the global economic crisis), we witnessed a reduction in the consumption of goods, a limitation of credits, a total market collapse of lighting.

• **Political and legislative environment**

It includes the governmental and legal system in which the business operates (Ristea, Ioan-Franc et al, 2004). The government exercises its influence over the company by the legislation which it promoted and aims mainly at consumers' protection, the protection of the society and of the competition (Hill and O'Sullyvan, 1997).

*The legislation of the European consumers' protection* related to the purchase and use of lighting products can be analyzed on the following levels:

- Consumers should be informed (new regulations require the manufacturer to provide information for the consumers) about the technical characteristics of the lighting products;
- Consumers' protection against counterfeiting;
- Legislation concerning the use of dangerous and high risk products.

As for the competition, the legislation limits achieving mergers and monopolistic practices that distort and annihilate free competition. Thus, in the distribution area, if the basis of a vertical marketing system is started, we should pursue it so that it does not infringe the competition law. It also covers the protection of competition and supports the producers who practice an innovative strategy for maintaining a competitive advantage due to the originality of products and their manufacturing technologies. It is about the law of patents, trademarks, copyright.

The protection of society is achieved through regulations that protect the interests of the society as a whole. An important role is given to the legislation concerning environmental protection by

implementing the European Directive that prohibits the sale of inefficient light sources in terms of energy. Also, new regulations on the recycling of electrical products require the trader's obligation to collect old products for recycling from customers. Thus, these products are not thrown in the bin by the users, since they have the obligation to sort them and consequently reduce the level of pollution. Companies such as ELC Lamps, Recolamp have been established to manage lighting equipment, whose role is to assume the responsibilities of collection and recycling the lighting equipment manufacturers.

• **The socio-cultural environment**

It includes attitudes, values, customs, traditions, beliefs and norms that govern people's social status (Kotler and Armstrong, 2003). Based on these components, among other things both the purchase and the consumption behavior are formed, which the company will have to take into account (Danciu, 2001). Moreover, the cultural elements sometimes involve a decisive role in the delimitation of the market segments, shaping a certain type of buyers (i.e. consumer segments more or less responsive to innovations in lighting).

The cultural environment also contributes to the expression of a specific market requirement, which conditions both the kind of the products and their manner of distribution and the content and form of the company communication with the market, of the messages sent on the market. In this sense, we can exemplify that the Egyptians are very attentive to the quality of products (especially those imported) and they accept only those that have ISO 9001 quality certification.

Other socio-cultural factors that determine the structure and demand application are related to:

- The purchasing decision mechanism in different cultures (that means, the head of the family in terms of supply and necessary household goods). In Romania this role is often held by a man, the main influence, because he has

more knowledge and technical skills towards the other family members, which enables him to take the responsibility more easily for making decisions related to the purchase and/or replacement of equipment in general and special in lighting. However, the actual purchase of products is done to a greater extent by women than by men;

- Reference groups and especially models represented by personalities from different fields (art, politics, sport, theater, film, media, etc.). These are factors with a strong multiplier effect, real prescribers in the business world;

- Near consumption behaviors (lifestyles tend to gradually harmonize), this is reflected in the tendency of spreading the same lighting technologies through the use of similar products.

One of the trends manifested in the global economy is *the increase of pollution*. This threatens the whole environment, having multiple negative effects on the entire living space of mankind. In the last years both worldwide and inside many companies, there has been noticed a trend towards a greater social responsibility. This ecological orientation must be manifested through public awareness and a greater focus on the technological domain. The LSF should be designed to generate minimal effects of pollution and heat. Also, in the whole world there is the propensity to save energy.

• **The natural environment**

The increasing of the energy cost determines the users to move towards lighting sources with low energy consumption.

• **The international environment**

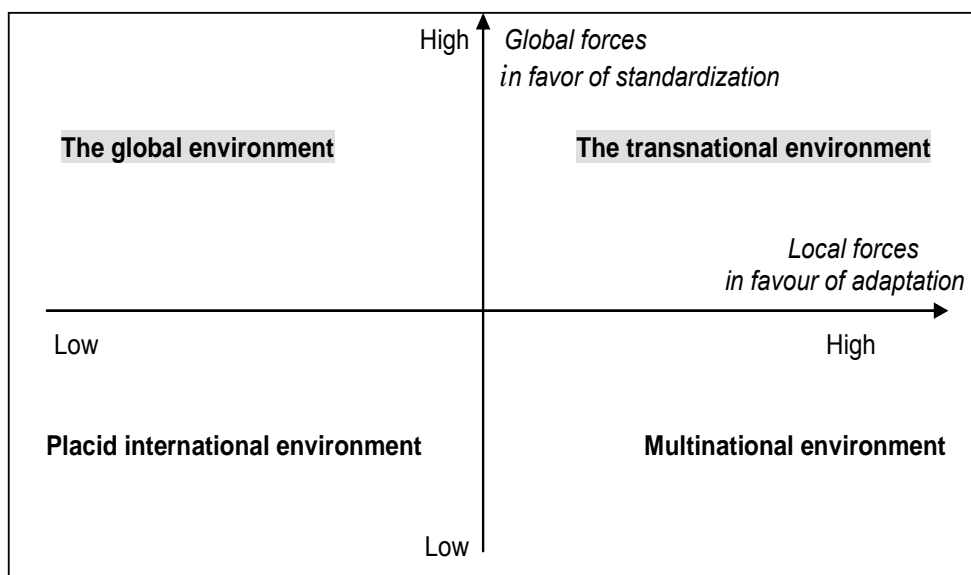
The international environment includes developments in the international markets that have the potential to influence the management of its business undertaking (Danciu, 2001). Companies are forced to operate in an environment characterized by a flare of competition on the background of an economic and social turbulence. Globalization creates interdependencies between different national markets. More and more markets

cannot be considered separate and distinct, but a whole. In this context of increasing internationalization of the world economy, there is a necessity for any business to know how to organize themselves to face the global market, depending on the international media. From this perspective, Goshal and Nohra (1993) propose to analyze the international environment by referring to two dimensions (Lambin, 1999):

- **Global forces** (potential behavior, economies of scale, competition, etc.) which push towards standardization;

- **Local forces** (the diversity of cultures and local regulations, peculiarities of distribution networks, etc.) that militate in favor of adapting to local features.

The two dimensions can have a high or a low level, allowing the construction of a matrix that defines four types of international environment (Figure 1).



**Figure 1. The analysis of the international environment**

Source: Lambin J.-J., 1999, p. 58

Each of the four types of international environment requires specific ways of organizing. For a manufacturing company of sources and luminaires, both global and transnational environment represent the basis of the company activity, namely:

- a global organization (in terms of centralization of responsibilities) in a global environment where the forces pushing toward standardization are strong and are not offset by local forces; it is the case of high-tech sectors, where local features are absent or less efficacious;

- an organization with a certain degree of centralization or coordination,

as well as maintaining strong local organizations, a typical situation for the transnational environmental, where there is a great pressure for standardization and local forces are also present; it is appropriated to some marks (LSF) presented in many other countries (i.e. Philips, Osram, etc.).

The analyzed products (sources and luminaires) have high standards, but they can adapt to certain specific requirements from a region (i.e. a local market).

#### 4. The influence of the factors of the micromarketing environment within the LSF market

The company may exercise a certain influence and even a certain control over its microenvironment, (Anghel and Petrescu, 2002; Ristea, Ioan-Franc et al, 2010). The factors that take part in the company's microenvironment and their influence on the organization of work are presented below.

##### • The customers

They are the most important component of the microenvironment. The study of the needs (it is about *the need of light in this domain*), the forms of the demand (*preference and purchase of certain LSF*), both purchase and consumption behavior (the most important buying criteria - based on price or quality, preference in choosing the point of purchase - large commercial area, shop, etc..) all allow, on the one hand, a better adjustment of supply by creating conditions for intensive development of business, and on the other hand, they attract relative non-consumers and customers of other companies.

The customers of a manufacturing company of LSF may be grouped in the following categories:

- *Industrial users* - buying goods to reintroduce them into the productive cycle (for example, an automobile manufacturer acquiring lighting sources that will later be part of the final product) or performing his activities;

- *Distributors* - purchased for resale;

- *Households* - buy for their own consumption (population);

- *Public institutions* - purchase goods they need to ensure their tasks (i.e. Municipalities acquiring bright ornaments during the holidays for the citizens);

- *Service providers* - buying for their activity.

##### • Suppliers

They can be companies or individuals. They provide resources for the production of goods or services. They are divided into three categories:

- *Suppliers of material goods* (raw materials, equipment, etc.) provide the basics in making products;

- *Service providers* - ensure a wide range of services necessary to fulfill the objects of the company (marketing consultancy, auditing, or in the case of industrial enterprises, consulting in the implementation of a quality system);

- *Labor providers* are mainly schools, labor offices, and people looking for jobs.

##### • Intermediaries

They are companies involved in the distribution, sale or promotion of LSF by the end user. They can be (Ristea, Ioan-Franc et al, 2010) commercial intermediaries (wholesalers and retailers), intermediate auxiliaries (transport companies, banks, etc.) that facilitate the distribution, but also marketing service agencies (advertisers, public relations, consulting agencies, etc.). Intermediaries can influence the purchase (acquisition) of LSF according to their degree of involvement in the provision of products and services by familiarizing the users with these proposed products. Intermediaries contribute to get in touch with customers, to promote products and to inform the manufacturer about new market trends.

##### • Competitors

They are companies that can provide rival products and services designed to meet the customers' needs, and in many cases compete for the same suppliers or service providers. The competitive environment consists not only of companies that manufacture the same product.

Kotler and Dubois (1992) identify four types of competition:

- Competition regarding *the solution we choose to satisfy a need* (for example, improved lighting quality);

- *Generic competition* (How will the lighting be: natural, artificial, or combined?)

- *Competition regarding the product* (What products are bought? For example electric halogen lamp, fluorescent or LED-light emitting diode);

- *Brand competition* (What brand is bought? For example: Philips, Osram, etc.).

In setting apart the offer of a company from that of its competitors, we aim at getting significant differences in order to distinguish the offer and to individualize it. Differentiation involves certain costs for the enterprise, but also certain advantages to users.

The company must carefully choose how it intends to distinguish itself from its competitors. These differences are effective to the extent that they meet a number of criteria such as: the differences correspond to some advantages appreciated by the users, they are superior to other ways of achieving the same advantages, they can be communicated to the users, they are a novelty, and their costs are effective.

The variables, according to which a producer of LSF can achieve positioning strategy, may be: product quality, wide variety, prices of products, and services for users. The company's position must be based on determining the place of supply of each product in the range.

( Different audiences

They represent those entities that may affect the business activity in certain situations and conditions (Kotler and Dubois, 1992). Among them:

- Groups of interest: they represent consumer associations, environment protection groups and other groups of this type. They aim to promote the interests of consumers by determining the government to introduce appropriate legislation for this objective; for the LSF, interest groups aim at developing and implementing clean technologies which provide the users safe operation of such products;

- The general public (or rather the public opinion) can have a major impact on the market success of products and services of an enterprise. Therefore, it is very important to obtain a favorable attitude towards citizens through various actions, such as charities or those who advise consumers on how the products or services may be more judiciously used;

- The internal public of the enterprise consists of its own personnel that needs to become a real vector for a favorable image of the company. This is achieved through a strategy of informing and motivating the staff, and creating an atmosphere of conviviality, encouraging creativity.

## 5. The influence of the internal environment on the market LSF

An efficient business enterprise is necessarily based on its internal resources and their synergistic operation. The internal environment consists of resources and the company disposes of them to fulfill its mission, namely: material, financial and human resources. These resources differently influence the activity of the manufacturing enterprises according to the share of the business and to the company mission.

- **Human resources.** The staff's skills and experience have a positive influence on LSF buyers. We refer both to the staff production company who must provide a certain quality standard of LSF and the sales staff (present both in the business to business market - sales force or company representatives and sales staff located in retail trade). Courtesy, knowledge, professionalism and promptitude are key factors for the success of this business.

- **Organizational culture** (the system of values, beliefs and norms) can have a positive impact on the effectiveness of the internal environment for supporting business objectives and it is deeply internalized among staff.

- **The financial resources** determine the volume and the structure of the production, staff motivation, the marketing mix of the company.

- **The technologies, information and the ability of the entrepreneur** represent other internal factors for the success of the enterprise.

The company has a high potential when there is a balance between the four fundamental abilities, namely: productive capacity (technical skills, means of production), financial capacity (availability



of capital, cash flow), organizational capacity (management visionary, persons involved) and trade capacity (company reputation, market share, quality of products and services provided, efficiency innovation, etc.).

## 6. The case study's main results

After analyzing the marketing environment within the LSF market we can note the following results which can be taken into consideration by the participants for developing their activity:

- the LSF field is strongly influenced by the construction field and it must be studied in close connection with it, especially concerning home arrangements;
- at a global level, there is an ever increasing care for protecting the environment, by using environment friendly light fixtures and taking measures for recycling electric products;
- new technologies for using natural light have been discovered and they are used more often;
- on this market there are different types of clients who should be approached through different strategies, depending on their nature;
- the users are becoming more informed and preoccupied with their safety and well-being and are starting to opt for products that consume low energy, that are ecologic and qualitative so that they don't strain the eyes;
- at the same time, the users should be informed by the advertisers about the technical characteristics of the products; they should not be misled, especially since most of them are not specialists in this field;
- within the LSF market there are different types of competitors whose actions should be analyzed by the existing firms on the market, either to learn from their actions or to oppose them;
- we should not ignore the existence of different public categories present on the LSF market which influence the buying decision making.

## 7. Conclusions and recommendations

In order to enter and stay on a certain market, every company must take into consideration the environmental marketing influences over the relevant market. These influences can provide the enterprise both opportunities and challenges. What is important is that the company should investigate the environment and be responsive to the changes that occur.

In this article, we analyzed the main factors influencing the marketing environment (both external and internal) and their implications on the LSF market. We chose this domain because it is a dynamic, highly competitive field, resulting in continuous improvement of products by implementing new lighting technologies.

Nowadays, there are countless major global concerns regarding the adoption of new LSF to provide environmental protection, lower levels of pollution, safe operation of these products, etc. In this regard, **bidders are advised to be careful about the transformations that occur in the environment** and to counteract these changes through an active attitude manifested by continuous research about the environment, and especially invest in technological research of new intelligently green lighting systems.

Producing companies invest significant resources (material, financial and human) in environment researches to succeed in satisfying the LSF users. It is noted that users have increasingly more concerns about the environment, their safety and health. **It is recommended** that users should pay attention to the products on the market and learn about them.

In Romania, due to a fairly low purchasing power of the majority population, the LSF users tend to opt for or buy cheap lighting sources and pollutants (i.e. traditional bulbs that still can be sold). But there is a fairly narrow segment of users who are moving towards Hi-Tech innovative products.

**Users should be encouraged to switch to efficient lighting sources** from the point of view of the energy, even if they are more expensive. Thus, the user should be informed by the manufacturer, in collaboration with the distributor, both through the media and especially at the

sale point. The company must keep up with the changes that occur in the environment and with the new technologies and it should try to offer LSF at lower prices to become as accessible as possible for the users.

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