

CONTRIBUTIONS TO THE CONSTRUCTION AND DEVELOPMENT OF INTERDEPENDENCES BETWEEN ECOLOGICAL MARKETING AND THE MANAGEMENT OF SUSTAINABLE DEVELOPMENT

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ABSTRACT: The construction and development of interdependences between ecological marketing and the management of sustainable development is defined by dynamic, rapid and often unpredictable changes of the relations among them thus requiring managers the involve completely and immediately in the mechanism of sustainable development. A systematic study of these interdependences requires new scientific methods and techniques for the study of marketing problematics, its adaptation and implementation, as well as adopting marketing methods and techniques to the field of the management of sustainable development.

Keywords: ecological marketing, management of sustainable development, situational analysis, ecological marketing program, eco-industry market

1. ECOLOGICLA MARKETING – SUPPORTING INSTRUMENT FOR THE MANAGEMENT OF SUSTIANABLE DEVELOPMENT

Ecological marketing is a systematic research process that ultimately leads to the preliminary knowledge of the market for the management of sustainable development.

For any organization, the analysis of the sustainable development market requests a good knowledge of all factors the refer to actions of sustainable development, their organization and assurance, as well as the factors the accelerate or impede the managerial process of ecological marketing or the sustainable development.

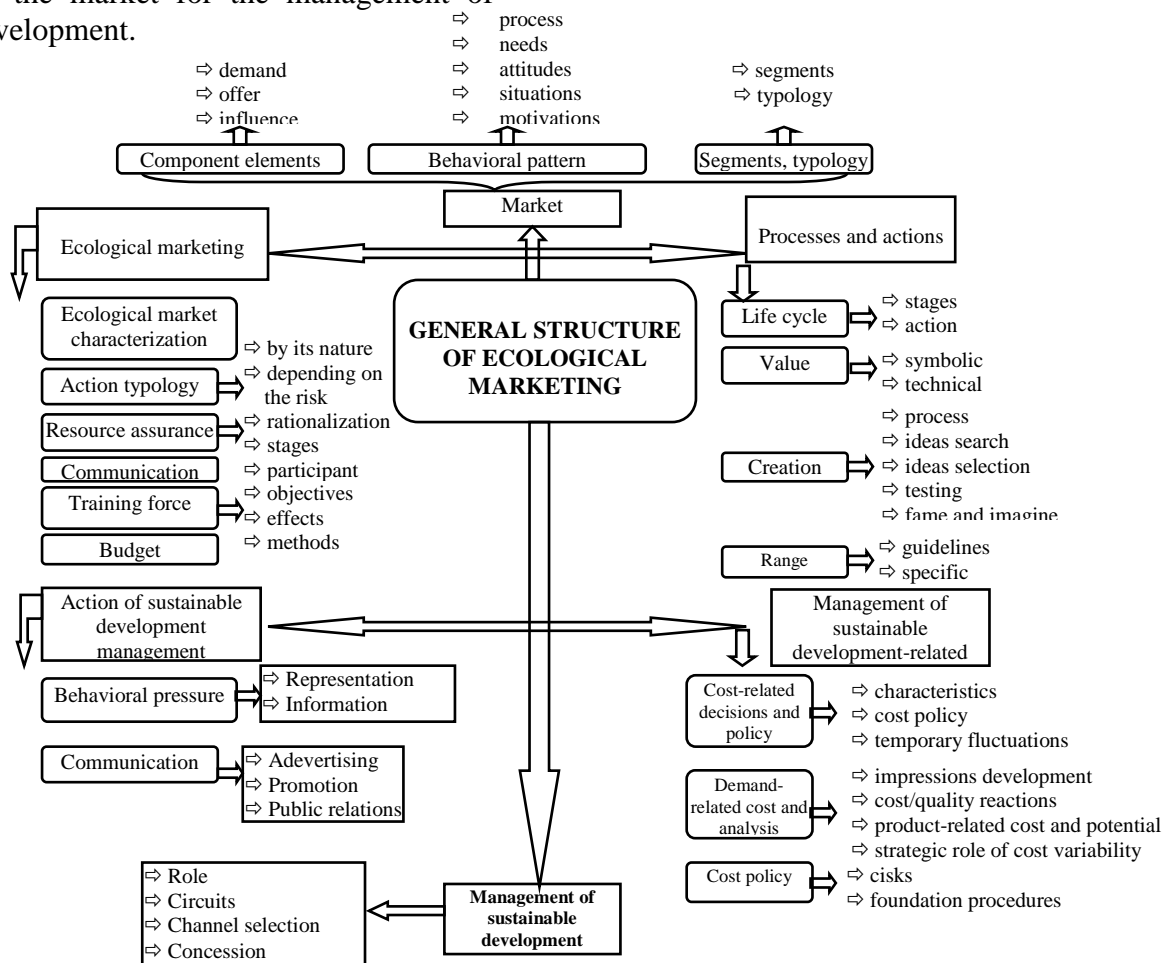


Figure 1. Main categories of processes in the interrelated structure between ecological marketing and the management of sustainable development

A more comprehensive perspective shows that ecological marketing deals with the study of uncertain attitudes in the context of imperfect, hard-to-control information, which involves risk taking in defining the objectives of ecological marketing program. Hence the necessity that marketing research in the field of sustainable development should provide proper, pertinent information, available in due time. The optimization of the process of information availability regarding various aspects of the sustainable development strategy, as well as its preliminary action might minimize the risk entailed by any improvement initiative in the field of the management of sustainable development.

As regards the complexity of the overall structure of ecological marketing in the field of sustainable development management (fig. 1), the relevance of ecological marketing as an effective supporting instrument requires an active stand of managers focused primarily on market study, as well as sustainable development of the methods of meeting the requirements for socio-economic development.

The use of ecological marketing in the process of increased effectiveness of the sustainable development actions requires:

- optimization of the process of sustainable development management;
- research organization and optimization;
- proper distribution of human, material and financial resources assigned to sustainable development
- A properly oriented strategy accompanied by accurate and through policies may synchronize the preoccupation of ecological marketing for increasing the effectiveness of the process of sustainable development management with the study of market and its specific needs and company adaptation to the context dynamics. Such a vision might ensure the organization the opportunity for continuous awareness of the market demands, sustainable development of its efficient adaptation and relation to its dynamics.

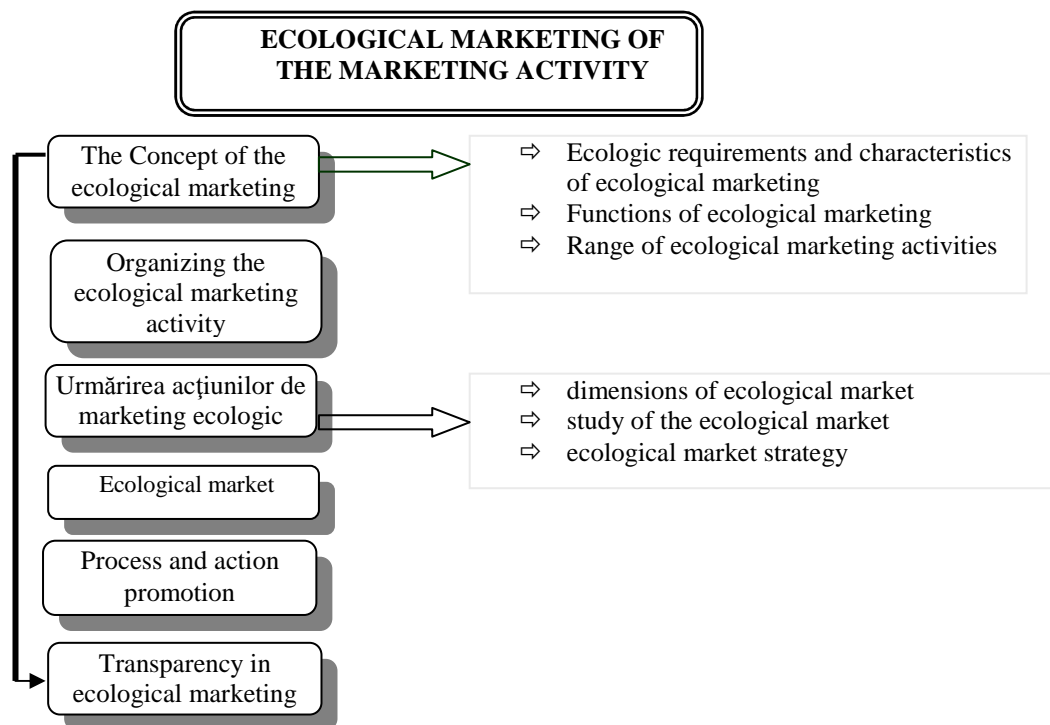


Figure 2. The Concept of the ecological marketing activity

2. INTEGRATING THE CONCEPT OF ECOLOGICAL MARKETING TO THE MANAGEMENT OF SUSTAINABLE DEVELOPMENT

An organization aiming for ecological marketing should integrate the marketing concept at all levels of the sustainable development process. In this respect, it is necessary to:

- plan and organize activities meant to contribute to the understanding and acknowledgment of the necessity to adapt marketing preoccupations to the specific requirement of the sustainable development market and the context of the sustainable development management;
- focusing practical activity towards meeting these requirements by means of assuring a proper organizational context;

- integrating the main communication flow to the field of ecological marketing and the management of sustainable development. The concept of ecological marketing (fig.2) includes the following characteristics:
- it represents a perspective of the organization and functioning of the environmental marketing activity;
- the management of sustainable development should be permanently adapted to the current and future requirements of citizens;
- it should meet the demands with maximum effectiveness;
- it signifies a new approach to the relations between organization and its environment;
- the operating activities, methods and techniques should be focused on the study of sustainable development actions;
- ecological marketing should be reflected in the management planning of sustainable development;
- the concept of ecological marketing should be understood by the chief executive officer and his team and further adopted as a fundamental principle in the practical activity of the organization staff, which highlights that the respective organization has acquired an interest for ecological marketing;
- it involves dynamism, generated by the movement and transformation of reform in the management of sustainable development, dealt from the present and future perspective alike, which entails the use of future strategies and predictions.

The above-mentioned considerations show that ecological marketing tackle a complex problem, focused especially on the clarification of major issues related to the ecological market policy as well as sustainable development of the company. The scientific, logical and comparative approach to the concept of ecological marketing, accompanied by its practical application might represent an important instrument for the improvement of activities aimed at sustainable development of organizations in keeping with the requirements of ecological market.

3. SITUATIONAL ANALYSIS AND ACTION ORGANIZATION IN THE MANAGEMENT OF SUSTAINABLE DEVELOPMENT

Situational analysis can be defined as a thorough study of the entire problematics of the management of ecological marketing undertaken in view of sustainable development of the organization. In this context, each matter or process related to ecological

marketing is divided into its components, and all the existing relations are studied. The next step is a synthesis of the resulted elements by means of a preliminary analysis. The use of analysis, followed by synthesis, is indispensable for the study and understanding of all complex phenomena and processes of ecological marketing.

Situational analysis aims primarily at an assessment of the previous activity of the company, definition of merits and demerits, highlighting their causes, identification of the competencies of the managerial team and organization staff involved in ecological marketing.

Situational analysis demands the following:

- each individual or group of questions should be answered;
- each answer should include:
 - explanations regarding the essence of each problem;
 - prospective actions;
 - unseized opportunities
 - potentially occurring situations
 - non-conformities and necessary changes;
 - constraints and consequent actions;
 - areas of concentrated effort

Situational analysis shall consider the diagram of the ecological marketing cycle that might be presented as follows:

- situational analysis:
 - the current situation of the company
 - prediction, i.e. managerial expectations from the current status of the ecological marketing process;
 - potential influences from the management of sustainable development.
- synthesis regarding the ecological marketing focused, primarily, on the following aspects:
 - identification of goals, i.e. managerial decisions regarding the adjustment of an improper situation presented in the field of ecological marketing;
 - assessment and evaluation of goals, emphasizing the reasons for their choice;
 - adopting the hierarchy decision for ecological marketing tasks, with special emphasis on those which can contribute to the accomplishment of the fundamental purpose of the management marketing of sustainable development.
- strategic planning has three significant stages;
 - strategy definition, focusing on the methodology required for the attainment of

the fundamental goal, i.e. management of sustainable development;

- selection of strategy, including definition of the optimal solution and highlighting the efficiency factors and potential results that might be obtained;
- adopting decisions for setting forth the ecological marketing strategy.
- planning the ecological marketing strategy is a stage including the following steps:
 - defining the ecological marketing strategy, i.e. identification of future actions to be initiated and their accounting from the perspective of utility and effectiveness;
 - drafting the operational plan, designed to answer the following questions: who, what, when, where should the action take place in order to accomplish the ecological marketing strategy?
 - accomplishment of the operational plan;
- ecological marketing controlling which requires two significant trends:
 - collecting data regarding the results of the undertaken actions;
 - data assessment by means of their relation to the objectives of ecological marketing and primarily the fundamental objective.

On the basis of the situational analysis, measure for the implementation of ecological marketing shall be adopted, such as:

- prospective assessment of the ecological marketing;
- taking into account the status and possibilities in the management of sustainable development;
- drafting the overall strategy for sustainable development;
- correlation of the overall strategy with the ecological marketing strategy;
- accomplishing the system of contacting the participants to the management of sustainable development;
- organizing the section of ecological marketing in the framework of the department for the management of sustainable development;
- specialized training of the staff involved in the ecological marketing activity

The analysis of various actors present on the market requires, besides the situational analysis and the assessment of specific identifiable operators (consumers and non-consumers, competitors, suppliers, distributors), an analysis of the public authorities that should behave like a market trainer. According to the French Professor Claude Demeure,

in practice the organization should resort to a three-stage approach, in keeping with the major dimensions of marketing. [1]

The three-stage approach:

- A analytical
- B strategic
- C operational

A. Analytical approach:

- external organizational environment
 - competitors
 - customers
 - competitive products
- internal organizational environment
 - its products
 - its brands
 - its capabilities (production, investments and human)

B. Strategic approach:

- selecting the development strategy:
 - segmentation
 - targeting
 - positioning

C. Operational approach:

- purpose
 - defining the selected choices
 - drafting the marketing-mix plan;
 - practical: the marketing responsible (or the manager for sustainable development) shall develop an action plan for each management component of the sustainable development
 - drafting the action proper
 - cost identification
 - selecting an action network
 - forging communication
 - preparing an adapted activity
 - training the transparency force

4. MANAGERIAL COMPONENTS OF SUSTAINABLE DEVELOPMENT IN THE ECOLOGICAL MARKETING

The managerial process of ecological marketing represents a set of interventions that help the manager predict, organize, coordinate, decide and control the activity of the organization staff in view of accomplishing the sustainable development-related objectives.

Ecological marketing is a field of activity where various specialists meet for a single operation. The scope and intensity of the managerial process in ecological marketing is dependent on the managerial team.

The components of the managerial process of ecological marketing may be presented as follows:

- analyzing the ecological market opportunities
- segmentation of ecological market, as well as selection and positioning of market segments;
- drawing up the marketing mix of the management of sustainable development
- implementation of the ecological marketing measure, by means of competently designed and accomplished strategy, planning and control.

The ecological marketing program represents a written form of the organizational marketing strategy, including a minute presentation of all activities and stages that need to be accomplished, the decisions that need to be approached, the essence of certain steps undertaken for the attainment of the sustainable development objectives. The marketing program represents a highly significant instrument for the manager in view of pooling all efforts towards the same action trend, supervising all controllable factors and follow-up of the uncontrollable factor evolution.

The ecological marketing program should be characterized by flexibility. Hence, the necessity of drawing up the program on appropriate duration according to the general strategy sustainable development and its consequent continuous adaptation.

The requirements for effectiveness assurance of the ecological marketing program are:

- assurance of temporal stability
- coordinating the ecological marketing structure
- organizing the cooperation between the organizational chart of the company in accomplishing the objectives of ecological marketing and sustainable development
- minute shaping of the market and the goals for each ecological marketing
- assurance of the long-term capacity for sustainable development

The ecological marketing program includes:

- global strategy for sustainable development
- ecological marketing strategy, its place and role in the framework of global strategy for sustainable development
- main conclusions resulted from the situational analysis and the accompanying measures required
- prediction of the managerial process of the ecological marketing

- the goals of ecological marketing and specific procedures
- ecological marketing training addressed to the managerial team, the staff involved in the ecological marketing operations and the personnel committed to the accomplishment of the objectives of the management of sustainable development
- advertisement development
- definition of the coordinates of ecological marketing policy.

5. SELECTION AND ACCOMPLISHMENT OF GOALS IN THE MANAGEMENT MARKETING FOR SUSTAINABLE DEVELOPMENT

By its definition, the goal is a mental anticipation of the results pursued by the manager by means of actions. In relation to the management process applied to ecological marketing, the goal may be defined as a representation of the system status run by a manager at a certain moment, for a given period of time. In the first stage of the managerial process, the goal may be different. It might include several cycles of the ecological marketing process or various influencing acts, or it might aim at changing or adjusting each of these influencing acts.

The necessity and possibility of goal definition in the activity of ecological marketing are shaped by a great number of causality and influence factors:

- by means of goals, managers focus on significant fields and activities of ecological marketing;
- assurance of a more specific and thorough identification with the managerial goals for sustainable development undertaken by the organization
- requires the change in the type of activity and even the cessation of certain activities currently undergoing;
- removes the possibility of error occurrence

Characteristic features of the goals of ecological marketing:

- specificity and possibility of measurement
- assurance of the predictive perspective by temporal orientation of goals
- certainty of goal accomplishment and their connection to the increasing effectiveness of the ecological marketing activity
- the possibility of quick and effective adaptation to upcoming changes;

- observing the cycle of selection and implementation, as well as the accomplishment of goals

Various types of goals can be applied to ecological marketing:

- long-term perspective goals, that commonly aim a three-five year range;
- medium-term perspective goals, lasting for a year;
- operational goals, that may be monthly or every three months.

There are other types of goals available, besides the above-mentioned goals:

- fundamental goals, expressing essential goals that represent the foundation for the ecological marketing activities, closely connected with the strategy for sustainable development of the organizational marketing;
- functional goals adopted by the middle managers and which do not require systematic and frequent intervention from the chief executive officer;
- personal goals pursued by each employee in view of accomplishing the tasks assigned to him in the field of ecological marketing.

6. ECOLOGICAL MARKETING AND THE ECO-INDUSTRY MARKET

In view of a well-coordinated planning and combining of the marketing-related instruments (which mainly refer to the products sold by the company in order to meet the sustainable development requirements) it is necessary to make decisions regarding the identification of market opportunities, selection of company objectives, strategy selection and development, drawing up, applying and controlling a program. The strategy that needs to be shaped as a result of identifying a potentially successful market for the company starts from the premise of identifying a category of objectives that can be successfully met by the organization in keeping with the requirements of sustainable development, at a higher degree and cost-effective circumstances. The analysis of demand formative elements for certain actions or activities helps accomplish the identification of a favorable market of market niche (a market segment where a company may channel its main source of meeting needs). Identification of the market niche relies on the market segmentation [1]. Environmental management and the use of ecological marketing as a managerial instrument highlight and emphasize the requirement of ecological marketing knowledge as well as the

coordinates of the organization, mechanisms, regulations and trends that may occur throughout the market evolution. The ecological market can be defined as the totality of the potential relations in the managerial process for the ecological marketing activity, whereas its content is characterized by its two related categories, i.e. demand and offer.

6.1. Characteristic features of the ecological market

The market principles have influenced the reshaping of the sustainable development management. This influence can be noticed in the fact that we consider the beneficiaries as partners rather than users. Furthermore, let us mention some arguments in order to support our statement:

- unlike users, partners are empowered;
- users differ from partners since the latter may transfer their options somewhere else, which is not allowed to users
- from an effective perspective, partners have increasingly higher accomplishments compared to citizens-users, since the finality of the market is stronger;
- the difference between citizens and partners is further emphasized by the distinction between traditional management – whose aim is standardization and accuracy in the process of actions and activities – and the latest trends in the management of sustainable development marketing - relying on stimulating openness to the sustainable development needs;
- there are other differences in terms of statute, with direct typological consequences: state focused on sustainable development versus state „the keeper of stagnation” with all the inherent consequences for the sustainable development process.

According to the French professor, Daniel Durafour [1], in the marketing theory, the market is defined as follows:

- its position to the organization
 - upwards
 - downwards
- its expectations
 - temporal
 - current
 - potential
 - geographical
 - local
 - regional
 - national
 - international
 - global

- meeting the needs
- action
- beneficiaries

6.2. The eco-industry market

The ever stricter legislation in the field of environmental protection has triggered the emergence of a market for de-pollution procedures and equipment, that accompany the process of drawing up clean technologies; furthermore, the eco-industry market provides environmental services (quality measurement and control for the environmental factors; staff training) as well as the components of the management of sustainable development.

Eco-industry [2] may be defined as a strategic field contributing to the global industrial development and providing increased competitiveness for other fields of activity. Eco-industry incorporates goods and services able to measure, prevent, confine or control pollution.

The main providers of the eco-industry are the companies in the OECD member-states with over 90% of the global production and services (USA, Germany, Japan), whereas the governmental expenses entailed by promoting eco-industry in the respective countries adds up to 2 billion \$/year.

Between 1989-1995, the annual average rhythm of growth for the product and services in the field of environmental protection ranged from 3.4% to 13%, in the member-states of the European Union. Mention should be made that the new markets of equipment for environmental protection are not additional to the existing markets, instead they substitute them. There are already new companies, exclusively focused on environmental protection, completely dependent on the eco-industry market; in Germany, for instance, they represent 45% of the totality of companies registered after 1980.

According to certain studies performed by specialized companies, it is estimated that the following issues are likely to prevail in the European market in the field of the industry for environmental de-pollution

- controlled treatment and storage of dangerous wastes (solid waste and mud); in the year 2000 the market recorded over 7.6 billion \$, compared to 2.5 billion \$ in 1989;
- the treatment and controlled storage of dangerous wastes, de-pollution, thermal and biological treatment of wastes as prerequisites for the factories specialized in oil gasification, refining and distribution, material processing and

chemical factories. Between 1988-2000, the market recorded a turnover of 3.9 billion \$;

- de-polluting gas emissions from fixed sources, by separating powders into cyclon filters or electrostatic precipitation, especially for warm and aggressive gas (ceramic filters); combined treatment for powders and acid emissions, humid dechlorination of burnt gas, gas treatment during burning household waste; desulphurization and denitrification of gas by catalytic reduction method; catalytic incinerator, absorption and adsorption systems for volatile organic compound; biological treatment for unpleasant odour emissions;
- treatment for industrial liquid waste: anaerobic treatment in reactors and tertiary with membranes and ion changers. The European Union market spent 1.3 billion \$ in 200 compared to 0.5 billion \$ in 1989, for such systems.

According to statistics, the investment for modernizing production systems by means of clean technologies represents 1/5 of the total investment appropriated to pollutant treatment/annihilation and such funds are especially aimed at the highly polluting fields: chemical, extraction, siderurgy, etc.

The eco-industry turnover in Western Europe recorded an annual growth rhythm of 5.5% until 2000 and cca. 50% of the eco-industry market is represented by the purchasing of equipment for the treatment of wastes and wastewater.

New companies in the field of environmental protection have emerged, accompanied by the promotion of research and development activities, technical advancement and new employment opportunities.

The eco-industry market cannot evolve by itself, without the state intervention by means of incentives and constraints regarding environmental protection. This market has to be endorsed by the state and should include all segments: equipment, new non-polluting technologies, environmental services (consulting, information technology, maintenance control) as well as specialized training of the staff (environmental engineer).

The eco-industry market is characterized by:

- dependency on national policies for environmental protection and sustainable development;
- classification into primary sector („clean” technologies) and secondary (equipment market);

- dependency on public policy

Dependency on national policies for environmental protection and sustainable development represents a consequence of a certain specialization, founded on the existence of strict legislation applied to some fields. Thus, Germany is famous for its preoccupation for the treatment of wastewaters; Japan is well known for the air quality prevention and control; and the Netherlands for soil renewal.

The eco-industry market is divided into two different segments:

- primary sector requiring new technologies with higher performance than stipulated by the environmental legislation in force. These technologies rely on „prevention” rather than „remedy” and provide both ecological and economic advantages (diminishing specific consumption – accountable for the waste pollution). This is the market of „clean” or „integrated” technologies, with the internal recycling of wastes and capitalization of secondary products;
- secondary sector aiming at the adaptation of existing equipment to the new requirement for environmental legislation (requiring the availability of gas purifying systems, water treatment, etc.) As a rule of thumb, the secondary sector prevails over the primary one and has an uneven evolution, in keeping with the revision of environmental standards.

The demand for anti-polluting investment is cyclical, according to the life cycle of equipment and technologies. Most often, it only takes a few years to meet the standard quality values for the environmental factors, then the demand shall settle at the necessary replacement level.

There is also a dependency on public policy manifested as: taxes, fees, incentives, etc.

There are a number of factors that can influence the eco-industry market, such as:

- the level of economic development (GNP/inhabitant) and number of inhabitants/country;
- the level of pollutants (CO₂ emissions and the amount of industrial wastes);
- the volume of pollutants;
- technological output (expressed in used energetic intensity)

A preliminary conclusion of the studies performed on the correlations of these factors shows that rich countries are likely to spend more on de-pollution as

they earn more, therefore one can only speak of sustainable development from a certain level of the GNP.

In Romania, the total level of polluting emissions (amount of pollutant/inhabitant) is lower than the OECD countries; however, the pollution intensity (amount of pollutant emissions/1000 \$ - GNP) is 10-12 times higher than the majority of pollutants.

Further to the pressure of public opinion and the activity of ecological groups (NGO) E.U. consumers have started to take into account the environmental protection elements included in the product they are going to buy.

6.3. Current trends

Just like any other market, the ecological market is subject to the influence of current trends. Mention should be made of:

- education-economic interdependence which, in ecological marketing, is characterized by the fact that the management system for sustainable development has been more responsive to the social demand rather than the economic one;
- expansion of higher education, as a consequence of the situation that, given the current crisis that has affected organizations, massive lay-offs, reversal of traditional values, poor demand of the labour force for certain professions, all these have motivated large numbers of young people to continue their studies in hopes that higher qualification might facilitate their access to employment. Many young graduates consider postgraduate studies as the best choice to acquire both knowledge and prestige which might help them obtain the desired job. Likewise, young people that have previously chosen a specialization that is no longer in demand will chose another specialization, by attending undergraduate courses in a different specialization.
- internationalization of studies represents another trend, influenced by Western standards, especially community ones, in their attempt to make current structures more flexible, and it requires efforts of reorganizing Romanian companies. The opportunity for student and staff academic mobility, by means of various programs (Tempus, Socrates, etc.) due to the community policy, has proved to be highly beneficial. The ultimate goal of the great majority of these programs is to speed up trans-European exchanges. Certain fields have greater

chances in this enterprise (business administration, tourism, etc.)

6.4. Methods of studying the ecological market in the context of the management of sustainable development

The decision makers' option should aim at a powerful managerial policy in order to have greater influence on the ecological market and have a competitive edge. The ecological marketing decisions should influence the level and structure of demand, should shape the offer so as to capitalize the advantages provided by the organization, in view of effective activities. They should accurately measure the available capacities, the level of material, financial and human resources, in order to have a competitive edge.

In order to estimate the market positioning, the management of sustainable development may resort to the specific methodology of ecological marketing, i.e. market predictions, estimations of the demand potential and ecological product design.

Thus, one may calculate the potential capacity of an organization.

A company's potential may be expressed as a standard to be accomplished, in order to meet demand, whenever the marketing endeavors of the respective company supersede the competitors' efforts. Whenever the demand that needs to be met is closer to the higher limit, then the potential market becomes the actual market of the organization. Initially, the current demand should be estimated; furthermore, the future demand may also be subject to research.

Mathematical models may be used to estimate the total potential of the organization:

Let us consider that:

$$Q = N \times n \times c \quad [1]$$

where:

Q is total potential of the organization

N - total number of beneficiaries

n - average number of activities / clients

c - average cost / activity / beneficiaries

As regards demand, it is relevant both for the current demand as well as for the future one. Direct methods may be used, especially the random or successive investigation; or indirect methods based on estimation (considering the demand as the effect of some economic or demographic, phenomena, provided there is available information), or specific

analytical methods by means of statistical data that highlight previous evolution of demand and which are available in yearbooks, specialized journals, databases, etc. For instance, statistical analysis of demand might be accomplished by means of a regressive linear model, such as:

$$C = a + b_1X_1 + b_2X_2 + \dots + b_nX_n \quad [2]$$

where:

C is estimated value of demand

a, b - adjustment parameters

X_1, X_2, \dots, X_n - independent variables

The organizational offer may be classified according to various criteria, however it is essential to perform an accurate positioning of the company. Positioning should rely on the knowledge of the different customers perceptions of the organizational value and how they select from various offers. Therefore, the company should identify the differences in the approach to what the company and the competitors represent, identification accomplished in keeping with certain relevant criteria; furthermore, the company should effectively highlight to the targeted market its positive distinctive feature compared to the competition. Later on, the company may move on the stages of drawing up the policies of ecological marketing and the management of sustainable development.

7. CONCLUSIONS

The quick operation with actions targeted at the marketing accomplishment and presentation in the context of the management of sustainable development requires the use of modern scientific systems and methods, that are simultaneously flexible and adaptable to the requirements of sustainable development.

The acknowledgement of marketing as a permanent dimension on the management of sustainable development, with an essential contribution to the economic growth and improvement of life quality will enable managers to promote, enhance and accelerate the interdependencies between ecological marketing and the management of sustainable development, by resorting to innovation, change and creativity.

Given the present circumstances shaped by the knowledge-based society, greater emphasis should be placed on the social purpose and the responsibility of educational system in the creation and development of interdependences between ecological marketing and the management of

sustainable development. Education has a vital role in the development of ecological marketing and it also shapes ecological marketing. A renowned company will be aware that ecological marketing represents a fundamental component of the educational strategy. The essence of educational actions is to train the managerial team and the employees in view of assurance of sustainable development and ecological marketing.

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