ORGANIZATIONAL APPROACHES TO OPERATIONAL CONTROL AT INDUSTRIAL ENTERPRISES

Abstract. Modern operating conditions of the vast majority of industrial enterprises require an operational control system. This will not only make it possible to timely respond to the negative impacts of the external and internal environment, but will also provide opportunity to make informed management decisions, providing competitive advantages. A well-functioning operational control system will not only identify defects in a timely manner, but also promptly eliminate them and prevent their future manifestations. The approaches of scientists to various aspects of the organization of internal, in particular, operational control at enterprises are considered. Particular attention is paid to the analysis of the operational control organization. It is proved that the organizational structure of an industrial enterprise should have an internal control department, which is directly subordinate to the head of the enterprise and is interconnected with all its structural divisions. The composition of the internal control department is presented, which includes the head of the department and internal controllers (an internal controller and an operational controller). Their functional responsibilities are determined. It is noted that the operational controller should carry out operational control of possible deviations, taking into account their further influence on the results of activities, analyze control results, provide the head with information on the identified shortcomings in the work of structural units, as well as proposals for their elimination. A sequence of actions for the control process is proposed to be carried out using the following main stages: preparatory, verification, comparative, diagnostic, informational, managerial and final. Each of them is performed by a certain group of subjects of operational control, which take various control measures. The implementation of operational control at industrial enterprises in accordance with the proposed stages will contribute to the division of duties between employees directly involved in control, the prompt transfer of information to the appropriate decision-making centers and the rational organization of operational control at industrial enterprises.

Keywords: internal control, operational control, industrial enterprise, control organization, internal control department, operational controller, stages of operational control.

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ОРГАНИЗАЦІЙНІ ПІДХОДИ ДО ЗДІЙСНЕННЯ ОПЕРАТИВНОГО КОНТРОЛЮ НА ПРОМИСЛОВИХ ПІДПРИЄМСТВАХ

Анотація. Сучасні умови функціонування переважної більшості промислових підприємств вимагають побудови системи оперативного контролю, що дозволить не лише своєчасно реагувати на негативні впливи зовнішнього і внутрішнього середовища, а й дасть можливість ухвалювати обґрунтовані управлінські рішення, забезпечуючи конкурентні переваги підприємства. Налагоджена система оперативного контролю дозволить не тільки своєчасно виявляти недоліки, а й оперативно усувати їх і запобігати проявам у майбутньому. Розглянуто підходи науковців щодо різних аспектів організації внутрішнього, зокрема
Introduction. The business environment of Ukrainian industrial enterprises is rapidly changing under the influence of internal and external factors, which determines the need for up-to-date information about their work and the results achieved by each division. An increase in the amount of information requires the management of enterprises to make prompt management decisions, which is associated with the need to reduce the time for collecting, processing, evaluating and analyzing relevant information. Only an effective operational control system will be able to satisfy the information needs of the governing bodies. This will allow one not only to respond in a timely manner to the negative impacts of the external and internal environment, but also to make informed management decisions. The system will not only quickly detect weaknesses, but also promptly eliminate and prevent them. Therefore, it is very important to study organizational approaches to the implementation of operational control at enterprises.

Research analysis and problem statement. N. H. Vyhovska [1], A. M. Liubenko [2; 3], V. P. Panteleiev [4; 5], S. M. Petrenko [6], Yu. S. Pogorelov [7] and others made a significant contribution to developing the problems of organizational support for the internal control system. They solved a wide range of problems and proposed different approaches to exercising control at enterprises. But there is still no unified approach to its organization at enterprises.

Noteworthy are the results obtained in this direction by scientists who conducted research directly on operational control. In particular, B. Y. Valuev defines it as an operational management function that compares actual and reference characteristics to properly adjust deviations [8]. S. A. Koshkarov et al. offer a slightly different, more modern view. They study internal operational accounting and control and emphasize that operational control is an important component of effective production management. It depends on time and has no restrictions in use, measuring instruments and reliability [9]. The authors pay more attention to internal operational accounting, and control issues are limited to its theoretical aspects in relation to accounting, methods and organization according to internal operational accounting data. K. P. Melnyk scientifically substantiates the essence of the concept of organization and requirements for the organization of control and management activities at an enterprise in order to clarify its content and formulate the
main criteria for construction and operation [10]. But he does not specify how directly operational control should be organized at enterprises.

However, without diminishing the value of the results obtained by scientists when studying various aspects of the organization of control, it is advisable to develop a sequence of actions for the implementation of operational control at industrial enterprises as a basis for making operational management decisions.

The purpose of the study is to substantiate the organizational approaches to executing operational control at industrial enterprises, which will prevent possible losses in the process of economic activity.

**Research results.** The effectiveness of control at enterprises is ensured by taking certain organizational measures. In terms of management theory, organization is considered as a constant daily use of techniques, methods and forms for the rational construction and effective conduct of production, creation of favorable conditions for the fruitful work of all participants in management and production processes [1], a consistent well-thought-out structure [4].

From a scientific point of view, organization of control is a debatable concept. Some researchers believe this is a complex concept that expresses the relationship of two interpretations: organization as a sequence of interrelated elements and organization as a set of purposeful control processes and actions [1].

Others understand the organization of control as a stable and ordered set of control units (persons executing control) with hierarchical relationships that reflect the subordination of these units both vertically and horizontally [4].

The requirements for an enterprise to have such a system do not regulate the procedure for its construction. Agreeing with I. I. Babich, it is believed that the internal control system should correspond to the nature and complexity of the activity and the risks taken. It is important for management to distribute responsibilities between units, introducing control into their current activities, as well as to know where and what control processes are established and how effective they are [11].

Organizational aspects of internal control are constantly in the center of scientists’ attention. In particular, V. P. Panteleiev proposed twenty-five basic principles of internal control. The list reflects two different approaches to control: the traditional approach, in which control is based on identifying deviations from the rules and regulations, and the targeted approach, when control of key objects or control points is carried out [5]. It is advisable to use these approaches, and for their compatibility it is necessary to implement elements of control organization in practice.

According to Yu. S. Pogorelov, the organization of internal control is a unified system of interrelated methods and techniques, covering the entire set of control procedures (from the formation of an information base, control actions to the generalization of control results). At industrial enterprises, it depends on the complexity of an enterprise’s organizational structure, the types and scope of activities, the availability of financial resources and the attitude of managers to control [7].

S. M. Petrenko points out that the internal control system contains two subsystems that operate at different management levels: the first level is the owner’s internal control (internal audit subsystem), and the second is the internal control of the executive directorate (internal control subsystem of structural units). The researcher uses the experience of foreign companies and adapts it to Ukrainian enterprises [6].

An analysis of foreign publications shows that they also address various aspects of internal control. Thus, J. Wang and K. Hooper in the practice of control see the transformation of the relationship between the controller and the observed subject. In their opinion, each object of internal control is subject to disciplinary responsibility and control. Management personnel, employees and financially responsible persons of a company are disciplined through various administrative procedures and special rules determined by specific disciplinary practices, especially with respect to accounting data; therefore, the internal control unit plays an important role at enterprises [12]. It has been agreed that in the process of conducting control procedures, all previously committed abuses,
thefts and violations are revealed. Indeed, thanks to disciplinary action, it is possible to control the work of employees of all levels of activity.

D. A. Zumoffen et al. note that in order for the control system to avoid high-speed violations, it is important to move the operational work center of the controller inside the controlled object due to the removal of active restrictions. The re-selection method for a sequential control process is based on using the economic costs associated with deviations as an appropriate measure for evaluating various control structures [13]. This methodology should provide that the control should pay more attention to the problem areas of the internal control of previous audits.

S. Hunziker provides specific performance criteria and guidance for the development of internal control for management. He also emphasizes that the effectiveness of internal control is largely determined by the criteria for achieving the goal, the input to output ratio, effective coordination and the potential for organizational flexibility [14].

H. Shin and S. Park examined the relationship between the internal control system and financial reporting quality and focused on the personal qualities of internal control leaders. They emphasized the role of management personnel involved in internal control in improving the operational efficiency of an enterprise [15].

J. Hulstijn et al. studied the issue of regulation based on continuous monitoring, which will reduce the administrative burden on enterprises. Regular monitoring can be automated and performed continuously. The regulator gains access to certified copies of key data elements from the internal information systems of an enterprise, which serve as an indicator of compliance with specific control objectives [16]. The publications of the above authors are essentially the closest to operational control.

Other scientists who considered the internal control system in enterprise management indicated that it should be built into the existing enterprise management system so that the period between violations (inconsistencies) identified in the control process and the response of the management system would be minimal. In this regard, they provide a matrix of operational control and management [17]. Although this study focuses on analysis of internal control, it already pays attention to operational control.

Considering the theoretical and methodological foundations of internal control in the management system of an industrial enterprise, a team of authors, defining internal control as control by the enterprise, in contrast to external forms of control, emphasizes that in this context, the concept of internal control is synonymous with management and operational control [18]. In our opinion, these concepts cannot be synonymous, since operational control is a subsystem of internal control, which, in turn, is a subsystem of an enterprise management system.

The generalization and evaluation of studies by foreign scholars on the organizational control principles show that more and more attention is paid abroad to the introduction of effective internal control mechanisms. Besides, theoretical and methodological principles, performance criteria, categories, elements, objects, responsibilities and powers of entities are determined, the creation of control models is provided to meet the needs of management personnel. Operational control is rarely mentioned, mainly in internal control studies.

The organization of operational control in the management system is considered by domestic scientists extremely rarely and fragmentarily. B. Y. Valuev, in an operational control study, notes that its main feature is the time frame of implementation, and from the point of view of organization and other characteristics, this is normal control, only with a shift in the temporal emphasis [8].

Other scientists emphasize that the organization of operational control is a set of targeted measures organized by the nature of implementation and timing, which corresponds to the current economic situation and the needs of management at any time [10]; define its essence as a means of rapid response to abnormal or unplanned course of economic events and a tool of counteracting them [19]; indicate that it depends on the organization of the entire operational management system [9]. Their research provides a model of operational control for effective management of enterprise processes, which includes three stages: supply and storage of resources, production consumption and sales of finished products. According to the selected stages, the directions of operational control
are distinguished [9]. This model takes into account the control of the main production processes, but does not affect other areas of activity, which also play an important role in ensuring the stability and continuity of the production process.

Currently, at the legislative level, it is not established in what form control should be organized at an enterprise, therefore, researchers call them differently, often focusing on the practice of other countries. According to paragraph 3 of Article 64 of the Commercial Code of Ukraine, an enterprise independently determines its own organizational structure, sets the number of employees and the staffing table. According to paragraph 1 of Article 64 of the Commercial Code of Ukraine, an enterprise can consist of production structural units (industries, shops, offices, sections, teams, centers, laboratories, etc.), as well as functional structural units of the management apparatus (departments, divisions, centers, services, etc.) [20]. Business leaders, based on the Ukrainian legislation and the recommendations of scientists, try to create such services, but in most cases the expediency of scientific proposals remains questionable.

We believe that the imperfect control organization is one of the reasons for the emergence of many unprofitable enterprises. Undoubtedly, there are many factors that have led to this situation (imperfect legal framework, excessive tax burden, insufficient working capital, reduced demand for products in the face of limited markets, etc.). However, in our opinion, one of the main problems at the microeconomic level is the lack of an effective control system in the enterprise management system.

The main reasons for its absence are the inhibition of the new department integration into the existing organizational structure by the heads of various departments, because some of them do not believe that it is necessary to change the interaction between divisions, the disposal of information and lose their own powers; lack of effective tools for the functioning of the internal control department; lack of qualified personnel. Therefore, to eliminate all these reasons, it is necessary to correctly design the structure of the internal control department and integrate it into the organizational structure of an enterprise; select qualified personnel, form a team; implement an appropriate information system at the enterprise.

Thus, effective management of an industrial enterprise requires operational information, which must be properly organized, taking into account horizontal and vertical relationships. Accordingly, enterprises should have an internal control department, which is an independent structural unit of the enterprise that controls its financial and economic activities and is directly subordinate to the head of the enterprise. But the information provided by him is more general. It states that business transactions have already been carried out, and at that moment, if a deviation is found, it is impossible to change or fix something. And for the purposes of operational management, real-time information is required that will report on the state of objects at the time of these deviations. This will allow one to quickly provide this information to the operational management system, analyze and respond without disrupting the production process. This can be provided by a well-organized operational control system, which must be sensitive to changes in the external environment and capable of adapting to them.

For effective operational control, employees of the internal control department must be qualified, professionally trained and interested in the proper implementation of control procedures.

The study of enterprises’ activities made it possible to determine the composition of the internal control department, which includes the head of the department and internal controllers (internal controller and operational controller). In our opinion, the functional responsibilities of the head of the internal control department should include the following tasks: initiating and improving the organization and methods of operational control, ensuring timely transfer of information about the actual state of controlled objects between structural divisions of the enterprise.

The functional responsibilities of the internal controller should include prompt identification of deviations of the objects’ actual state from the established plans, norms and standards; timely generalization of the control results and their transfer to the head of the department for making operational decisions and taking certain measures, as well as to the operational controller for the operational analysis of the information received.
Fig. 1 shows information flows arising from the constant movement of information from structural units through the operational controller to the head of the enterprise.

The operational controller reports directly to the head of the internal control department. He receives orders, commands and instructions from the head of the enterprise, and draws up operational reports for him, which are compiled based on the data provided to him by the heads of various departments. He must ensure close interaction with various structural divisions of the enterprise, receive information from them on the implementation of shift and daily planned targets, timely monitor the implementation of the production plan, analyze the information and submit reports to the head about the planned and finished products over the past day.

The operational controller executes operational control of possible deviations, taking into account their further influence on business results, analyzes the results of control and provides the head with information about the identified deficiencies in the work of structural units and proposals for their elimination. He uses various means of transmitting information. Such a structural composition of the department, which will perform certain functional responsibilities for organizing operational control, will improve the efficiency of operational control over the real situation of objects and the implementation of economic processes.

In order for the employees of the internal control department to perform their functional duties, it is necessary to determine a clear sequence of actions for the control process. Therefore, taking into account scientific research in the field of internal, in particular operational control,
A scheme of operational control stages has been developed for industrial enterprises, reflecting the influence of subjects on controlled objects using certain methods (Fig. 2). The whole process of operational control includes seven stages. Each of them is carried out by a certain group of operational control subjects, which apply various control measures.

**Fig. 2. Operational control stages**

*Source: Developed by the author.*
At the first, preparatory, stage, an object of operational control is selected (their list depends on the needs of operational management at a certain point in time). They can be conditionally divided into two groups. The first group includes objects that are under constant daily control, their safety and rational use is the main task of operational management. The second group consists of resources and processes that are periodically checked, but their correct use and write-off are also important. At this stage, a preliminary study is also carried out, risks are assessed, an economic process and a unit subject to operational control are selected, based on risk assessment and decision-making on the implementation of operational control.

The second stage is testing. Actions on the controlled object determined at the previous stage are carried out directly by the management personnel and heads of production units within the limits of their job descriptions. To identify violations of the normal course of production, namely, the reasons for deviations of actual indicators from the planned or reference ones, heads of production units, with the direct participation of employees who carry out control measures over the controlled object during their daily duties, carry out checks, observations and control launch of materials into production. To perform their duties more effectively, the shops should be completed with modern equipment, including sensors for operational control.

At the third, comparative stage, actual and planned or normative indicators are compared. This is an important stage at which absolute and relative deviations are detected. Information reaches the heads of structural divisions. If fact = plan, the system continues to work normally, if fact > plan or fact < plan, it is necessary to determine the significance of deviations (if there are deviations in many indicators, then operational forecasting of production and production results is performed). At this stage, the subject is management personnel and employees directly performing the control function. This can be the head of the internal control department or the operational controller, who analyze and compare the actual indicators with the planned or normative ones using internal operational reporting, formed on the basis of actual data received from the places where incomes, expenses and expenditure of economic resources are generated. The internal controller compares the obtained indicators with the accounting data, which are reflected in the primary documents and are sent to the economic departments in accordance with the approved workflow schedule.

The diagnostic stage includes determining and assessing the causes and culprits of deviations of actual results from the planned level, and the identification of production reserves. Heads and specialists of production units are well versed in the industrial technology and can correctly assess deviations. They must do this in such a way that the information provided is simple and understandable to management and the head of the enterprise who need up-to-date information on the real state of affairs at the enterprise in order to quickly respond to unplanned events.

The information stage involves the establishment of cause-and-effect links (information characterizing the main causes of deviations must be promptly obtained by the heads of services and departments in charge of the objects on which the deviations occurred). It should be advisable to use modern technical means of transmitting operational information. Locations where information is collected need to be identified. This allows you to make forward-thinking decisions before adverse events occur. Subjects are heads and specialists of structural units.

Providing operational information is part of the functional duties of an employee of the internal control department — an operational controller. The need for such a position arose due to the constant flow of control information that is created in production units and transmitted to the head for assessment, analysis and timely management decisions. The duties of the operational controller also include organizing meetings of heads and specialists from various departments to consider emerging non-standard situations and summarize their work for the past shift, day, or week. The operational controller establishes information relations between production and management personnel of an industrial enterprise, due to which the operational transfer of information on the state of affairs in production is carried out. Accordingly, management decisions are made in a timely manner, the quality of control and the efficiency of operational management increase.
The management stage includes: making operational management decisions; preparation of analytical information for managers and heads of functional services and structural units for timely management decisions (the main idea is to offer options that will help reduce the time for providing information); verifying the implementation by services and units of recommendations for eliminating the causes of deviations and correcting their negative consequences (monitoring). This stage should be carried out in minimal intervals to quickly restore the operating cycle and reduce the impact of deviations on the effectiveness of business processes. The head should make effective management decisions.

The last stage — the implementation of operational management decisions — ensures continuous daily management of business processes, combines the first stage — object definition — with operational management decisions, and confirms the closed loop in designing an operational control system for an industrial enterprise. Operational management decisions should be implemented by heads and specialists of various departments and employees. At enterprises with internal control units, employees must fulfill the duties of internal control over the implementation of operational management decisions. This will make it possible to rationally organize measures to correct mistakes made in the implementation of economic processes.

The consequences of incorrect management decisions can affect the financial results of an industrial enterprise in the future, when it is almost impossible to correct mistakes. Therefore, managerial misconduct is considered a major latent risk factor. The main task of the operational controller is to timely evaluate and provide the necessary information about the effectiveness of management at all levels, including the assessment of the effectiveness of business processes.

The proposed sequence of stages of executing operational control can be used by any enterprises seeking to improve their activities and develop in the future.

Conclusions. Given scientific research in the field of internal control, in particular operational control, it was noted that industrial enterprises should have an internal control department that monitors their financial and economic activities. Its composition and employees’ functional responsibilities are determined. The position of an operational controller has been proposed, directly responsible for the implementation of operational control at an enterprise.

A clear sequence of actions for the control process is defined. A scheme of stages of operational control for industrial enterprises is developed, reflecting the influence of subjects on controlled objects using some methodological techniques. The whole process of operational control includes seven stages. Each of them is performed by a certain group of subjects of operational control, which apply various control measures. Implementation of operational control at industrial enterprises in accordance with the proposed stages will contribute to the division of responsibilities between employees directly involved in control, the prompt transfer of information to the appropriate decision-making centers and the rational organization of operational control at industrial enterprises.

Thus, the operational control system should be organized in such a way that it is simple, flexible (timely response to changes in production technology), clear, dynamic (timely response to changes in market conditions, production technology and other factors), and systematically providing the necessary objective information. Only if these requirements are met, it can be effective and would help prevent external and internal risks.

Література
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