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PRICING BASED ON PRODUCT VALUE PERCEPTION BY AGRICULTURAL MACHINERY CONSUMERS

The paper offers the authors' substantiation of theoretical, methodological and practical principles of formation and implementation of a marketing logistics system of pricing for agricultural machinery manufacturers based on the perception of product value by agricultural machinery consumers. It substantiates the advisability of implementing a system of logistics support for marketing customer service policy in agricultural machinery sector which helps manufacturers gain sustainable competitive edge.

Keywords: pricing; agricultural machinery; customer service.

Валерія Г. Щербак, Світлана М. Марченко ЦІНОУТВОРЕННЯ НА ОСНОВІ СПРИЙНЯТТЯ ЦІННОСТІ ПРОДУКТУ СПОЖИВАЧАМИ СІЛЬСЬКОГОСПОДАРСЬКОЇ ТЕХНІКИ

У статті наведено обґрунтування теоретичних, методичних та практичних засад формування та реалізації маркетингової логістичної системи ціноутворення підприємств сільськогосподарського машинобудування на основі сприйняття цінності продукту споживачами сільськогосподарської техніки. Доведено доцільність упровадження системи логістичної підтримки маркетингової політики обслуговування клієнтів на ринку продукції сільськогосподарського машинобудування, що сприятиме отриманню виробниками тривалих конкурентних переваг.

Ключові слова: ціноутворення; сільськогосподарське машинобудування; обслуговування клієнтів.

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Валерия Г. Щербак, Светлана Н. Марченко ЦЕНООБРАЗОВАНИЕ НА ОСНОВЕ ВОСПРИЯТИЯ ЦЕННОСТИ ПРОДУКТА ПОТРЕБИТЕЛЯМИ СЕЛЬСКОХОЗЯЙСТВЕННОЙ ТЕХНИКИ

В статье приведено обоснование теоретических, методических и практических основ формирования и реализации маркетинговой логистической системы ценообразования предприятий сельскохозяйственного машиностроения на основе восприятия ценности продукта потребителями сельскохозяйственной техники. Доказана целесообразность внедрения системы логистической поддержки маркетинговой политики обслуживания клиентов на рынке продукции сельскохозяйственного машиностроения, которая будет способствовать формированию у производителей стойких конкурентных преимуществ.

Ключевые слова: ценообразования; сельскохозяйственное машиностроение; обслуживание клиентов.

Problem statement. Amid market-oriented reforms in the domestic economy, the nature and effectiveness of marketing activities of the agricultural machinery manufacturers depend significantly on the current market logistics pricing mechanism related to sales of industrial goods to agroindustrial producers. This is particularly significant today, when, due to financial instability in the country and the existing con-

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siderable disparity between agricultural product prices and prices of manufactured goods consumed in the agrarian sector of economy, most agricultural enterprises have lost their buying capacity. As a result, the market for agricultural machinery considerably contracted, having an extremely negative impact on the situation in the agricultural machinery sector.

Review of recent publications. The problems of the marketing pricing process were studied by A. Alekseev (2001), Z. Herasymchuk and O. Boyko (2007), F. Kotler (2001), S. Pogodayev (2013), O. Zhehus (2006) and others. Works by E. Lukina (2008), N. Ovcharenko (2008), O. Ulianchenko (2006), Y. Voskobiy (2012) and others are devoted to the issues of setting prices for agricultural machinery products.

Unresolved issues. Overall, the abovementioned authors have clearly outlined the problem in question but have not determined the ways of its solution with due regard to the specifics of the agricultural machinery sector based on perception of product value by agricultural machinery consumers. There is no concept for setting prices for these products, which would take into account the requirements of consumers – agricultural producers and also their low solvency margin.

The goal of this research is to improve the theoretical framework and develop scientific and practical recommendations on the assessment of factors governing the formation and implementation of an adaptive system of marketing formation of prices for agricultural machinery based on the product value as perceived by consumers.

Key research findings. Customer focus is the basic prerequisite for effective pricing policy of any enterprise under market economy. Pricing on the ground of perception of product value by agricultural machinery consumers is based on the so-called commodity subjective price – dependence on subjective (consumer’s preferences, machinery technological utilization conditions) and objective (overall price level, consumers’ financial capacities) factors of assessment of an acceptable value. The economic form of expression and the method for determining a value to customer depend on the system of economic relations, on specific economic and technical conditions of purchasing and using a commodity. A diagram illustrating the formation of a commodity subjective price is given in Figure 1.

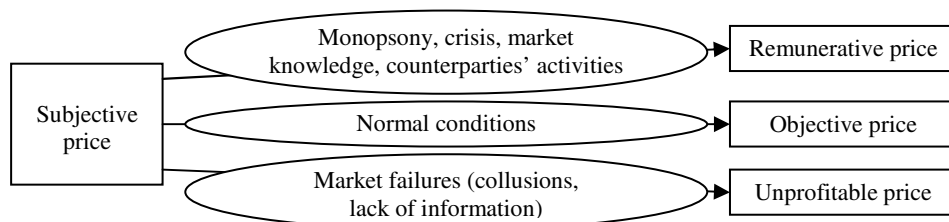


Figure 1. The subjective price and acceptable value ratio, developed by the authors

The mechanism for selection and practical use of customer value as a component of pricing process is explained as a part of marketing mix, including the logistics approach, the constituents of which, taken together, present the net result of enterprise performance. The general diagram of the mechanism of the cost and acceptable value impact (indirectly, in the form of a subjective price) on a commodity pricing is given in Figure 2.

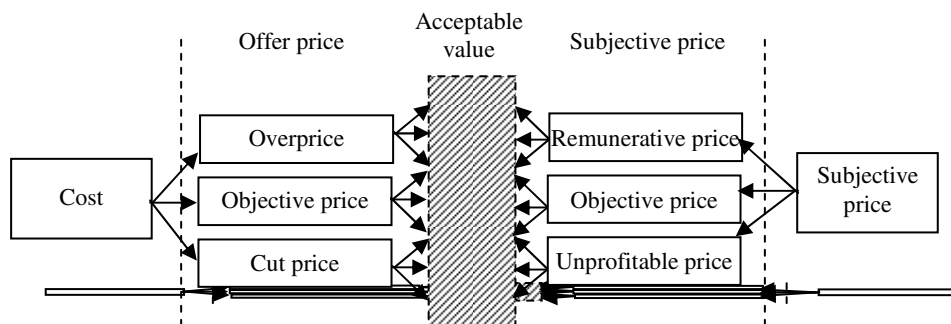


Figure 2. The mechanism of the cost and acceptable value impact on a commodity price, developed by the authors

The suggested mechanism accommodates the economic categories of value and utility in the course of forming a commodity market price. Commodity price is composed of a sum of the offer price and subjective price taken as a proportion determined by the market-determined coefficients α and β :

$$\text{Commodity price} = \alpha \times \text{Offer price} + \beta \times \text{Subjective price}, \quad (1)$$

where α – the coefficient determined by the ratio of the commodity quality and cost; β – the coefficient determined by the supply-demand ratio;

$$\text{Offer price} = \alpha \times \text{Cost}. \quad (2)$$

Due to the specifics of agricultural machinery as a commodity (seasonal use, substantial utility, rather high cost, difficult to operate and maintain etc.), as well as consistent high demand for this commodity on the part of agricultural producers and the lack or extremely limited quantity of substitutes that accompany the process of its promotion, coefficient α takes on the value at the level of 1 or more than 1, while coefficient β ranges within 0 and 1. Therefore, the agricultural machinery price formula appears as follows:

$$\text{Agricultural machinery price} = (\alpha \geq 1) \times Op + (\beta \geq 0) \times Sp. \quad (3)$$

Since agricultural machinery utility is usually extremely high, the commodity value formed as the ratio of utility to cost also has high values. The acceptable value, accordingly, is calculated by the following formula:

$$\text{Acceptable value} = \text{Consumer benefit} / \text{Offer price}. \quad (4)$$

The magnitude of the commodity market price results, therefore, from the interaction of the commodity cost and consumer utility (subjective price and offer price), the ratio of which is determined by the state of the market and economy as a whole. The developed formula confirms the tentative assumptions of a synthetic mechanism of cost and utility interaction. Such an approach enables distinguishing the primary factors that impact managerial decision-making at enterprises as to logistics pricing based on consumers' perception of product utility (Figure 3).

Managerial decision-making model, which takes into consideration consumer behavior factors (The module "Managerial decision on the agrarian machinery price" in Figure 3), stages of pricing substantiation based on the perception of product utility by consumers rests on employment of the function-oriented structured analysis and design technique (SADT), as developed by D.T. Ross in 1969–1973 and created

to design more general-purpose systems as compared with other structured methods (Figure 4). The diagram given below represents a set of some already known models and new ones developed by the authors in an attempt to build cause-and-effect relations that show the impact on effective managerial decisions concerning pricing and introduction of agrarian machinery into market outlets. Substantiation of the pricing system based on the perception of product utility by consumers of equipment and implements manufactured by appropriate enterprises through comprehensive combination of Ishikawa diagram and ABC analysis.

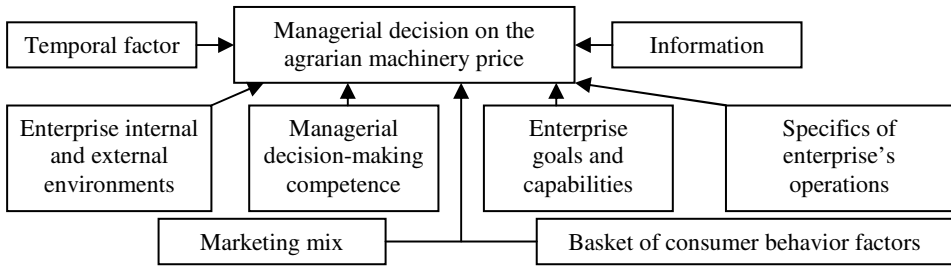


Figure 3. The factors having impact on managerial decision-making, developed by the authors

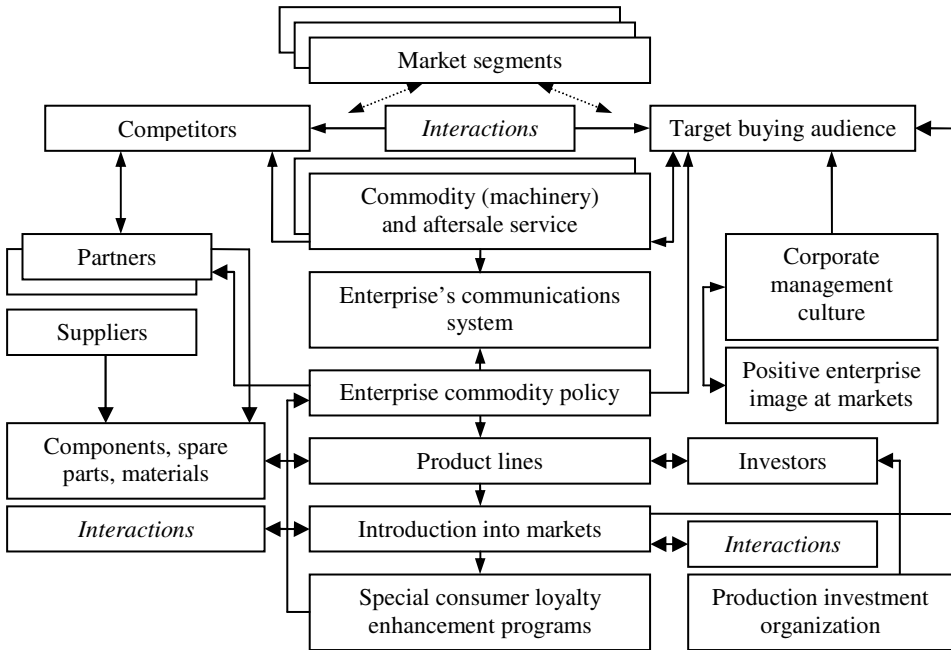


Figure 4. Diagram of market elements interaction in the marketing context, developed by the authors

The Ishikawa diagram is applied when developing and continuously improving products, as a tool ensuring the system approach to identification of factual root causes of problems (Alekseev, 2001; Zhehus, 2006). While the Ishikawa diagram gives an opportunity to substantiate pricing based on the perception of product utility by agri-

cultural machinery consumers. The Ishikawa diagram is practically used in building dendrograms via the cluster analysis method through the "STATISTIKA 6" package. Upon problem identification by building the Ishikawa diagram, it is important to determine the areas for quality performance improvement. The ABC analysis is the most common method to use in such a case. The essence of the ABC analysis is that it enables classifying firm's resources in order of their importance. This analysis is one of the streamlining methods and can be applied to any enterprise. It rests upon the Pareto principle – 20% of all commodities generate 80% of turnover. With respect to the ABC analysis, the Pareto's law can run as follows: safe control of 20% of items enables controlling the system by 80%, be it raw material and component stocks or the product line of an enterprise etc.

Implementation of the approach developed with regard to pricing based on the perception of product utility by agricultural machinery consumers ensures stable and sustained interaction with buyers in line with general marketing policy and its specific modules: product, price, sales, communications (Figure 5).

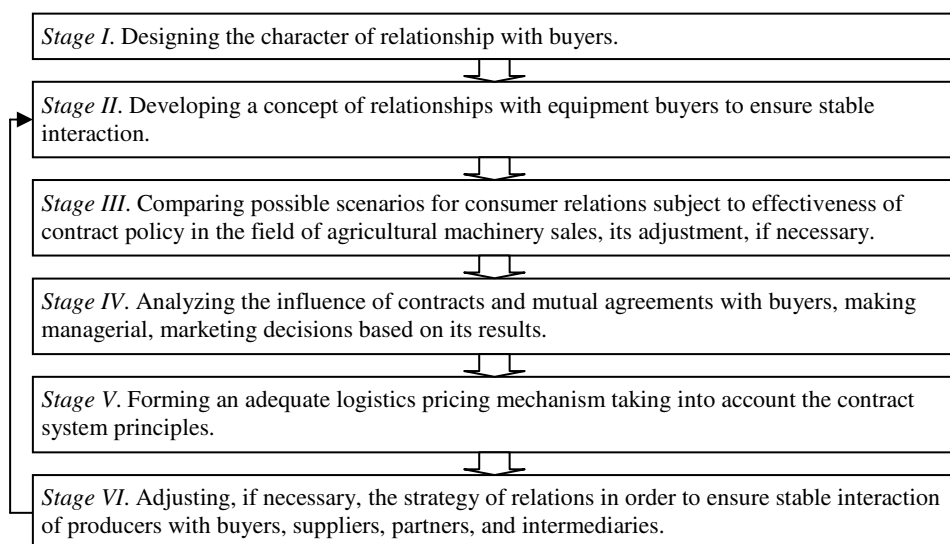


Figure 5. Interaction of a producer with partners basing on the perception of product utility by agricultural machinery consumers, developed by the authors

Operation of the above systems, their control, adaptation, with account taken of changes in the external environment and development of producer's internal capabilities, enables building an effective marketing pricing system based on the perception of product utility by agricultural machinery consumers. The suggested organizational and methodological approach in the context of marketing systems and the communications interaction theory proves that communication strategies in relationship marketing coordinates come down to the creation of a company's positive image resource, which ensures synergistic effect due to integrated communication and logistics pricing networks. Special feature of marketing logistics pricing communication strategies that are "built in" the general interaction system in their differentiation

by elements consists in: producer – buyers; producer – suppliers (equipment, components, and materials); producer – dealers; producer – competitors.

Conclusions. The specifics of marketing logistics pricing policy of agricultural machinery at the domestic market are as follows: vast majority of agricultural machinery consumers experience problems when purchasing necessary machines for a number of reasons, among which poor solvency takes the center stage; agricultural producers see the solution of this problem in raising prices for their products and in an appropriate incentive function of the state and society; more than half of customers point out to the existing seasonality in machinery acquisition; majority of customers use the price, quality and productivity criteria when acquiring machinery; only less than half of customers think that used agricultural machinery market is competitive; foreign-manufactured products somewhat prevail in agricultural machinery acquired by domestic agricultural producers, while prices, as well as technical and quality parameters basically ensure the competitive ability of domestic products; there is no single reliable source of information on agricultural machinery.

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