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ORGANIZATION OF MARKETING ACTIVITY OF COAL MINING ENTERPRISES IN AN IRREGULAR DEMAND ENVIRONMENT: THEORETIC AND PRACTICAL ASPECTS

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Problem statement. Nowadays coal mining enterprises run in the environment of an irregular demand and decrease of customer loyalty. A key component for value creation and development of business competitive advantage is an improvement of their marketing activities through forecasting of customer demand for coal, setting of realistic plans and programs, close monitoring and control over activities in distribution network, early recognition of problems and quick management decisions, practical implementation of information technologies. According to experts estimations implementation of measures on improvement of marketing activities of enterprises helps to reduce selling cost by 20% [1, p. 19], to increase quantity of shipments by 35–40% [2, p. 43], to decrease delivery time for end product by 25–45% [3, p. 39], to decrease time per haul and transport cost due to optimization of traffic route and adjustment of delivery schedules [4, p. 21, 22].

Thus, current economic environment for coal producers requires new means of its efficiency improvement such as advances in marketing through the development of marketing networks.

Analysis of recent research and publications. A significant number of works by lead national and foreign scholars deals with the problems of giving an exact definition to «marketing activities of enterprises» based on different scientific approach.

Many researchers pay serious attention to defining the term «marketing and distribution»: L. Balabanova, A. Balabanyts, I. Bilozertseva, V. Hamaliy, P. Havrylko, M. Honcharenko, V. Deriy, D. Dubivka, M. Yermoshenko, A. Kluchnyk, I. Lyashko, M. Oklander, P. Orlov, O. Paduhevych, T. Prytychenko, S. Romanchuk, A. Seviyan, H. Kholodnyy, S. Khrupovych, S. Shpylyk, V. Tshetynin. Scientific papers by O. Bilovodskaya, O.S. Byelousova, A. Bohdanovych, O. Klymenko, O. Koshyk, O. Kryveshko, V. Kyslyy, I. Kulynyak, N. Lahotska, K. Lyetshyna, O. Olefirenko, S. Rosumey, O. Smolyanyk, N. Terentyeva analyze the term «marketing activity».

Scientific papers by foreign scholars P. Allen, G.J. Bolt, U. Witt, J. Wootten, Ye. Holubkov, A. Hradov, P.V. Jackson, P. Drucker, P. Zavyalov, F. Kotler, A. Pankruhin, G. Rich, Rosanne L. Spiro, V.J. Stanton, Ch. Futrell, R.D. Hisrick, L. Stern; and by native scholars O. Varchenko, I. Pasky, I. Solovyov deal with the development of methodological, structural and information support for marketing management of enterprises and development of methodological approaches to estimate efficiency of marketing system functioning.

Based on review and collation of literary sources it may be noted that a significant contribution of foreign and national scholars has been already made to this multifaceted and complicated problem. However, it is reasonable to continue further study towards the improvement of the efficiency of marketing activities of coal mining companies, taking into the account their peculiar workings and current trends in development of institutional environment. All of the above greatly influenced on the selection of the topic for this research and its objective.

Research objective involves development of theoretic and methodological concepts, implementation of practical guidelines on improvement of marketing activities of coal miners in the environment of an irregular demand.

Presentation of basic material of the research. Based on review and collation of approaches of different scholarly traditions the term «marketing activity» was classified under 6 groups: organizing of trading activity; marketing system, delivery of goods to customer and after-marketing service, marketing activity; demand generation system; marketing promotion and merchandise exchange; distribution (organizing of optimum flow of products through efficient channels of distribution); form of economics aimed at improvement of marketing efficiency.

Thus, based on analysis of scientific sources it was revealed that as a rule marketing activity identifies with the term «marketing» and is thought of as complex of

processes of generating demand and efficient distribution channels, organizing marketing communications, distribution, marketing of end product for the purpose of making profit and consumer satisfaction.

Taking into account the peculiarities of operation of coal mining companies and current development of the coal market and institutional environment the contents of the term «marketing activities of coal producers» was clarified and unlike all the existing ones is now thought of as business line of coal mining enterprise involving coal marketing for meeting demands and observing terms of contractual relationships with different categories of customers.

A number of factors affects the operation of coal mining enterprises: unstable development of market economy (demand fluctuations, permanent changes in price, inflation rate), crisis growth in the national economy under the conditions of intensive globalization and integration processes.

The survey of the number of coal mining enterprises shows that operation thereof is affected by such financial and economic conditions as denial of payments for products sold; change of contractual relationships between the partners; restriction of financial resources; unstable state of demand for coal (profit or deficit).

Based on analysis it was revealed that domestic coal mining branch has specific features of organization of marketing activities. They include:

- constant fluctuations of marketing opportunities for coal products and irregular demand for coal;
- reduction in coal production, in end products, commercial output and products sold;
- marketing of coal as a rule is exercised through direct channels of distribution;
- uneven shipments of coal to large and average consumers;
- an increase in coal stock at the storage sites of the state coal mining and coal refinery enterprises.

According to the Ministry of Energy and Coal Mining of Ukraine in 2006-2015 loss ratio of coal production increased in the state sector of the field, when in 2006 this ratio was 27.1%, in 2011 – 36.4 and in 2015 – 39.8%. In 2015 the production cost of 1 ton of coal by state coal producers exceeded the price of 1 ton of coal by 1.7 (in 2006 by 1.4, in 2011 – by 1.6).

According to the analysis of historic data full cost in coal mining industry of Ukraine has increased in comparable prices by 134% for the period of 2006-2015, or from 12919 to 30234.2 million UAH, an average rate of growth over this period was 109.9%. Expenses for marketing activities in comparable prices has decreased by 34.9% - from 212.8 to 138.5 million UAH, an average rate of cut-back was 95.3%. The share of expenses for marketing activities in the full cost of coal decreased by 1.2% over the period of 2006-2015 – from 1.7 to 0.5%. Expenses for marketing of 1 ton of coal by state coal producers of Ukraine increased by 65.9% over the period of 2006-2015, or from 5.39 to 8.94 UAH, the average rate of growth was 105.8%.

In the structure of expenses for marketing activities of for example State Company «Selidovugol» the share of payments for loading and transport department in 2015 was 73.8% (20.6% more than in 2010), payments for railroad services were 6.4% (6.1% less than in 2010), other expenses were 19.8% (14.5% less than in 2010).

Therefore, the obtained estimations speak for ineffective organization of marketing and for deterioration in business activities of coal mining enterprises of Ukraine.

In the environment of irregular demand for coal forecasting of marketing goals of coal mining enterprises is now relevant for making sound management decisions when planning marketing of end products and trending business development.

When developing forecasts the following statistical technologies were used: average growth rate extrapolation; extrapolation based on average time series; absolute growth rate extrapolation; method of analytical trend adjustment (least-square method).

Calculations proved that theoretical error of the forecast of marketing of coal products when using least square method was 0.03%, average growth rate extrapolation was 0.06%, absolute growth rate extrapolation was 0.67% and average time series extrapolation was 17.66%.

To verify the feasibility of these methods a comparative analysis of the results of marketing forecast and actual data over 2015 was made. The difference between the forecast and actual values of coal products sold when using least square method is 0.3%, average growth rate extrapolation is 0.6%, absolute growth rate extrapolation – 7.2% and average time series extrapolation is 43.4%. Therefore, according to the results of the research, methods of least squares and average growth rate extrapolation are effective methods of forecasting marketing of coal products because of higher probability of predicted values.

According to the forecasts using least square methods in 2016 coal production must decrease by 9.4% compared to 2015, coal output – by 8.1%, market product – by 8.1%, coal sold – by 9.5%. At the same time the total volume of coal in stock at coal mining and coal refinery enterprises under the Ministry will grow by 4.4% and of coal ready for shipment – by 4.7%.

In 2016 loss ratio of coal production shall be 70.6% what is 3.7% more than in 2015. Production cost of 1 ton of commercial coal shall exceed the price by a factor of 3.4. Expenses for marketing of 1 ton of commercial coal shall be 0.5%.

Thus, the results of the study demonstrate that methods of least squares and average growth rate extrapolation have a number of advantages: accuracy, feasibility and efficiency of calculations, little deviation of the results, absence of the subjective factor typical for Delphi method; and application thereof shall justify management decisions necessary for organization of marketing activity of coal mining enterprises.

According to the research the key elements for organization of marketing activities of coal producers are

the conclusion of the contracts with different categories of customers, based on the specifics of their servicing, and adherence to contract relationships.

These recommendations are based on the provisions of institutional economic theory, whose followers argue about the necessity of building the system of contractual relationships. From the point of view of M. Odyntsova contract in economic theory must be considered "not only as pure marketing agreement dominating the market of perfect competition but also as «relationship» that the parties seek to maintain» [5, c. 100]. Contract is «the rules that arrange the exchange between economic agents and lay down the rights they receive in exchange for their obligations, and also the mechanism of enforcement the contract» [5, c. 200].

Contract as noted by A.A. Ausan is a typical variety of institutional arrangements. It can be defined as «a rule that builds interactions in time or space between two (or more) economic agents in respect of title-for-title exchange based on self-imposed obligations as a result of agreement reached" or «self-imposed by economic agents rules of exchange, market performance, interaction within hierarchical structures (organizations), and various hybrid forms of institutional agreements that combine features of market and hierarchical interactions» [6, p. 18, 24].

The theory of contracts developed by B. Holmstrom and O. Hart substantially deepens and complements neoclassical and institutional theories bringing them closer to the real needs of enterprises [7]. The problem solved by the theory of contracts involves bringing out information and offering the agent an ideal contract that considers the type thereof and at the same time could inspire an agent for a fair practice. Contracts can significantly reduce conflict of interests between the participants of economic relations. The better the terms of the contract are written the more endorsement's and motives are there for

Thus the contractual management of coal marketing means continuous process of conclusion and execution of contracts for delivery of coal. This process must be implemented through the management functions: planning, organization, control, analysis, regulation. The basis of the contract for marketing of coal includes obligations, terms, liabilities of parties, protection of rights, if one of the parties violates the obligations.

When building up a contract with customers there are certain aspects that must be considered. Thus, drawing up a contract for the delivery of coal to whole marketing customers it will be reasonable to recommend such paragraphs as prepayment of 30-50% or delay in payment for the coal shipped. Specific feature of the contract for the delivery of coal to average whole marketing customers must be 100% prepayment as term of payment as well as possibility of choosing type of transportation depending on quantity of shipments. The key element of the contract for delivery of coal to individual whole marketing customers is 100% advance payment

for services rendered «coal plus delivery» or «coal without delivery».

Hence, stages of contract formulation should include:

- forecasting of quantity of shipments of coal to customers;
- receiving of orders for coal, conclusion of contracts for the delivery;
- delivery schedule approval, terms of payment for coal;
- selection of transportation, conclusion of contracts for transport services with loading and transportation department or motor carriers;
- writing shipment schedules with consideration for travel time and time for unloading carriages and vehicles;
- application of penalties, punitive sanctions to customers in case of undue cancellation of order for product delivery.

Subject matter of contacts for the delivery of coal needs improvement and update. Practice shows that as a rule when in situation where customers are late to refuse from the ordered coal products the enterprises end up paying for services of loading and transportation department, usage and spotting of cars. In this regard the contracts for the delivery shall include a paragraph saying that in case when customers are late to refuse from ordered coal products they shall reimburse cost of services of loading and transportation department for usage and spotting of cars to the enterprises.

One of the important means of cost reduction and efficiency improvement for operation of national coal producers is an arrangement of marketing management system based on system concept.

Due to scientific researches it became clear that marketing management system of coal producers is known better as interrelated network of subject-object entities through implementation of the full range of marketing management functions in a single complex using all the mechanisms of information and organizational support.

Marketing management system of coal mining enterprises is a system that consists of several components (processing and filling of orders, shipment, storing, stock management, customer service), performs the relevant functions and has developed relations with the environment in other words with the market (intermediaries, consumers and other partners).

It is a relatively stable network of structural units (functional elements of the enterprise, middleman organizations, customers) interrelated and integrated by single management of marketing processes aimed at meeting strategic goals of coal mining enterprise.

Typical features of marketing management system of coal mining enterprise include: complexity, structuring, hierarchy principle, emergence, synergy, flexibility, agility, orientation towards integrated efficiency.

Development of marketing management system of coal mining enterprise must rely on a mechanism. According to the analysis of scientific works a mechanism

is defined as a complex of processes, techniques, approaches, concepts, certain actions for goal achievement; succession of stages and complex of methods; succession of stages and complex of techniques; series of actions and sequence in use thereof; arrangement and management of manufacturing noting its peculiar forms, methods and techniques; sequence of processes, stages, mechanisms and tools.

Components of the mechanism as a rule include tools and mechanisms; business entities and mechanisms; methods, levers and tools; complex of forms and methods; techniques.

To guarantee effective marketing management of coal mining enterprises it is necessary to apply management techniques (organizational, economic, social psychological) and implement modern data ware and software (DRP and DRPII distribution IT, CRM information system of management of customer relationship).

So the basic mechanism for the development of marketing management system of coal mining enterprises is defined as a complex of principles, tools, functions, methods and techniques aimed at reducing the level of expenses for marketing activities and different services (transportation, storing, marketing etc.).

Development of marketing management system of coal producers means regulated by statutory documents complex of interrelated organizational, technical, economic and social measures for improvement of marketing management designed to increase the performance of an enterprise by means of reducing the level of expenses.

Development of marketing management system of coal mining enterprises must rely on whole new principles of operation:

- application of system approach to organization of marketing activities in a single complex, more specifically implementation of a complex of interrelated successive processes (survey of the needs and demand of customers; contract work with shipping organizations and consumers; laying in store of coal products; service support of different class customers; transportation and marketing of coal products) and different freight services;

- implementation of the full range of management functions (forecasting, planning, organization, accounting, control, analysis and regulation) in a complex of successive marketings processes;

- consideration of specific features of marketing management at coal mines which include: constant fluctuations of coal market and irregular demand for coal; coal production cut, reduction in commercial output and marketing and increase of stock balance of coal; arrangement of shipments of coal to customers (as a rule, use of rail and road transport); marketing of coal products via direct channels;

- differentiation of customers for coal products into large-, average- and small-scale whole marketing depending on the level of their annual demand; whereas

there occurs a tendency of uneven shipments of coal to large-scale and average whole marketing customers;

- partnership between a coal mining company and a customer must be built on a volunteer basis of cooperation, synergy resulting from integration of efforts, goals and resources of the partners, based on mutual dependence in terms of responsibility, division of power and risks;

- marketing activities should be based on introduction of modern information and communication technologies that uses specially designed software, computer control systems, economic and mathematical methods.

It was revealed that under the conditions of proficit of demand for coal there are good reasons to build marketing networks that look like an effective model of partnership between the participants of the coal market of Ukraine (coal mining companies, coking plants, combined heat and power stations, middleman organizations, different classes of buyers of coal products).

There are two models of marketing networks:

The first model is an agreement between coal mining companies and combined heat and power stations whereas the latter controls supplies of coal products, fix coal price (that can be considered as an investment into business development of coal mining companies). Advantages of such marketing network include optimum price level for coal due to direct supplies. Disadvantages include: narrow focus of type of coal; possible disruptions in the deliveries of coal to heat and power plants resulting from force-majeure circumstances (for example accident at a coal mining enterprise).

The key element of the second model involves an agreement between coal mining companies of different forms of ownership to establish a coal syndicate (acting as a commercial organizational structure). Marketing management function is passed within public-private partnership of syndicate. Basic responsibilities of the syndicate are to define necessary production volume of coal; secure development, control and management of marketing activities; fix price for coal and shape a policy of coal mining companies. Coal mining enterprises shall enter into contract with syndicate for a definite volume of coal syndicate can buy. Advantages of such partnership include: continuous purchases of coal from coal mining companies and deliveries thereof to heat and power plants; establishment of long-term relationships with firm customers of coal.

Conclusion. Therefore, the present article completes theoretic summary and solves important scientific task of organizing marketing activities of coal mining enterprises in the environment of irregular demand.

Basic concept of the research centers around the development of theoretic and scientific methods, development of practical guidelines on improvement of marketing activities of coal mining enterprises due to organization of marketing networks.

Implementation of proposals for improvement of marketing activities of coal mining companies helps to save costs:

– for transportation of coal products by reducing expenses for services of loading and transport department, for using and spotting cars due to their rational use by capacity, for reducing idle time of cars during coal loading; improvement in consistency of train schedule and development of the most convenient routes for transport;

– providing services to customers by reducing the time for paperwork, improving service involving modern information technologies.

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Залознова Ю. С., Трушкіна Н. В. Організація збутової діяльності вугледобувних підприємств в умовах нестабільності попиту: теоретичні та практичні аспекти

Уточнено зміст поняття «збутова діяльність вугледобувного підприємства» з урахуванням особливостей його функціонування. Виявлено чинники, які впливають на організацію процесів збутової діяльності вугледобувних підприємств. Проаналізовано динаміку показників збутової діяльності вугледобувних підприємств. Виконано прогнози показників збутової діяльності вугледобувних підприємств із використанням різних методів прогнозування. Запропоновано модель контрактних взаємовідносин вугледобувного підприємства з різними категоріями споживачів. Розроблено науково-методичне забезпечення вдосконалення системи управління збутовою діяльністю вугледобувних підприємств. Надано пропозиції щодо формування збутових мереж в умовах нестабільності попиту на вугілля.

Ключові слова: вугледобувне підприємство, збутова діяльність, організація, чинники, показники, аналіз, методи прогнозування, модель контрактних взаємовідносин, різні категорії споживачів, збутова мережа.

Залознова Ю. С., Трушкіна Н. В. Организация сбытовой деятельности угледобывающих предприятий в условиях нестабильности спроса: теоретические и практические аспекты

Уточнено содержание понятия «сбытовая деятельность угледобывающего предприятия» с учетом особенностей его функционирования. Выявлены факторы, влияющие на организацию процессов сбытовой деятельности угледобывающих предприятий. Проанализирована динамика показателей сбытовой деятельности угледобывающих предприятий. Выполнены прогнозы показателей сбытовой деятельности угледобывающих предприятий с использованием различных методов прогнозирования. Предложена модель контрактных взаимоотношений угледобывающего предприятия с разными категориями потребителей. Разработано научно-методическое обеспечение совершенствования системы управления сбытовой деятельностью угледобывающих предприятий. Даны предложения по формированию сбытовых сетей в условиях нестабильности спроса на уголь.

Ключевые слова: угледобывающее предприятие, сбытовая деятельность, организация, факторы, показатели, анализ, методы прогнозирования, модель контрактных взаимоотношений, разные категории потребителей, сбытовая сеть.

Zaloznova Y., Trushkina N. Organization of marketing activity of coal mining enterprises in an irregular demand environment: theoretic and practical aspects

The contents of the term «marketing activity of coal mining enterprise» was revised considering the peculiarities of operation thereof. Factors affecting marketing processes of coal producers were identified. Dynamics of marketing of coal mining companies were analyzed. A forecast of marketing rate of coal mining enterprises were made using various methods of forecasting. A model of contract relationship between coal producer and different categories of customers was developed. Methodological guidelines on improvement of marketing management system of coal mining enterprises were designed. Recommendations on how to arrange marketing networks in the environment of irregular demand for coal were given.

Keywords: coal mining enterprise, marketing activity, development, factors, ratio, analysis, forecasting methods, model of contract relationship, different categories of customers, marketing network.

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