

consider only scientific and technical or science and technology achievements new or advanced goods in the technological processes, the services realized in the internal and external markets as objects of innovative activity and how to treat other innovations? For example, those which are not marketed or arrive to the consumer via other, not market channels? A lot of similar questions can arise.

These points in question are not new and periodically discussed among researchers, what testifies again the insufficiently worked out methodological basis of innovative development, and results in lack of methodical toolkit.

The statement about insufficient readiness of methodological basis can seem disputable in connection with presence of a considerable quantity of works on the given subject both in Russia and abroad. In this respect it is possible to object that domestic researchers, unfortunately, generally follow those directions set by foreign researchers and not so often, as it would be desirable, select own author's directions.

To sum up, all the above said testifies firstly, the importance of conceptual and categorial tools both for the economics and for economic practice; secondly, the necessity to analyze the terms of innovative field used in economic and legal spheres.

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A. A. Boyko, N. V. Bakhmaryova

Siberian State Aerospace University named after academician M. F. Reshetnev, Russia, Krasnoyarsk

## **PROBLEMS OF MANAGING REPRODUCTION OF DEFENSE-INDUSTRIAL FUND AT THE MACHINE-BUILDING ENTERPRISES**

*The basic problems of managing reproduction of defense-industrial fund at the machine-building enterprises are considered by the authors.*

*Keywords: problems, reproduction, management, basic production assets.*

The modern machine-building complex is a set of industries producing various cars, presented by actually mechanical engineering and metal working. The mechanical engineering consists of such major branches as power mechanical engineering, electrotechnical, machine-tool constructing and tool industry, instrument production as well as of some separate branches which are producing the equipment for extracting and manufacturing industry, building, transport, mechanical engineering, motor industry, tractor and agricultural mechanical engineering, etc.

Today the mechanical engineering in Russia numbers about 49,000 functioning enterprises and organizations that make about 55 % of all enterprises of the industry.

In the USSR the development in the sphere of mechanical engineering was put in life mainly in extensively, as it constantly involved additional labour, material and financial resources therefore the huge industrial machinery which was not of appropriate scientific and technical level and has been saved up and is inefficiently used. It has led to lowering of not only economic indicators of defense-industrial fund (DIF) reproduction, but also financial indicators of enterprises activity in general.

In their own turn technical possibilities and economic efficiency of machine-building complex functioning is defined in many aspects by the active part of its basic production

assets. The mechanical engineering takes leading positions as per percentage of DIF deterioration which is 54.3 %. The factor of basic means retirement in this branch is larger than updating factor and as the result the majority of them function beyond the limits economically justified serviceability.

Updating DIF in present-day conditions is restrained by complicated financial situation at the enterprises of mechanical engineering and insufficient investment support of the state. The implementation of technical and organizational innovations is carried out at the machine-building enterprises as a rule in the basic production that results in disproportion between the level of the basic production and the level of maintenance of the fixed capital in an efficient condition. Operational expenses is one of the most meaningful issues of expenses at the machine-building enterprises that make 15 % of the production cost price. It results in low efficiency of DIF management that negatively influences the economic condition of the enterprise in general as labour productivity of industrial workers appreciably depends on the condition and working capacity of the equipment, duration of its idle times because of repair works. Besides, without timely and qualitative repair and service works for the equipment it is impossible to provide output of competitive products.

High wear and tear and obsolescence and also low technological level of the basic production assets cause low

degree of the equipment utilization. Low utilization of manufacturing capacities at the mechanical engineering enterprises quite corresponds to that fact that more than one third of them are not suitable for output of competitive products.

As a whole the general condition of the field is far from being satisfactory. As for now the management problem and the basic problems of machine-building enterprises are hardly fastened by DIF reproduction in one knot. Causes and effects are interrelated so that it is not always possible to differentiate one from another. According to the majority of experts one of the main reasons influencing growth of efficiency of DIF reproduction is the administrative factor.

In the developed economy practice at the mechanical engineering enterprises, questions of fixed capital reproduction are not different from the general managing problems and are solved independently by separate production and managing structures of different functions and levels of subordination [1]. Splitting to separate areas of management the process of DIF reproduction is carried out by services of the enterprise without due interrelation of the decisions taken, with no united centre to co-ordinate their activities. The topicality of the management problem for DIF reproduction is defined first of all, by the fact that at the enterprises the basic attention is still given to questions of technical development of manufacture and the problems of rational production processes are underestimated and become possible only at accurate interaction of all the resources, i.e. subjects, means of labour and the work.

It is DIF reproduction that should be considered as the most typical problem that prevents modern enterprises from their successful functioning in the conditions of developed market relations.

To create the effective mechanism of managing DIF reproduction at the machine-building enterprises, it is necessary to allocate, first of all, the real reasons of the given problem in this area and objects for perfection.

The majority of the machine-building enterprises are characterized basically by large vertically-integrated structures supervising the basic part of manufacture that has strongly affected the organization of management of process of fixed capital reproduction in general.

Long-term experience in usage of vertically-integrated structures management [2; 3; 4] has shown that they are most effective only at the enterprises where the management personnel carries out routine, often repeated and rarely varied problems and functions, solving standard administrative problems. Their advantages were especially shown in management of the enterprises in the stable external conditions characterized by small number of external factors and low level of their influence on the organization.

However the quantity and complexity of problems of equipment reproduction management is constantly growing in dynamically varying modern market conditions. A huge role in the given process is performed by the time factor, binding to accelerate efficiency in taking administrative decisions.

Between the beginning of work and the end result, between initial raw materials and the end-product there began to appear more and more links in a united chain of works that

inevitably led to growth of an intermediate link of directing bodies. As the result there appeared a huge hierarchy each level of which consistently expanded "administrative capacity" of the higher that finally has led to bureaucracy. It resulted in huge losses of efficiency of the general activity and its separate functions. Thus the greatest reserves of activity efficiency of each function, and all the process in general are put on joints of links of the united chain of works for the end result achievement, and as in the sphere of coordination of joint actions providing an efficient management and rationality of resources costs.

The management focused on function is based, first of all, on separated, not co-ordinated use of the enterprise resources preventing them from receiving high economic benefit and reaching high enough indicators.

The important indicator of development of any control system is the characteristic of communications between its structural elements. The characteristics for the majority of the enterprises of mechanical engineering are separated enough, broken operating industrial links between functional departments. And to achieve strengthening and reunion of these communications at such an organisation of management is problematic enough. Owing to that the regulation of works in the given organizational structures is realised through functions, the management of functions is carried out "from top to down" through vertical hierarchy. Taking basic decisions occurs at management top level, and the only "owner" (terminology ISO) of all processes in the company is the "first person" of the company: CEO who is individually responsible for quality of the end result and terms [5].

Managers of lower level take responsibility only for performance of separate actions (functions), instead of for all the result of the activity (business process). They are not responsible for work from the beginning till the end, their activity lies only within the limits of functional area. To speak formally, the work for them cannot be simply defined in any other way [5].

Realization of each function is provided with corresponding division which acts as a structural element in the general process of DIF reproduction. The divisions which are at one hierarchical level, but in different functional zones cannot affect activity of the neighbouring divisions because of lack of regulation in their mutual relations in any way. Employees of these divisions as are not "co-owners" of the general result of work, they simply do not understand the role in this process, and interaction among employees of the department has chaotic character. The isolated position of each service in the enterprise leads to an unjustified competition between functional departments and organization divisions, the system of estimation of their activity is carried out by results of function, and criterion of productivity of functional division is the opinion of its chief. That means aspiration (subconscious or realized) of each worker to please the chief, instead of preparing on time the information for colleagues from the neighbouring department, which is necessary for performance of certain work, and furthermore for the client.

All the aforesaid does not allow to provide and show, on the one hand, awareness of the personnel of the contribution to the end result of the activity, and on the other hand, does

not allow to provide certain responsibility for this contribution. Performance of functions is carried out as if in a vacuum, as there is lack of attention of the interested parties. And these parties naturally have their own point of view on what the success of the general activity is. As the interested parties (consumers) of process of DIF reproduction, as a rule, are internal consumers (departments and services), they like magnets are constantly attracting on themselves the possibilities of the given process. Isolation of divisions and services from each other leads to monopolization of decisions, substitution of target reference points of the organization on functional target reference points. With the lack of interests balance of the parties "the management field" of the reproduction process is constantly made to be dissymmetric.

This disbalance of interests results in isolation of functional divisions, separation, and sometimes discrepancy of views on the given process at taking administrative decisions. Thus, the achieved goals contradict to each other. For example:

- the personnel which is responsible for process of DIF reproduction, is not connected with financial and economic services, therefore has no idea of how the acquisition of the new equipment, the market position of the enterprise, and will change the financial result;

- at the equipment choice the technological estimation of its application to the definite nomenclature of details to define the set of necessary options is not carried out. Therefore in real manufacture one has to face the necessity for more purchases (it is frequent its cost is close to cost of the base complete set), or expensive already bought options happen to be out of use;

- "planned" re-equipment is poorly connected with specificity of products which are planned to be produced with the new equipment, and is focused on preservation of the developed technology;

- the tendency of "scrappy" updating leads to complications in service of the equipment of various manufacturers and problems of kitting up with spare parts.

The superficial analysis of the status in the field of DIF management leads to a formalistic approach of creation and functioning of system of DIF reproduction and quality of the done work.

The analysis of undertaken measures on improving management of DIF reproduction has shown that one of complicated questions on a way of creating effective structure of DIF management are: weak delegation of powers and responsibility for the decisions taken, the complicated system of coordination on levels of that site of work where it is carried out.

To take any decision, irrespective of its importance, participation of the higher chief is required. In his own turn, that chief co-ordinates prospective decisions at higher level and etc. First of all it is efficiency and uninterrupted operation of the result of all work that suffer from such mechanism of «management», the speed of decision-making is decreased. So the decisions to define the organization of the fixed capital at the best are developed in the course of the one-alternative decision, the operative ones are taken, as a rule, by intuition on the basis of workers' experience with taking into account available recommendations of practical character.

Rather low degree of differentiation of powers and responsibility in office hierarchy (the fact of functional barriers), unwillingness of managers to expand a circle of objectively solved problems of management to incur responsibility for taking decisions leads to decrease in motivation of all employees of the organization on improvement of the general activity, to lack of workers' initiative to independently search for ways out and decisions of the problems fixed to them.

The analysis of practical activities of the machine-building enterprises has shown that workers remain within the limits of duty regulations, within the limits of standard methods. The less possibilities of handling their work the employees of the organization have, the less responsibilities for result of this work they get. For example, if the manager individually defines working conditions for employees, the latter will have almost always only formal duties which only need to be carried out. Thus employees will not feel responsible for performance of the functions, owing to that requirements for work are already in advance predetermined, and processes are supervised. They perform the work according to formal duties, but do not raise any initiative, they do not take risks and do not show feeling of private responsibility. Many formal duties are given in the form of "oral messages" and not fixed on paper. As the result there are complications connected with definition of responsibility, duties of each employee, the control and reporting mechanism. Such conditions do not create preconditions to gain credentials and there is nothing for employees to do but to go on carrying out the tasks from above.

It is necessary to underline that if the employees incur obligations, they are not always capable to do them at full, and it is made by following reasons:

- the limited outlook of the employees which does not go beyond division, organizational problems that belittle the general organizational purposes and problems to the functional ones;

- the lack of professional knowledge, especially if business concerns a highly specialized field of activity;

- banal shortage of time because of great volume of carried out duties;

- restriction of possibility of professional development for functional and especially linear managers (the latter get free from specialized administrative functions, focusing the attention on problems of merely manufactures);

- problems in managing general training of employees.

It is necessary to take into consideration that the share of trained and motivated personnel in total number is insignificantly small, and for normal functioning of the enterprise the highly-skilled personnel is required. It is the management of the general training that defines the personnel structure and in essence forms the future shape of all the collective of the enterprise. The organization should strive for their employees to master the trade and also "broaden" getting deeper, mastering neighbouring trades. As the inspection of the enterprises shows in mechanical engineering low qualification of personnel causes about 70 % of spoilage and 30 % of breakages of the equipment, also 35 % of productivity decline [4].

According to the opinion of the majority of experts one of principal causes for more than half of problems of the personnel

efficiency at the enterprises is the insufficient information. Thanks to improvement of quality and efficiency of the information which is received by employees, it is possible to raise efficiency of activity of the company by 20 and even by 50 % [4]. In structural divisions of the organization the information generalization is provided "from below upwards", and also its concrete definition is "from top to down". Formation of communication networks and creation of conditions for successful functioning of communications in the organization make one of the major problems of management.

Now at the enterprises of mechanical engineering employees of the administrative personnel use no more than 1/3 circulated information [1]. It testifies that information streams at the enterprise and communication with the external world are broken. However just information for effective work is not enough, but also communication links are necessary. The main objective of communications at the majority of the enterprises is transferring orders and the control of their performance, instead of providing the clear picture of the given information which is the subject of exchange. With hierarchical, subordinated structure of management for DIF reproduction at the machine-building enterprises communication streams are not so important, this structure is intended basically for written, formal kinds of communication channels and for vertical stream of messages from the head to subordinates. However, for the information going "from top to down" it is necessary to get through all intermediate levels of management hierarchy so that to overcome difficulties of communication streams. It is a difficult process as each stage of passing is simultaneously a point where the sense can be either deformed or completely lost, or execution of decisions is detained. The weak feedback, prevalence of one-side exchange of information bring with them a number of discrepancies, distortion and lack of confidence in correctness when interpreting messages.

Structural divisions are characterized by stable relations in the department. From the point of view of reception and processing of the business information structural divisions consider themselves self-sufficient. Due to numerous contacts among employees of the division, constant information interchange and possibility of its fast check, employees neglect external relations with other functional divisions and mistrust the information received from outside, they basically analyze the internal information, limits of the received and proceeding information become more rigid. Such condition of structural divisions finally negatively affects processes of integration into the organizations. Dissociation, closeness and mistrust are organization characteristics where there are basically interconnected communication networks creating barriers to free overflowing of information in the organization. Barriers on the way of information exchange can be a consequence of an overload of communication channels as well. The manager absorbed by processing of the given information and necessity to provide information exchange, is not in a proper condition to effectively react to all the information. He is compelled to eliminate less important information and to leave only that which seems to be important for him. Unfortunately, the way the manager

understands the importance of the information can differ from the way the employees view that.

Duplication of functions, problems and powers inevitably leads to parallel streams of information, its distortion and movement delay at taking administrative decisions. As the same information comes to divisions of the organization and to its management from different sources information duplication too is inevitable. Besides the more levels there are in the organizational structure, the greater the probability of information distortions is as each level filters and corrects the handed over information. The irrational structure can cause conflicts among various divisions and separate heads that naturally create serious problems at information exchange and taking administrative decisions.

In such conditions the question of distribution of orientation ideology to requirements of the client and the end result of the organization activity becomes problematic; decision-making processes on improvement of the general activity aimed at the end result, and first of all the top management does not co-coordinate decision-making processes with all other aspects and criteria of activity of the enterprise. The revealed problems of management of DIF reproduction and their reasons force to reconsider basical principles of designing organizational structures and to go to orientation not on functions, but on processes.

In the conditions of dissociation, backwardness of operating industrial communications it is important for each employee of the enterprise to realize the necessity of perfection in organizational structure of management for the sake of solutions for mutually advantageous problems, to understand the current situation inducing them to joint actions. Here again the process-oriented approach to management of DIF reproduction comes to help. The management focused on processes is based, first of all, on complex (integrated) use of resources of the enterprise, allowing to receive high economic benefit and to reach high enough indicators [5]. The focus on the consumer, release of competitive production and providing services of high quality with stable indicators should become the basis of the process-oriented structure of management. This sort of the organizational structure becomes that tool which helps to make it possible to create the effective mechanism of management of reproduction of the fixed capital at the machine-building enterprises.

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