

Marketing Aspects of the Key Issues of Agricultural Machinery in the Industrial Enterprises

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Abstract

The article deals with marketing aspects of key problems of industrial enterprises of Ukraine. The current situation requires manufacturers to focus their activities on long-term profit and business efficiency. This can only be achieved by improving the quality of products. Accordingly, to increase the competitiveness of products and to formulate and use a flexible mechanism for managing the marketing activities of enterprises based on the development of a successful pricing strategy. The authors noted that the system of forming competitiveness is a complex process that occurs under the influence of a large number of factors. It is noted that the analysis of the organization of their sales network is important in the study of competitors and means of stimulating the sale of goods. The emphasis is placed on the key factors for the success of price policy: price changes, and therefore the consumer agrees to increase prices only if he is convinced of the fairness of this growth and vice versa.

Keywords: Marketing Management; Profit; Price; Industrial Enterprises; Agricultural Machinery; Marketing Strategies.

1. Introduction

Current market conditions for the development of the domestic economy are characterized by increasing competition between producers in both domestic and foreign markets, the development of globalization processes, accompanied by increased activity of man-made changes, and this, in turn, puts increased requirements for production enterprises to improve the competitiveness of products. At the same time, the success of the functioning of any economic unit, regardless of the profile of activity, depends on its ability to respond and correctly monitor any changes occurring in the external environment and reflect them in the strategy of long-term development, commercial and commodity policy of the enterprise in the form of appropriate management decisions.

Such economists as Antamoshkina et al. (2020), Bykov (2019), Davidenko (2015), Hu et al. (2020), Hyvärinen (1990), Jang et al. (2020), Lu et al. (2019), Lyubanova et al. (2020), Mashkov et al. (2019), Niewiadomski et al. (2019), (2020), Safdar (2020), Savin (2020), Slobodanyk (2019), Zakharin et al. (2021), Xiong (2018), Zhang (2020), Slobodanyk et al. (2021), Skliar et al. (2021) and other have provided a huge influence on the formation and development of the modern theory and practice of agricultural machinery and general marketing in their

scientific publications. However, in turn, it should be recognized that despite the increased attention from domestic and foreign researchers to the issues of marketing management, in the industrial sphere, this problem is less studied than its general direction, where its own currents and corresponding schools are formed.

2. Methodological Foundations

The purpose of the scientific work is to substantiate and develop theoretical and methodological foundations, scientific and methodological and practical recommendations for the formation of a mechanism for managing industrial marketing at enterprises. In turn, it should be recognized that despite the increased attention from domestic and foreign researchers to the issues of marketing management, in the industrial sphere, this problem is less studied than its general direction, where its own currents and corresponding schools are formed. Therefore, a number of theoretical and practical issues related to the formation of a marketing management system in the process of implementing the competitive strategy of an industrial enterprise remain poorly studied. Such problems include the lack of a general mechanism for managing marketing at an industrial enterprise, taking into account its specifics; evaluating the effectiveness of marketing activities at the enterprise as a whole and its individual activities, and therefore approaches to

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predicting the results of its improvement and development.

There are also difficulties in the system of marketing pricing at industrial facilities, including the selection and adaptation of methods for setting prices and managing its level depending on the market situation and the competitiveness of the object. These and other circumstances determined the relevance of the research topic and the need to develop a modern mechanism for managing industrial marketing at enterprises.

3. Results and Discussion

The goal of marketing management is the marketing orientation of management, which allows you to more

effectively meet the needs of the exchange process. The subject of marketing management is a system of production relations aimed at creating values that satisfy the end customer as much as possible. The object of marketing management is the volume and structure of demand (Danylyshyn et al. 2021; Tkachenko et al. 2019). The model of marketing management at the enterprise includes systemically and comprehensively related elements and assumes a focus on market needs, a strategic approach and a focus on long-term commercial success, based on a targeted, integrated, systematic approach to the implementation of all management activities (Figure 1).

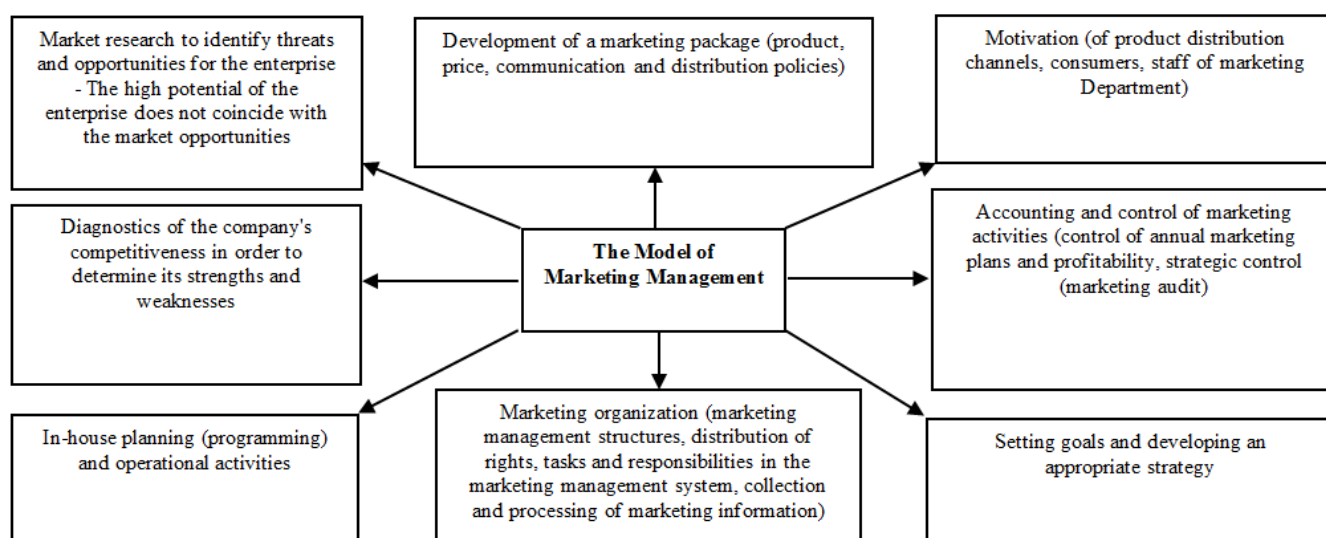


Fig. 1. Model of marketing management of the enterprise. Source: compiled on the basis of research by the authors

The introduction of marketing management at enterprises in the conditions of market relations is an objective necessity and determines, in turn, the implementation of organizational, administrative, legal and scientific-methodological measures. Organizational measures provide for the introduction of appropriate structural changes in the organization and technology of enterprise management. Administrative and legal measures legally establish the creation of functional services of the enterprise, determine the functional responsibilities of each employee (Abuselidze et al. 2021; Tkachenko et al. 2019). Scientific and methodological activities provide a scientific approach to the organization of business processes and management systems.

As can be seen from the figure, with the use of the management concept, marketing becomes the main function of the enterprise, and market research becomes the crucial link connecting supply and demand in the market. Taking into account these factors allows you to create a multi-level system of marketing research, the management contours of which are placed on several levels, corresponding to different objects of research. The transition to marketing management significantly

improves the organization of the company's activities, taking it beyond the intra-company framework. The shift in focus on the end user has given the marketing concept of management a new impetus, a new level of the mechanism of interaction between production and the consumer, the main feature of which is the strengthening of feedbacks (Fursova, 2017).

In the context of globalization, the industry is one of the most important sectors of the economy, it provides economic growth, social development, scientific and technological progress of the country. Mechanical engineering is the main sector of the economy, the level of development of mechanical engineering depends on the economic development of the state, its industrial potential, competitiveness in foreign markets.

The problems of agricultural engineering development are closely interrelated with the development of the agro-industrial sector. The resource potential of the national agro-industrial complex is a set of resource potentials of its three main spheres: regions that produce means of production for agriculture and other branches of the agro-industrial sector and provide agro-technical services; agricultural production itself; regions that process, store

and transport agricultural products and trade in food products (Ajupov et al. 2015, p. 12). Thus, agricultural engineering should adapt to the interests and needs of farmers in full accordance with the development plans of the agro-industrial sector.

In general, the withdrawal of the machine-building complex from the crisis requires the development of a national program for the development of agricultural engineering, which provides for the production of technological complexes of machines and equipment for agriculture, food and processing industry, bringing the production of new types of final products and parts to the level of meeting domestic needs for them by 70%. To do this, you need to implement 1.5 thousand new types of products (existing nomenclature - 2 thousand). This will make it possible to meet Ukraine's own needs in the corresponding equipment by 55%. An investment program in this area with the involvement of foreign capital can provide an opportunity for the development of agricultural engineering enterprises. In general, the policy of the development of agricultural machinery should be deployed in the direction of the greatest self-sufficiency of the production of components on the territory of Ukraine (Olefirenko, 2016). Thus, at present, agricultural engineering enterprises are focused on the use of advanced technical experience of foreign countries, re-profile production for the production of new models of agricultural machinery and components for them, as well as expanding the list of manufactured spare parts and components.

In our opinion, the differences in the management of industrial enterprises, especially agricultural machinery, are determined primarily by their own characteristics, the main of which are (Hyvärinen, 1990):

- increased technical and technological complexity of production processes;
- increased resource intensity of production, including scientific, capital, labor, energy intensity and increased qualification requirements for personnel;
- relatively long production cycle;
- the need for standardization and certification, increased requirements for product quality;
- the need to apply foreign standards.

The industrial enterprise should take into account external factors while solving its internal issues (economic, natural, scientific and technical, political, demographic, cultural components) and look for new opportunities in the marketing environment, taking into account potential threats. Consistency and purposefulness of actions in a complex and diverse marketing environment are achieved through marketing management.

The reasons that led to the need for the transition of industrial enterprises to modern concepts of marketing management, related to trends and features of the development of production and marketing of industrial products, the emergence of new forms of organization of markets and the activities of business entities. In

particular, this is due to the further development of the economy in the context of scientific and technological progress. Advances in science and technology have accelerated the pace of adaptation of production to demand, which is constantly changing.

In Ukraine, the weak marketing policy of industrial enterprises is often limited to advertising and information collection. It is usually not possible to analyze the entire marketing complex of enterprise management. In addition, in the field of mass production at this stage of economic development, it is difficult for domestic industrial enterprises to compete with Western firms that have more high-tech equipment (Alukhanyan et al. 2017). Industrial enterprises should increase the share of spending on strategic marketing and R&D in order to apply modern management approaches and methods and ensure the competitiveness of their products. Thus, in the conditions of toughening competition and an unstable economic environment, enterprises need to increase the quality and efficiency of work at the initial stage, and from a large number of alternative options for the development of the object or solving the problem, select the best option. This approach will avoid unnecessary costs in the subsequent stages of the object's life cycle.

The marketing approach to the production of agricultural machines should shift towards an exclusive service for the buyer. At the present stage, instead of the marketing approach, industrial enterprises often use the production approach, which is focused first on improving the technology and organization in the system itself and only then on improving the other components of the system. If the quality of the input does not meet the requirements for ensuring the competitiveness of the output of the system, you can get a zero result as a result (Olefirenko, 2016). Summing up, we can say that the modern practice of managing marketing activities of agricultural engineering enterprises shows that the most universal target function, both in terms of applying to different markets and different business models, and in terms of combining the planes of interests of owners and management, is the cost of business.

The enterprise of agricultural engineering, as a strategic link, operates both in the consumer and industrial markets. However, despite the fact that this approach has a certain functional orientation, its orientation is slightly different. In the market of mechanical engineering products, production is specialized, so the choice of strategies is limited. In the consumer market, the production process is focused on the target group of end users, promotes the free choice of the marketing strategy of the enterprise. Consider the strategic marketing system of the enterprise in the market of mechanical engineering products (see Figure 2).

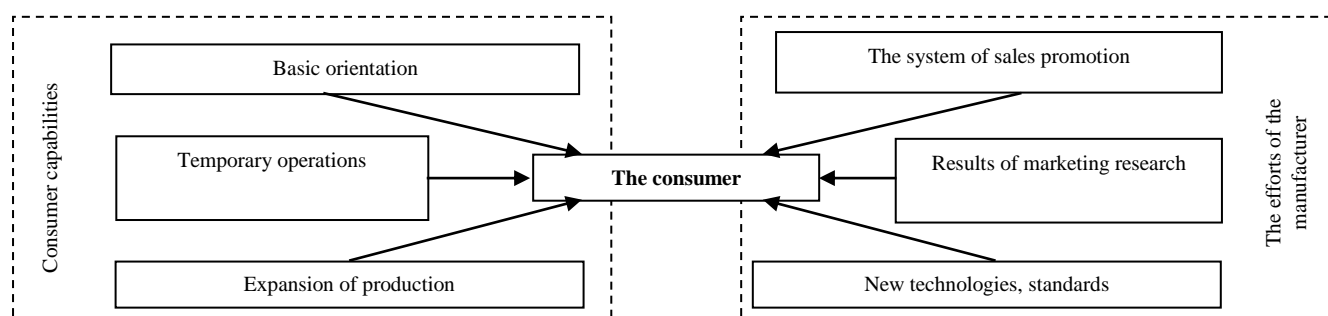


Fig. 2. Strategic marketing system of the enterprise in the market of agricultural engineering products

Source: compiled on the basis of research by the authors

Measures to promote sales in the industrial market are traditional-discounts when buying a large batch of goods and regular customers. The consumer of agricultural machinery products has rather strictly regulated needs that directly affect his behavior. Thus, it cannot deviate from the basic orientation of production, since production capabilities are limited (Fursov, 2017). The purchase of an additional volume of goods is possible only when the consumer's enterprise is focused on expanding production or performing temporarily unplanned operations.

To exist, an agricultural engineering enterprise must clearly define and fulfill its mission. The basis of the competitive status is the competitive advantages of the enterprise in various aspects of its activities. However, unlike most machine-building industries, the evolution of agricultural machinery has specific features that are unique to this industrial sector. First, the development of the agricultural machinery industry is inextricably linked with the development of agricultural production, and therefore

Table 1

Production of certain types of machinery and equipment for agriculture and forestry in 2014-2020

Product Name	2014	2015	2016	2017	2018	2019	2020*
Tractors for agriculture and forestry	6847	5280	4273	4121	4206	4894	4661
Ploughs	6115	15403	6203	4446	3672	2068	1623
Rippers and cultivators	7396	4652	4358	3739	3440	3607	3141
Disc harrows	7421	1645	1975	2044	2252	2799	3027
Harrows (except disc harrows)	11054	7500	7769	7881	5815	8642	6738
The seeder and other agricultural, horticultural	2806	1898	2381	2236	2806	4520	3959
Organic and inorganic fertilizer spreaders	...1	...1	384	508	252	480	945
Agricultural and forestry machines; ice rinks for lawns and sports grounds	2599	1696	1833	2417	3067	3569	3047
Tractor mowers, including mounted plasma mechanisms designed for driving or towing a tractor	1710	2182	2307	2609	2463	3729	3272
Potato diggers and potato harvesters	...1	292	2067	1135	561	—	—
Grain harvesters	399	59	68	...1	100	154	65
Portable mechanical devices, whether or not equipped with an engine, for spraying or spraying liquids or powders, thousand pcs.	672	692	815	985	640	800	643
Sprinklers and sprayers of liquid and powdery substances installed on the tractor	844	1099	831	804	800	816	1048
Trailers and semi-trailers are self-loading or self-unloading	3342	2931	3135	2044	1666	2738	3260
Machines for the preparation of animal feed, thousand Pieces	161	123	102	98,7	63,2	74,8	46,1
Volume of sales of mechanical engineering products (codes 26 + 27 + 28 + 29 + 30), UAH billion	130,0	140,5	113,5	101,9	115,2	130,2	130,0
To the industry, %	10	10	8	7	6,5	6,1	6,8
Volume of sales of agricultural machinery products (code 28.3), billion UAH	4,83	4,55	3,67	4,13	6,29	7,64	9,26
To mechanical engineering, %	3,7	3,3	3,2	4,1	5,5	5,9	7,1

* - Production data are given for January-November

Source: Compiled according to the State Statistics Service

changes in land use and the development of agricultural science, which, in turn, are stipulated by the current socio-political conditions and progress in the field of agricultural knowledge. The second factor influencing the development of agricultural machinery is scientific and technological progress, the historical gait of which makes it possible to technically improve both agricultural machines and equipment and technologies for their production. The impetus for the development of domestic agricultural machinery is the agricultural holdings created in Ukraine (Scheer, 2012).

According to the state target economic program for the development of domestic mechanical engineering for the agro-industrial complex until 2020, agricultural engineering of Ukraine is a strategically important branch of the state economy, forms and significantly affects production volumes, production costs and prices for basic types of food for the country's population (Datsii et al. 2021, Abuselidze et al. 2022) (see Table 1).

For the widespread use of modern technology of a high technical level in agriculture, it is necessary to ensure the restoration of the financial viability of agricultural producers. Since the beginning of 2015, experts have recorded an increase in foreign trade: the volume of exports of equipment increased by 14% compared to the same period in 2014, and the volume of imports - by 18,1%. The characteristics of the dynamics of the main types of agricultural machinery in agricultural enterprises

in 2018-2020 demonstrate the absence of positive structural changes. In 2019, compared to 2018, the vast majority of varieties of agricultural machinery experienced a decrease, a slight increase was observed only in the number of available feed distributors (+ 2.62%), sprinklers (+ 2.47%) and roller reapers (+0.82%), and the number of beets harvesting machines decreased by 11.65%, flax harvesting - by 10.53%, corn harvesting - by 8.4% (see Table 2).

Table 2
Availability of the main types of agricultural machinery in agricultural enterprises in 2018-2020 (units)

Type of equipment	Agricultural enterprises			Increments, %		
	2018	2019	2020	2019/2018	2020/2019	2020/2018
Tractors of all brands, including tractors on which the machines are mounted	130811	127852	132686 -	2,26	3,78	1,43
including:						
Tractors of all brands without tractors on which the machines are mounted	120638	118457	122746 -	-1,81	3,62	1,75
Cargo and passenger cars	87307	83567	85417	-4,28	2,21	- 2,16
Tractor trailers	52176	49004	48547	-6,08	-0,93	- 6,96
Seeders of all types	65596	65492	67157	-0,16	2,54	2,38
Potato planters	1689	1631	1573	-3,44	-3,56	- 6,87
Sprinkler machines	3723	3815	4103	2,47	7,55	10,21
Tractor mowers	8014	7892	8228 -	1,52	4,26	2,67
Reapers roller	13485	13595	14477	0,82	6,49	7,36
Combines:						
Grain harvesters	27196	26735	27366	-1,70	2,36	0,63
Corn harvesters	1784	1634	1534 -	8,40	-6,12	- 14,01
Forage harvesters	5274	4982	4861	-5,54	-2,43	- 7,83
Flax harvesters	209	187	190	-10,53	1,60	- 9,10
Potato harvesters	1276	1215	1239	-4,78	1,97	- 2,90
Sugar beet harvesting machines (excluding machines for cutting beet greens)	2747	2427	2278	-11,65	-6,14	- 17,07
Milking machines	10476	10232	10305	-2,33	0,71	- 1,63
Feed distributors:						
For cattle	3561	3484	3465	-2,16	-0,55	- 2,70
For pigs	3364	3452	3140	2,62	-9,04	- 6,66
Conveyors for manure harvesting	17244	16386	16255	-4,98	-0,80	- 5,73

Source: compiled by the author on the basis of data from the statistical collection "Availability of agricultural machinery and energy capacities in agriculture in 2018-2020"

It is proved that "The purchasing power of Ukrainian enterprises for the purchase of equipment annually is only 5-7 billion UAH with an annual market capacity of 22-28 billion UAH. Most agricultural enterprises have almost no opportunity to purchase modern equipment and combined machines". In order to maintain the process of updating the machine and tractor fleet and high-tech equipment in agriculture, it is necessary to ensure the effectiveness of state programs to support domestic agricultural enterprises, which will restore their financial viability, and this in turn will serve as an impetus for the development of the primary and secondary market of agricultural machinery due to the growth of demand for technical means.

Machine-building enterprises in the last decade have had a number of serious problems: underutilization of production capacities, displacement of domestic manufacturers of machinery and equipment from domestic markets by foreign ones, weak (in comparison with foreign ones) innovation activity, low level of wages

among qualified personnel. The rapid development of the global financial and economic crisis and the Covid-19 significantly worsened the prospects for the industrial development of the Ukrainian economy (Abuselidze and Slobodanyk, 2020; Abuselidze and Mamaladze, 2020; Abuselidze and Slobodanyk, 2021; Davidenko et al., 2021). This fact is confirmed by calculations made on the basis of official statistics.

The study of the management system of enterprises for the production of agricultural machinery allowed us to identify the shortcomings of the existing approach, which initiate a decrease in the efficiency of the enterprise. As a result of research, it was found that it is necessary to generally change the existing functional-oriented approach to a more modern one, which is able to provide flexibility, adaptability, reaction speed, synergy and dynamism.

As a new method of managing agricultural engineering enterprises within the framework of forming a strategic partnership, as well as modernization of production, and

the introduction of new production facilities, it is advisable to adopt a process-oriented approach. This approach to the enterprise management system allows you to form a structure whose activities are aimed at constantly improving the quality of the final product and meeting the needs of customers. This makes it possible to take into account a number of important aspects, such as the interest of each employee in improving the quality of the final product.

With a process-oriented approach, much attention is paid to the interaction of departments, strategic structural units, that is, the consolidation of their separate and disparate efforts aimed at performing specific functions, into a single technological process of the overall efforts of the enterprise, aimed at achieving a specific result - providing customers with a high-quality final product in a strictly set time frame. It is necessary to highlight the significant advantages of the new approach to the management system of the agricultural engineering enterprise: high degree of motivation; reducing the burden on the manager, since responsibility is distributed among the process performers; high flexibility and adaptability of the management system; the dynamism of the system and its internal business processes due to the vertical integration of material flows and a common interest in the rapid exchange of resources, including information; reducing to a minimum the role of the bureaucratic mechanism; transparency of the management system, as well as simplification of coordination, organization and control procedures; the possibility of total automation system. This model ensures the efficiency of the enterprise based on the use of a process-oriented approach. Within the

framework of this model, four subsystems are formed, which contain a number of elements:

1. *The target subsystem*
 - improving the quality and competitiveness of products through modernization of production;
 - system of resource saving measures;
 - expansion of the product sales market;
 - organizational and technical development of production;
 - provision of social programs within the enterprise;
 - environmental management system.
2. *Providing the subsystem*
 - methodological support of the management system;
 - resource support of the management system;
 - information support of the management system;
 - legal support.
3. *Managed subsystem*
 - strategic marketing;
 - research and development activities in the field of innovation creation;
 - internal marketing;
 - the production process;
 - tactical marketing;
 - customer relationship marketing (service).
4. *Control subsystem*
 - joint venture personnel management;
 - development of joint management solutions;
 - operational management of the implementation of solutions.

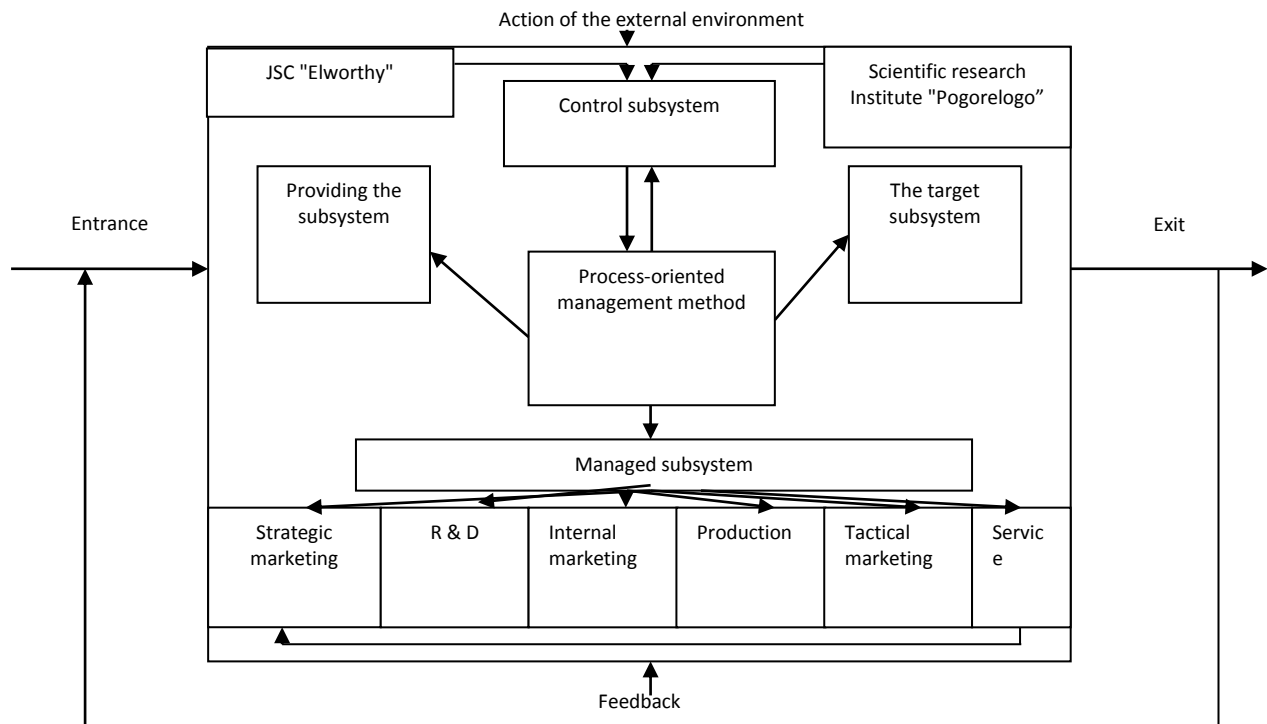


Fig. 3. Model of the management system of an agricultural engineering enterprise (on the example of JSC "Elworthy") within the framework of a strategic partnership

The above management system allows you to combine all management activities into a single complex in order to ensure the competitive advantages of the enterprise on the basis of prompt and adequate response to changes in the marketing environment of the enterprise. The management system of JSC "Elworthy" assumes the presence of the following interrelated and integrated components within a single management process:

- Development of industrial enterprise strategy and its coordination in the marketing environment;
- Organizational design, which consolidates the functions of forming the organizational structure of management;
- Controlling, which allows you to coordinate and control the process of implementing the goals and

objectives of an industrial enterprise in accordance with the available resources and capabilities;

- Management decision-making is based on the principle of hierarchy, which allows you to make a decision on the elimination and minimization of identified deviations.

Solving problems related to the use of marketing information covers a number of changes in the organization's processes and technology. Therefore, the specification of the decision before its implementation is of great importance. For this purpose, we propose a system for organizing marketing information at agricultural engineering enterprises (see Figure 4).

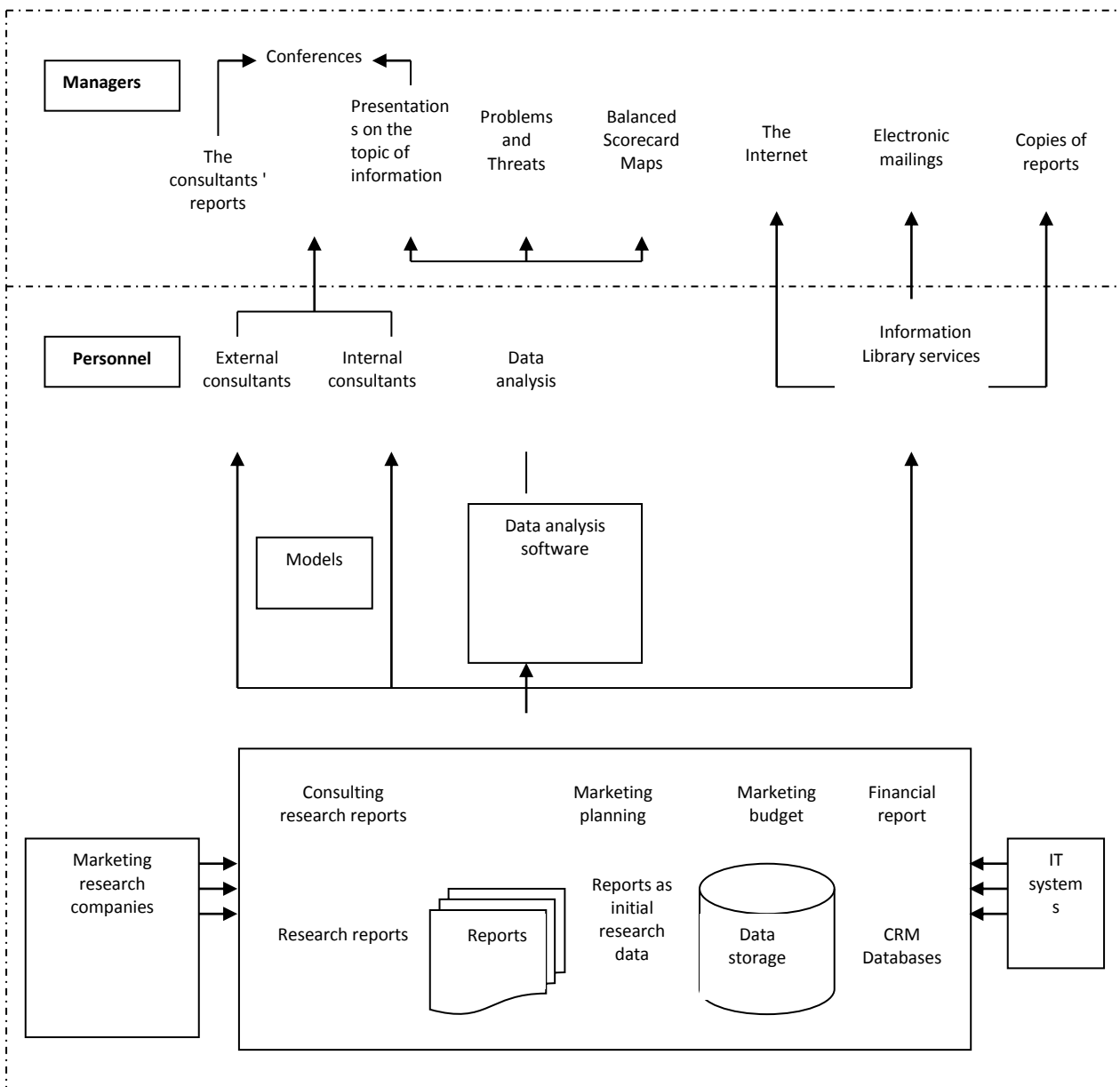


Fig. 4. Marketing information organization system of JSC "Elworthy"
Source: compiled by the author

It consists of four main parts: marketing information libraries, sets of management methods and tools, databases for consumers and other stakeholders, requirements and rules for the use of information.

The main task for creating a library of marketing information is to combine all sources of information:

1. The report is stored in a single central library, which includes: marketing research report; reporting summary tables of market research; reports of external consultants; data from consumer satisfaction surveys; marketing plans.

2. Consolidated electronic sources of marketing data: financial statements; CRM data; the results of the research.

Collecting data for consumers and other stakeholders involves developing the skills needed to help top management understand the consumer. The main goal of marketing management is to provide managers with methods and tools that will allow them to improve marketing planning, control systems and decision-making. In marketing, there is no universal method of market research. The idea of accumulating reference models in marketing, that is, information accounting models, repeats the general idea of creating a repository of business knowledge based on processed and systematized experience. This is one of the latest developments in management methodology.

The proposed model of the enterprise management system within the framework of strategic partnership allows you to combine all management activities into a single complex in order to ensure the competitive advantages of the enterprise.

4. Conclusion

Modern practice shows that the main feature of marketing management of a machine-building enterprise is the cost of business. The concept of marketing management at a machine-building enterprise should be based on a targeted, integrated, systematic approach to the implementation of all management activities.

An important factor in the slowdown in industrial development is the decline in investment dynamics. By types of economic activity, mechanical engineering is the main manufacturer and supplier of high-tech products. A small number of industrial enterprises introduced innovations in their activities: we carried out complex mechanization and automation of production, we introduced new technological processes and they mastered the production of innovative products.

The need to introduce a marketing opportunity management system is due to the need to develop a method for evaluating modern economic approaches to the practical activities of enterprises. A quantitative assessment of this potential will reveal hidden reserves in the development of enterprises, as well as increase returns through the reasonable use of advanced marketing tools, which are currently absent.

A new approach to the creation of a personnel management system at agricultural engineering enterprises is based on the idea of motivation. The key element of the new approach is the identification of factors that influence the result.

The proposed model of the enterprise management system within the framework of strategic partnership allows you to combine all management activities into a single complex in order to ensure the competitive advantages of the enterprise.

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