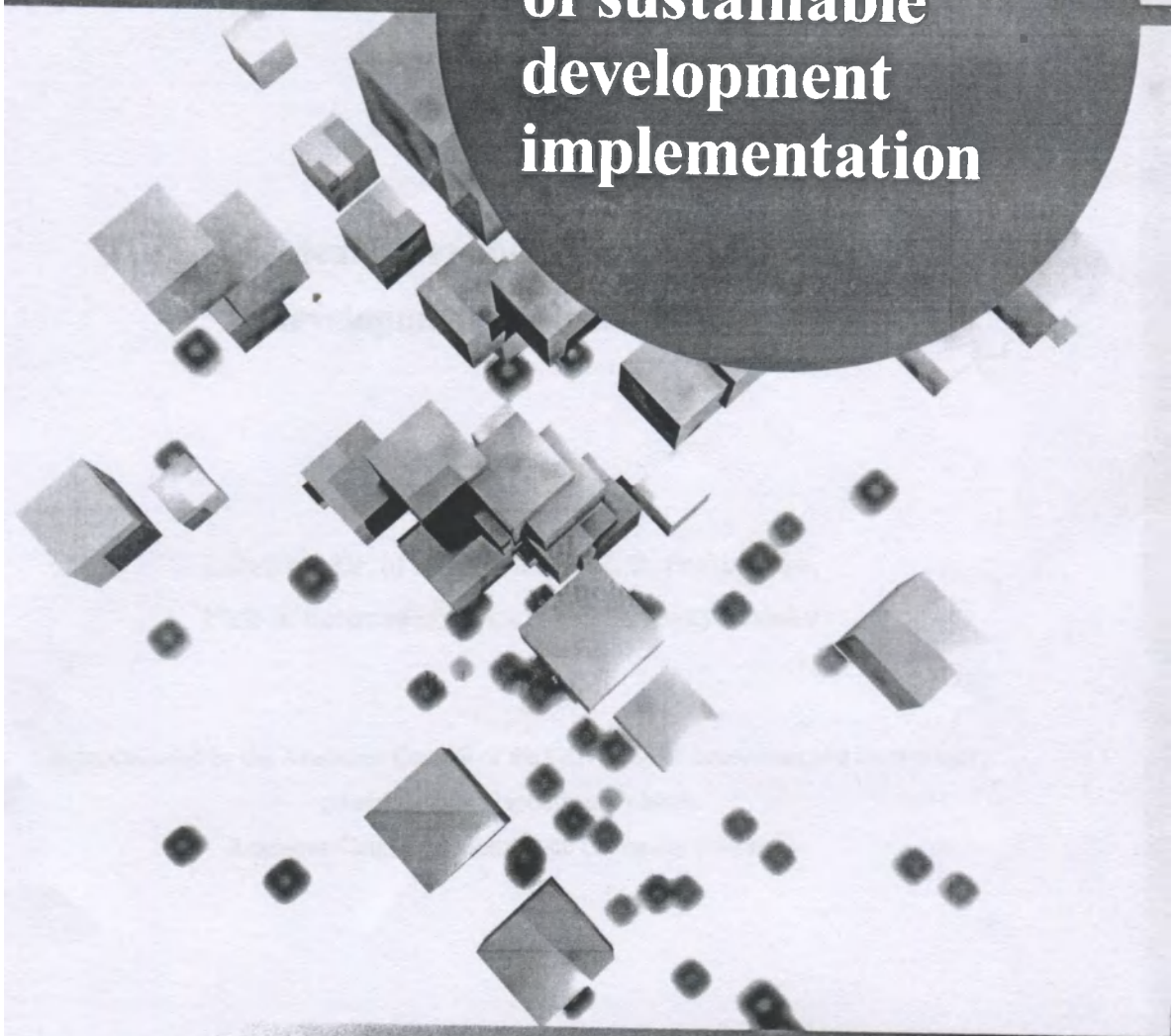
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Methodological bases and practice of sustainable development implementation



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The monograph deals with new approaches and urgent questions to create methodology of sustainable development. There is suggested usage of economic instruments for sustainable development on different management levels. Authors analyze and suggest scientific and methodological approaches to sustainable development. Special attention is paid to scientific and applied aspects of sustainable development into regional and territorial levels.

It can be useful for specialists on environmental economics, innovative management and marketing, business economics, regional development, macro-economic regulation, and also for lecturers, post-graduates and students of HEIs economic specialties.

W monografii zbadano aktualne kwestie tworzenia metodologii zrownowazonego rozwoju. Przeanalizowano glowne czynniki zrownowazonego rozwoju. Zasugerowano instrumenty ekonomiczne dla zrownowazonego rozwoju na roznvch szczeblach zarzadzania. Zaproponowano podejscie naukowo-metodyczne do zapewnienia zrownowazonego rozwoju. Szczegolna uwage zwraca się na naukowo-praktyczne aspekty zapewnienia zrownowazonego rozwoju na poziomie regionalnym i terytorialnym.

Adresatem wynikow badań są specjalisci w ekonomii srodowiska, regulacji makroekonomicznej, rozwoju regionalnego, ekonomii przedsiębiorstwa, innowacyjnego zarzadzania i marketingu, jak rowniez pracownicy naukowo-dydaktyczni i studenci dziedziny nauk ekonomicznych i dyscypliny nauk o zarzadzaniu.

У монографії досліджено актуальні питання формування методології сталого розвитку. Проаналзірovано основні чинники сталого розвитку. Розглянуто економічні інструменти забезпечення сталого розвитку на різних рівнях управління. Запропоновано науково-методичні підходи до забезпечення сталого розвитку. Особливу увагу приділено науково-прикладним аспектам забезпечення сталого розвитку в галузевому та територіальному розрізах.

Адресовано фахівцям з питань економіки природокористування, макроекономічного регулювання, регіонального розвитку, економіки підприємства, інноваційного менеджменту та маркетингу, а також науково-педагогічним працівникам, аспірантам і студентам галузі наук економічних і дисципліни наук про управління.

В монографии исследованы актуальные вопросы формирования методологии устойчивого развития. Проанализированы основные факторы устойчивого развития. Рассмотрены экономические инструменты обеспечения устойчивого развития на различных уровнях управления. Предложены научно-методические подходы к обеспечению устойчивого развития. Особое внимание уделено научно-прикладным аспектам обеспечения устойчивого развития в отраслевом и территориальном разрезах.

Адресовано специалистам по вопросам экономики природопользования, макроэкономического регулирования, регионального развития, экономики предприятия, инновационного менеджмента и маркетинга, а также научно-педагогическим работникам, аспирантам и студентам области экономических наук и дисцтплины наук об управлении.

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2.4 DEVELOPMENT OF ENVIRONMENTAL MARKETING STRATEGIES OF ENTERPRISES ON THE BASIS OF SUSTAINABLE DEVELOPMENT

Sales and marketing activities of industrial enterprises are undergoing changes caused by external and internal factors. The latter include: global trends of industry development; new social needs and environmental challenges; development of environmental awareness of population; dynamic change in rules of business and trade; increase of ecological crisis negative effect in all spheres of economic and social life; use of the term "sustainable development" in social and economic discussions; essential change of the control mechanism in the field of production [8].

These trends open up new prospects for industrial enterprises, sale of environmental products, for maintenance of already existing markets and opening of the new ones. Use of marketing techniques is advised to achieve the enumerated prospects.

The use of environmental marketing in industrial enterprises is to be provided according to the triune components of sustainable development: economic, environmental and social. An important role in this process belongs to environmental marketing strategies.

Development of environmental marketing strategies and modeling of ecological and economic strategic decisions is the final step in formation of environmental marketing system of industrial enterprises (Fig. 2.4).

This system is to be based on qualitative and transparent informational support. environmental marketing research, strategic and operational management of environmental marketing, marketing infrastructure [4, p. 239–243].

Main factors of successful functioning of the company environmental marketing system are as follows: national and international environmental policy (for example, international agreements, arrangements for development and protection of environment, etc.); legislation, standards, state regulations (such as environmental taxes, environmental regulations in resources use, reimbursement of environment damages, etc.); environmental certification of production; motivational tools (such as social and environmental advertising, environmental rating; environmental education, ecological culture, corporate standards and procurement rules).

Decisive commitment of top management to actions based on environmental marketing decisions is a prerequisite for development of effective environmental marketing strategies of enterprises. Thus, the role of environmental marketing is reduced to the following: consumer choice redirection, marketing mix refocusing, logistics system reorganization [1, p. 109].

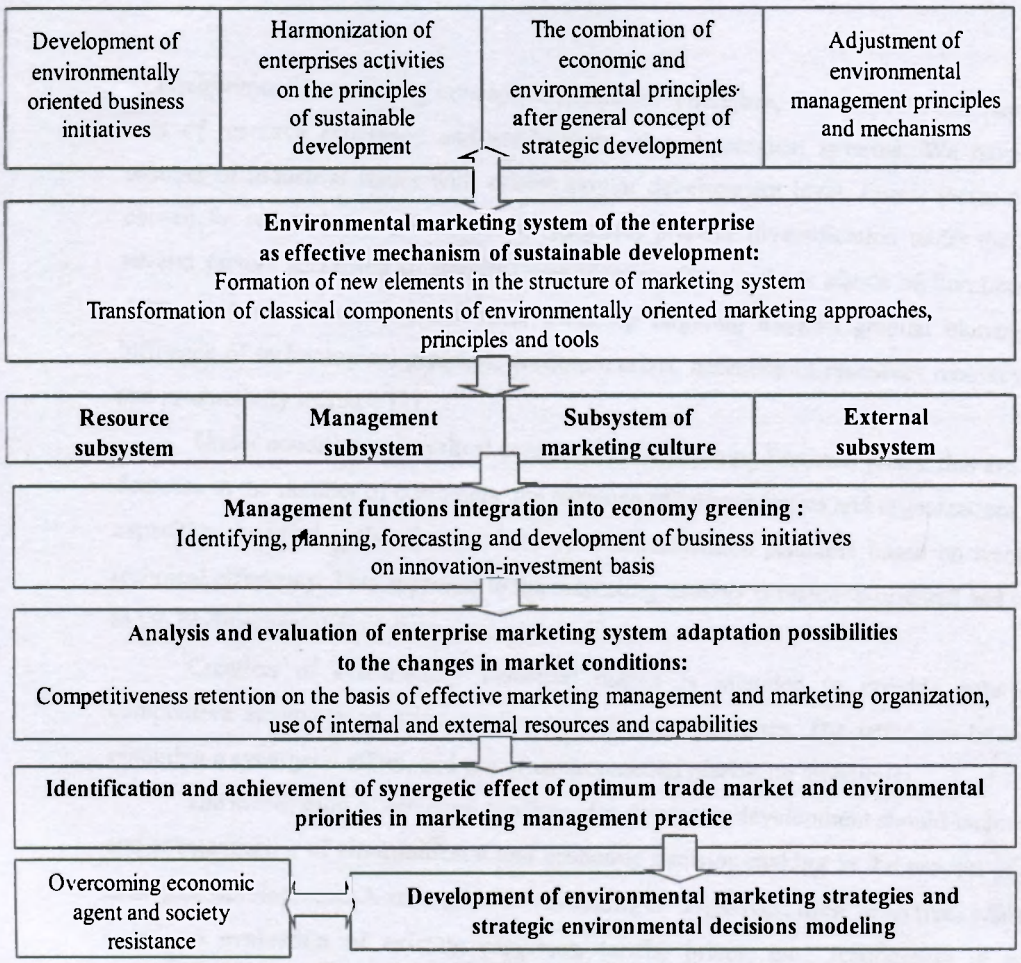


Figure 2.4 – Formation of environmental marketing system

[Author's adaptation based on 5; 6; 10]

Environmental marketing techniques are meant to facilitate mediation among market contact audience and enterprise partnership and communication. They are supposed to become a connecting link between production and market, the same as to integrate enterprise functions. Proposed sequence of environmental marketing system formation claims strategic modeling of ecological and economic decisions by following steps:

- to ensure effective transformation processes of industrial enterprises;
- to stimulate of new processes according to current and prospective requirements;
- to rise efficiency of the marketing potential components.

Managers today need to focus on the growth enterprises of the market value as well as being occupied with proper estimation of qualitative changes of internal and external conditions

of environmental marketing concept introduction. Therefore, it is important to pay attention to cost of resource efficiency and productivity of technological systems. We have analyzed a number of industrial issues with almost similar development level. Forest sector of Ukraine is chosen for research analysis. Chosen enterprises practice diversification under the influence of several factors according to standard classification. This reflects trends of European Economic Area companies marketing activities, including targeting markets gradual blurring under the influence of technological progress, economic crisis, necessity of resources recovery, efficiency and productivity increase [7].

Under conditions of cyclical economic and worsening financial crises, that are causing the decrease in the number of customers, the presence of intermediaries and organizations purchasing capacities, justified is the choice of the costs minimization principle based on resource use of technical efficiency. This approach to the marketing strategy is resource-oriented and corresponds to the environmental marketing concept priorities.

Creation of eco-friendly industrial output is intended to provide enterprises with competitive advantage in price, quality and core competencies. The latter can be achieved by obtaining a synergetic effect, and use of environmental marketing techniques.

The elaboration of effective strategies for enterprise development should include selection and substantiation of environmental and economic decision-making in the process of marketing strategies development. A strategy involves setting of objectives; these objectives achievement is based on evaluation of existing resources, tariffs, prices, etc.. Application of relationship marketing is considered as promising. It makes possible implementation of marketing research for homogeneous groups of enterprises in order to develop environmental strategies.

In regard to the aforesaid we consider appropriate to use cluster analysis in marketing for market segmentation, consumer buying behavior analysis, new product development, choice of test markets, etc. Western economists also use this method of analysis to identify groups of organizations with similar strategies within the same industry or to determine homogeneous groups by their development strategies. Developed countries' experience, namely Finland and Germany, proves efficiency of environmentally friendly companies or associations in overcoming distribution barriers.

Along with eligible for analysis enterprises, sampling cluster analysis was performed as follows: selection of analysis variables to define parameters of individual object characteristics, calculation of distances among the objects, definitions of cluster formation representative method and optimal number of clusters, validation of results. As mentioned above, the Ukrainian forest sector is chosen for analysis.

For data analysis were chosen inventories, fixed assets, assets and logical variables, which indicate their presence (1) or absence (0) in the enterprises using FSC certified raw materials and/or ISO 9001 certification of their quality management systems. At the beginning of 2011, the resource potential of nineteen (19) forest and wood-processing enterprises was analyzed. The analyzed companies have significant differences in their resource capabilities and asset structure [10].

The analysis was performed on the basis of the Ward method using hierarchical clustering, which relates to the agglomerative methods of dispersion cluster analysis in marketing by means of top down or bottom up structure.

The ward method helps to minimize clusters within-group sum of squared deviations and an accession of objects in clusters with minimal increase of within-group squared deviations sum. The dendrogram for hierarchical cluster analysis or clustering tree is shown in Fig. 2.5.

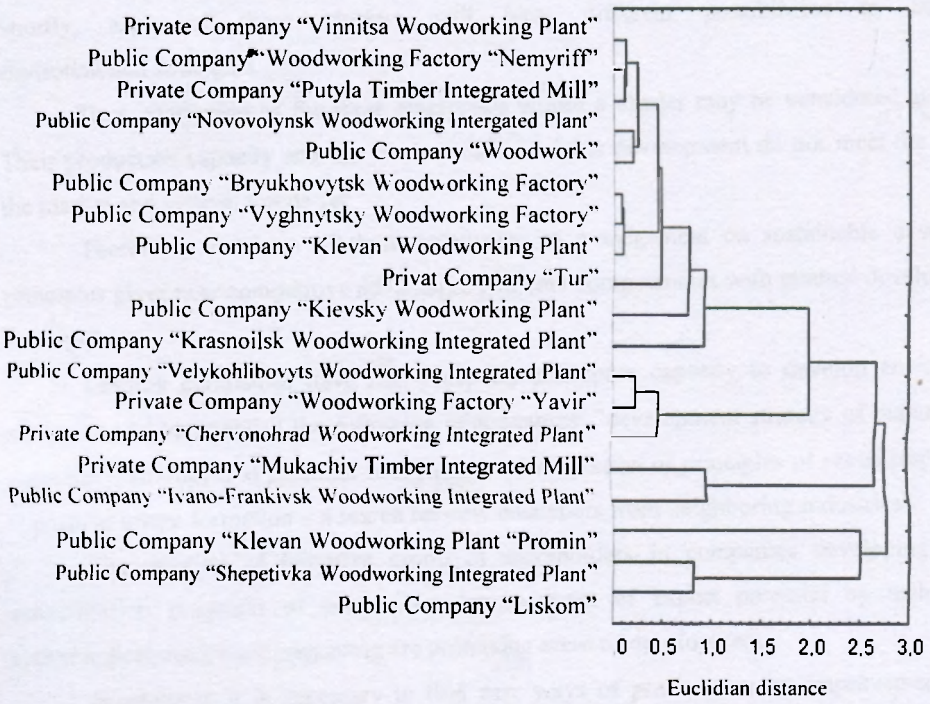


Figure 2.5 – Dendrogram for hierarchical cluster analysis of enterprises: example of the forestry sector of Ukrainian economy [Author's adaptation based on 12]

The enterprises are organized into three clusters. We recommend to develop environmental marketing strategies on the basis of resource potential and initial management conditions of each group of organized clusters.

We consider reasonable to create no more than three clusters for nineteen analysed enterprises. The leading cluster includes five enterprises (Private Company "Mukachiv Timber Integrated Mill", Public Company "Ivano-Frankivsk Woodworking Integrated Plant", Public Company "Klevansky Woodworking Plant", Public Company "Shepetivka Woodworking Integrated Plant", Public Company "Liskom").

The second group includes three medium developed companies (Public Company "Velykohlibovytsk Woodworking Integrated Plant", Private Company "Woodworking Factory "Yavir", Private Company "Chervonohrad Woodworking Integrated Plant").

The determining factor for this membership is manufacturing of FSC certified wood products. The rest eleven companies are included into the group of the low developed companies. Shortly, each of these clusters will have different possibilities to implement environmental strategies.

Thus, marketing of the three enterprises within a cluster may be considered as passive. Their production capacity and the level of their business development do not meet the needs of the market and general trends yet.

Therefore, transition of these enterprises to management on sustainable development principles gives new competitive advantages and core competencies with gradual development of new markets.

Leading companies have real prospects and spare capacity to develop environmental strategies and to establish the following relationships: "development strategy of manufacturer's potential – strategy and potential of a client – an adaptation of principles of social responsibility – positive image formation – a search for new customers from neighboring industries".

The creation of initiative group of shareholders in companies developing financial rehabilitation programs of enterprises, improvement of export potential by technical and technological equipment upgrading are promising areas of development.

In addition, it is necessary to find new ways of product quality improvement to meet customer's demand and optimal pricing policy stimulating competition of producers of new similar products.

Enterprise environmental strategies regulate a sufficient precondition for development of environmentally friendly products through assessment of their life cycle.

Environmental strategy development of the company include integration of quite a number of social and environmental responsibilities and informational support requirements with the exploit of marketing tools and creation of new sales channels (Table 2.3).

Table 2.3

The objectives of marketing and strategy environmental management [2]

Claim	Objective	Function
Responsibility integration	Reduction and/or pollution prevention: • micro-level (procurement, logistics, production, marketing); • macro-level of enterprises (sales, maintenance, wear and tear of equipment, utilization and recycling)	Coordination and integration of effective environmental planning and decision making
Informational integration	• Connecting link among companies, markets and society; • marketing ensures social and market demands	Awareness and dialogue stimulation
Integration of tools	Referring marketing mix to environmental needs	Commodity and product policy ensuring
Integration of sales to a new level	• Successful search for solutions to marketing problems considering environment protection; • cooperation in vertical sales channels formation; • problem solving coordination at the enterprise level	Coordination

According to H. Meffert, there are four main types of companies as to their willingness to integrate environmental objectives into industrial and economic activities [3]:

1. innovative companies conducting active marketing research aimed at the consumers' needs satisfaction in terms of environmentally friendly products;

2. socially responsible enterprises with marketing activities that are partially oriented to the environmental protection;

3. companies with adaptation strategies chosen without actual implementation of environmentally oriented marketing strategies, and meeting only existing legal requirements for environmental protection;

4. companies that ignore environmental requirements and challenges, do not envisage the development of marketing strategies and active strategies for environmental protection.

It should be noted that development of environmental marketing strategies, opposed to the usual ones, should consider a number of specific differences.

Innovation initiatives, cooperation (relationship marketing) and marketing communication development are to be given serious attention [2].

Environmental innovations are directly related to the objectives of environmental protection in specific company, namely to optimal use of resources, limiting emissions and risks. Cooperation based on relationship marketing should consist in collaboration with other market

players along the whole value chain. Communications policy is to provide information support throughout the whole stock of environmental strategies and actions.

A diagram indicating the development of the company-wide environmental strategies is shown in Fig. 2.6. The proposed options of environmental strategies are described in four quadrants. They are offered for a single enterprise as well as for the homogeneous clusters of enterprises according to certain features.

III Optimizing production processes, targeting needs of society and achieving competitive advantages	IV Marketing for environment: specific environmental competences creation and product innovations introduction
I Conventional marketing	II Rationalization, differentiation in additional environmental segments, reduction of competitive disadvantages, timely identification and use of environmental protection as success factor

Figure 2.6 – Environmental strategy development options

[Author's adaptation based on 2; 3; 9]

In our opinion, the latter must be determined by:

– potential advantages of implementation of environmental strategies at the enterprises (quantitative benefits, such as increased market share, as well as qualitative, such as image improvement);

– price and cost changes within eco-friendly business activities of the enterprise, and introduction of product innovations as compared to traditional substitutional products;

– environmental impact of industrial and economic activity of the enterprise;

– social benefits of transition towards sustainable production and consumption.

Along these lines, we propose three types of strategies:

Strategy 1 lies in rationalization, differentiation in additional environmental segments, reduction of competitive disadvantages, timely identification and use of environmental protection as a success factor.

Strategy 2 aims to optimize production processes, to establish target needs of society and to achieve competitive advantages.

Strategy 3 aims to create specific environmental competence and introduce innovative products.

Companies of the second and the third clusters are schematically placed into the first quadrant (see Fig. 2.6). Much effort they require to maintain competitive advantages and a share in the market. Adaption to legislative requirements, search products for refinement possibilities and consideration of environmental factors for development, production and sales are important here. Their activities should be implemented in accordance with Strategy 1.

The companies of the second cluster present slightly higher level of development in the context of sustainable development, taking into account their production from partially certified raw materials. Nevertheless, taking into consideration their financial and economic indices and a set of macro and micro environment components of their activities, we place this stage of their development on the verge of quadrants I and II. Also, for the latter are relevant rationalization, additional environmental segmentation and search for market barriers by encouraging environmental invention and patenting. In addition, favorable conditions for domestic invention applications and registration, to counterbalance of the outflow valuable intellectual components abroad, are to be created.

The accounting of environmental pollution reimbursement expenses in production cost price leads to additional price increase. That's why price increments are to be compensated by other marketing techniques. Successful market and sales conditions are achieved by means of companies' communication policy when emphasis is put on environmental benefits of products and goods.

Strict government policy and environmental buyers' education make enterprises to transform environmental requirements into new standards of product quality and to develop new business models and strategies. International experience of acceleration of these processes proves that it is largely determined by the processes of environmental integration with versatile aspects of marketing management.

The top management of a company should find the ways and means of transition to environmentally friendly product manufacturing. Fixed costs are to increase under close control of production in the result of transition to new equipment use. Costs for equipment, depreciation

expenses and salary costs of management personnel are included. The greater is the use of raw materials, the higher get variable costs, present in the costs of raw materials and salary of core personnel. In this regard, it is important to control price increases for insolvent customers.

An increase in variable costs along with the increase of fixed costs (net costs) may be caused by the influence of modernization, purchase of cleaning equipment, increasing requirements for personnel safety, etc. In such a case, market situation is possible when the break-even sales volume stays constant. Still, most likely, it is necessary to put on the market bigger quantity of products in order to secure the break-even point of production. A sufficient number of clients, customers and new contracts arenecessary for production volume increase. Depending on specifics of economic activity, problems with provision of raw materials, in particular with raw wood supply in forest sector, may arise. Volumes increase in processing non-wood forest products (fruits, berries, mushrooms, birch sap, medical and industrial raw materials), as well as recreational services of forest ecosystem enhancement, have high potential of successful pricing policy.

Traditions of environmentally friendly product consumption are being shaped only in Eastern European countries, including Ukraine. Thus, issues of environmental strategies and mechanisms of their impact on to consumers are of critical importance.

Development of sustainable production requires:

– further development of national legislation and regulatory framework for sustainable production, its harmonization with international normative legal bases for enhancement of circulation of environmentally friendly products on foreign markets;

– development of marketing communications and marketing informational support in order to raise the stakeholders awareness;

– formation of marketing policy in retrieval of long-term supply contracts for certified products;

– improvement of control mechanisms of manufacturing environmentally friendly products manufacturing to ensure the quality and their relevance to final users;

– transformation of sales and marketing activities towards the growth of social values, motivation, stimulation and development of consumer demand for sustainable products;

– estimation of optimal ways and means of modern energy and resource efficient high production technologies to reduce costs and to increase attractiveness of such products for domestic and foreign consumers.

Thus, environmental marketing is important in environmental strategy development of the enterprise as a tool of environmentally friendly production. Cluster analysis helps companies with similar development potential, allows to assess their market position and to create appropriate opportunities for each group of environmental strategies. Cluster analysis makes possible coordination of strategies and marketing development activities of homogeneous groups of industrial enterprises, their cooperation and collaboration towards environmental innovations, transition to resource- and energy-saving technologies, certification of production processes.

The concept of sustainable development is consonant with the concept of environmental marketing [11]. The latter implies production and marketing orientation at customers environmental needs, as well as creation and stimulation of demand for environmentally friendly goods, products and services in addition.

The concept of environmental marketing corresponds with sustainable development ideology as one of the most modern concepts of present-day business [11]. Development of environmental marketing strategies, based on relationship marketing and sustainable development principles with simultaneous competitive advantages, contributes much to relevant response to various economic, social and environmental challenges of modern time.

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