

Improving business process management at a small agribusiness enterprise

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Abstract. The purpose of the work was to generalize approaches used in creating maps of business processes at agro-industrial complex enterprises and the possibility of structural-branch formation of a model in sequential visualization of stages and all types of work for the main and auxiliary types of production for these organizations. Methods included analysis and synthesis, induction and deduction, abstract-logical and statistical methods, fundamentals of the scientific organization of labor by A.K. Gastev, E. Deming's decision-making methodology and T. Buzan's mind maps. Result and scope: the formation of a map of business processes by industry and in conjunction with all levels of management allows managers of small enterprises in the agro-industrial complex to strengthen control over the main and indirect problems, blocks of production and services, eliminate duplication in management and other operations, optimize linear-functional connections in the management structure. The use of operation modes with the creation of business cards based on achievements of management science and time management can and should be carried out on the job in the form of a continuous form of training. Scientific novelty concerned adaptation of methods and graphical techniques for working with goals, business processes, management solutions in small enterprises of the agro-industrial complex, where there is no position of a business process manager in the staff, but it is possible to use functional specialists and managers in their work to improve labor productivity and increase its efficiency by all categories of workers. Creation of a general model of business processes at an agro-industrial complex, linking all the necessary operations by industry into a single complex, creates a detailed layout of a software product for future developers of automated control systems and the introduction of digitalization, which can serve all processes in the enterprise continuously, efficiently and with better quality.

1 Introduction

The role of effective management of business processes at enterprises of various sectors of the national economy is increasing in modern conditions. The fundamental goal of any agricultural enterprise is the production of high-quality natural products at an affordable price for the consumer. With regard to cost estimation, the heads of agribusiness enterprises

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are of the opinion that the production of environmentally friendly products of the required quality is estimated at two-thirds more expensive than their conventional counterparts. Pessimistic forecasts also concern the opinion that with the active use of certain artificial substitutes and components, natural food products can subsequently be considered a deficit, or produced for certain categories of the population who want and can afford these food products [1, 2].

The domestic agricultural industry is clearly represented by two groups of enterprises: small organizations and large companies, corporations, mega-holdings. The first group includes micro-enterprises (up to 15 employees) and small agribusiness (from 16 to 100 people), peasant (farm) enterprises are endowed with a separate status, which have become quite strong in the crop production industry, and are also competitive in grain production, sensitively responding on the conjuncture and requests of the local population for various types of products, raw materials.

Large advanced commodity producers are leaders in mastering digital technologies and automation of business processes at the enterprise. The opportunities for introducing innovations in these organizations are much wider and the level of logistics, financial sector, and interaction with developers of digital programs is quite high, which removes the question of the relevance of the issue under consideration for this group. However, when optimizing the staff of this group, the question arises that with an effectively built information support system, only one manager or specialist can provide the work of the department [3].

When managerial links are replaced by digital points for collecting, analyzing, evaluating and solving problems of optimizing the cost of production, works or services, calculating the level of logistics services with the subsequent search for the most effective alternatives, the management structure is not only rationalized, it is undergoing some transformation, both of regulations and complete liquidation of directly structural divisions of management. In the future, there may also be only one chief specialist from specialized management services with ubiquitous digital support for management functions. Therefore, the most important condition for systematic digital transformation and improving the efficiency of economic activity at small enterprises in the agro-industrial complex should be improved layouts (maps) of business process management based on the main strategic goal of the domestic agro-industrial complex: ensuring the country's food security at the domestic and international markets. Despite the fact that an invisible price ceiling can be applied for the main types of products that directly ensure the country's food security - grain, bread, milk, meat, chicken eggs, increased state support for small enterprises in the agro-industrial complex can be expressed not only in the directed benefits, subsidies and grants. Maintenance of key business processes in terms of cost can be carried out by relevant companies at the regional and municipal levels, within the framework of technical, informational and marketing areas. The problems of improving business processes at agribusiness enterprises are of technical and organizational nature. For the first group of problems, there is a lack of a software product or an automated management system that can help the head of a small business, based on strategic goals and functional sub-goals, build a tree, flowchart or complex in the form of a sequence of all goals and objectives of economic activity, as well as corresponding to this list business process maps that are built not only for the future, but are also corrected by additional processes, operations, measures after the fact, which are characteristic of the seasonal development of the industry, or are taken due to changes in environmental factors [4-6].

With regard to organizational aspects, it is worth highlighting the absence of key functional specialists in small enterprises of the agro-industrial complex who are directly involved in digitalization, strategic planning, marketing, and finance. In some regions of the Russian Federation, free consulting assistance is provided to representatives of small and

medium-sized agribusiness, but this is not enough, given the amount of work involved in the topic under study.

The production of agricultural products, works, services also provides for the composition and relationship of internal variables of the agro-industrial complex, which include: goals, objectives, personnel, technologies and management structure. It is necessary to establish the above internal components with a clearly built strategy that takes into account not only the internal strategic potential, but also the record changes in the external environment observed in the modern time regime.

A large number of modern studies are devoted to the need to ensure the digitalization of processes, updating technology and equipment, improving the quality of marketing and products at domestic agro-industrial enterprises, but their practical feasibility and introduction into production activities face the problems of investing, diagnosing the strategic potential of an organization and weak promotion of innovations in industries in general. In this case, there are two approaches to solving the above problems: in relation to functioning small and micro-enterprises and newly created organizations [7, 8].

In the context of the struggle to ensure high competitiveness and self-financing, the functioning enterprises of the agro-industrial complex optimize the types of work and management structures, issues are being resolved with the introduction of individual digital technologies and products, providing individual stages of production with automated provision of management functions. According to the second approach it is possible to recommend newly emerging agro-industrial complex enterprises to plan the general goal, strategy and management structure using digitalization in an integrated version that combines all components of the internal environment, and areas of responsibility in those structural units where they are carried out [9].

2 Methods

Based on materials of research publications and practical reviews of managers and specialists of the agro-industrial complex, one can use such methods of economic research as analysis and synthesis, induction and deduction, abstract logical and statistical methods. Enterprises of this sector of the economy have always been associated with the most labor-intensive sector of the provision of works and services, with the largest number of personnel compared to other sectors of the national economy. In this case, the trend is based on such a law of economics and management as a steady increase in labor productivity. With an increase in the number of personnel, a large-scale study of all aspects of the personnel policy at the enterprise should also be carried out together with full maintenance of all functional subsystems of personnel management. Inherently, this is not only hiring employees and legal support for labor agreements (contracts), but also planning the number of personnel, its adaptation, material and moral incentives, promotion, training in digital programs and devices, evaluation (certification), social succession, labor mentorship.

One of the most important characteristics of the activity of the agro-industrial complex are such features as: seasonal labor, conditions of changing climate, depletion of the main means of production or land, changes in biological factors, specifics of using fixed assets and current capital, processes of various duration, the payback of which can come in a financial year.

Most modern organizations, including agro-industrial enterprises, are being transferred to the pre-crisis state of functioning, as the number of personnel is reduced with a parallel consolidation of the combination of job responsibilities. Therefore, large enterprises are gradually becoming medium-sized, the latter joining the list of representatives of small businesses and micro-organizations. The issue of production standards and the size of the administrative burden of managers and specialists remains important. Economic feasibility

and direct connection, since, first of all, savings begin with the wage fund and management costs [10-12].

The optimal rate of manageability in many areas of activity is 7 subordinates per manager as a whole, up to 11 persons per manager of an average intermediate level and up to 15-20 persons at the lowest level, subject to the uniformity of work performed by subordinates. The maximum rate of manageability can reach in practice 40-50 persons. When an experienced highly qualified leader gathers a staff or a team of professionals, the rate of manageability can increase significantly and exceed the recommended norms of administrative workload.

Before calculating the rate of manageability, it is necessary to link the components of the internal environment of the enterprise, starting with the definition of a general goal and a specific type of strategy that will correspond to the actual state and phase of the life cycle of an agro-industrial complex. One of the most well-known methods of structural hierarchical decomposition of the general goal is the "goal tree", which is further transformed into business process map schemes. However, practice shows that its complete alignment is limited to an approximate list of general directions and tasks that are not specified for specific activities of performers. The main argument for this trend is a high degree of change in the external environment and the inability to implement the plans in the form they were originally developed. The typical comments of experts are about the need of more advanced software tools, combined in one digital technology (corporate document management system or automated control system that allows to link target settings with business processes at all levels of management at agro-industrial enterprises). When developing management decisions in a business process, management, in turn, relies on three approaches to solving tasks and problems:

- it is possible to solve the problem, that is, to fulfill such conditions and actions that the solution will become relevant for the short term, and in the near future, this kind of circumstances will be repeated. However, in terms of efficiency, this approach is minimal, since it has neither profit nor high costs;

- one can solve the problem and benefit by choosing the most effective alternative from the proposed problem-solving options;

- the most cardinal is the third approach, since it is possible to "liquidate" the problem forever by changing the nature of the substance that generates it. The managerial decision is solved so globally that the option found completely eliminates the occurrence of such difficulties and crises, and the organization operates as efficiently as possible, not only without allocating resources, but also earns more, in connection with overcoming this situation [13].

Management always relies on three levels: strategic, functional, operational. As a result of the above approaches to solving managerial problems, it is possible to single out such areas as the first approach is typical for the operational level, although the experience of innovation shows that Eastern companies have overtaken competitors due to a wider and more widespread involvement of performers in solving global problems and rationalization in production directly. As a rule, managers of enterprises in the agro-industrial complex and other areas, dealing with problems and multitasking, do not have time to apply the second approach, do not always solve problems as efficiently as possible, without using delegation of authority in such a way as to free up their time and functionality as much as possible.

The third approach to management decisions can be implemented to a large extent with the help of the strategic level and top managers, the director, provided that the professional level and experience are as high as possible and allow to see the scenario of an ongoing event or a chain of problems, interference.

The main issue regarding building a structure that will most effectively solve current problems and achieve the goals set is resolved if the optimization of business processes is

carried out on a regular basis and with the help of own staff, representing these actions from the inside and more deeply. Due to the crisis trends in the country and the world, the number of employees of the agro-industrial complex has decreased to a minimum, but despite this, the conduct of business processes may be associated with duplication or an increase in their execution time, so the optimization of their cycle should begin from a certain starting point (as a rule, one “input”) and with overcoming inconsistencies between departments, eliminating double coordination, striving for a maximum of two or three “getaways” to other processes or immediately to the final product, work, service [14, 15].

In fact, the surviving organizations in this industry have rationalized their structures and staff as much as possible, achieving a combination of many responsibilities. Job descriptions go into the background and become just a formal document that does not help in activities, but condenses it, without a logical interweaving of results and remuneration for them. Management theorists insist that it is possible to achieve a real increase or overfulfillment of the plan if the criteria for which the staff is stimulated are relevant and include three conditions. Performers are more confused if a large list of criteria for remuneration is presented. It is necessary to highlight up to three and the most important ones. When optimizing business processes, one should also adhere to the 1-(3-5) principle, since a task and a type of work are optimal if the performer performs a minimum set of procedures (three to five) with clearly described rules and understandable content. In this case, attention should also be paid to instructing the manager with the performers according to adopted regulations and job descriptions. Many duties and rights are described in the last document in general terms, therefore, at the initial moment, it is necessary to resolve questions regarding how to conduct the process and, in the case of delegation, allocate areas of responsibility. The division of business processes into main, auxiliary and supporting ones allows to single out the first category of work, which directly produces a product, work, services that bring profit to the agribusiness enterprise. The task of supporting processes is to increase the efficiency of the main ones and maintain the infrastructure of each enterprise as a whole. Many management structures of enterprises of various fields of activity and forms of ownership are completed precisely at the level of performers or directly at the structural unit. In this case, one should not forget and it is necessary to reflect the impact of control objects on resources assigned to them, technological processes, and working hours. In the last century, Gastev Aleksey Kapitonovich formed not just the theory of the scientific organization of labor (SOL), but also an approach that considered the performer as a generator of improvements of labor methods and operations.

This approach is confirmed by modern trends, since rationalization proposals at the enterprise come most often directly from performers. One should also take into account an important condition when the head of the organization has gone through all the stages of management and career growth in the enterprise of his industry, building a career from an executor to a leader. Actually, the entire map of production processes of the above manager is remembered and transmitted to subordinates as knowledge, skills and abilities. Nevertheless, it is the complete scheme of business processes that clearly represents a guide to action for other employees. Based on this document, delegation is more efficiently implemented, since the beginning and end of the operation, its duration, performer and other necessary parameters are clearly indicated [16-18].

The general goal of the enterprise is most often viewed as the maximum achievement of financial results with minimal fixed and variable costs. One of the well-known methods for managing the process and achieving goals is the decision-making methodology used in quality management - PDCA (from English "Plan-Do-Check-Act"), presented by Edward Deming and also presented in Figure 1.

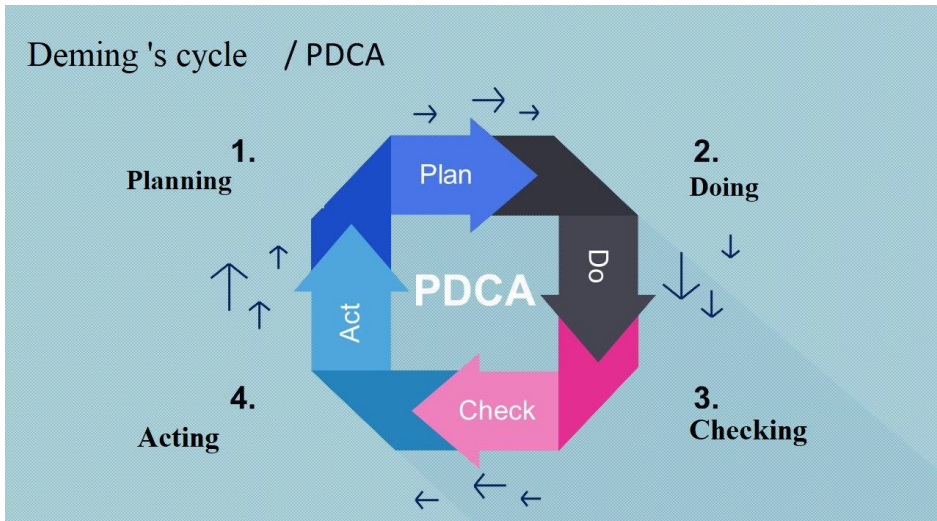


Fig. 1. Edward Deming's cycle.

Continuous provision and a general algorithm for improving business processes in an organization are shown in Figure 1. At the first stage, the goal is planned and considered from the standpoint of all the requirements for its setting. The second stage is devoted to implementation, measurement of results, control and problem solving. The third stage is monitoring, analysis, correction and audit of business processes. The fourth stage is identification of a systemic error, optimization and a new strategic task. The direct logically-conditioned improvement of the processes indicated in the above diagram can be applied at any stage of the economic activity of enterprises in various industries and areas of production, work, services.

Moreover, Tony Buzan's mind map method can be recommended to improve personal management in each enterprise. A mind map is an analytical tool that is used to find the most effective solution to a problem. The use of mind maps in production can be carried out for various purposes: for generating ideas, preparing for speeches and presentations, organizing and holding various events, memorizing large amounts of information, planning the working day, project-oriented activities. In general, the most effective way will be to implement the improvement of business processes with a detailed hierarchy of goals, subgoals and tasks, as well as a conscious motivation for the need to analyze, evaluate and implement the necessary improvements [19].

3 Results

For the management of enterprises in many areas and forms of ownership, the main thing is the performance of actual functions and the effective solution of problems, as well as the tasks set. In addition to the above systemic and daily situational approaches to solving problems, it is necessary to use a mixed or personal approach, improved for the purpose and resources of a particular agro-industrial complex. In this case, it is proposed to improve the specification of functions, delegation of authority and the involvement of performers in solving the set goal and objectives. In addition, the entire layout of the management structure should actually reflect the way to achieve the general goal from the strategic to the operational levels, and the performer does not act as the lowest level, because it also affects the corresponding management object.

The choice of an approach to improve business processes is carried out using two options: the intra-organizational one and the one with the help of consulting support of companies and firms specializing in the study and development of these issues. The first option is associated with longer periods, the need to improve the skills of personnel, self-learning and mastering additional competencies by managers and specialists of the enterprise. The second approach is more cost-based, with less additional workload of personnel and distraction from the performance of their main job duties. The first decision that is made by the leaders of small enterprises in the agro-industrial complex is justification and specific choice of approach, as well as initiation of the need to improve business processes indicated in Figure 2. With the intra-organizational study and development of improvements, it is necessary to create a temporary unit, headquarters, link for the formation of systematic work to study and optimize all processes [20, 21].

Figure 2 shows a simplified scheme for improving business processes at an agro-industrial complex enterprise with an emphasis on the fact that functional specialists and managers develop and improve business process maps within those departments, types of work, industries they are responsible for.

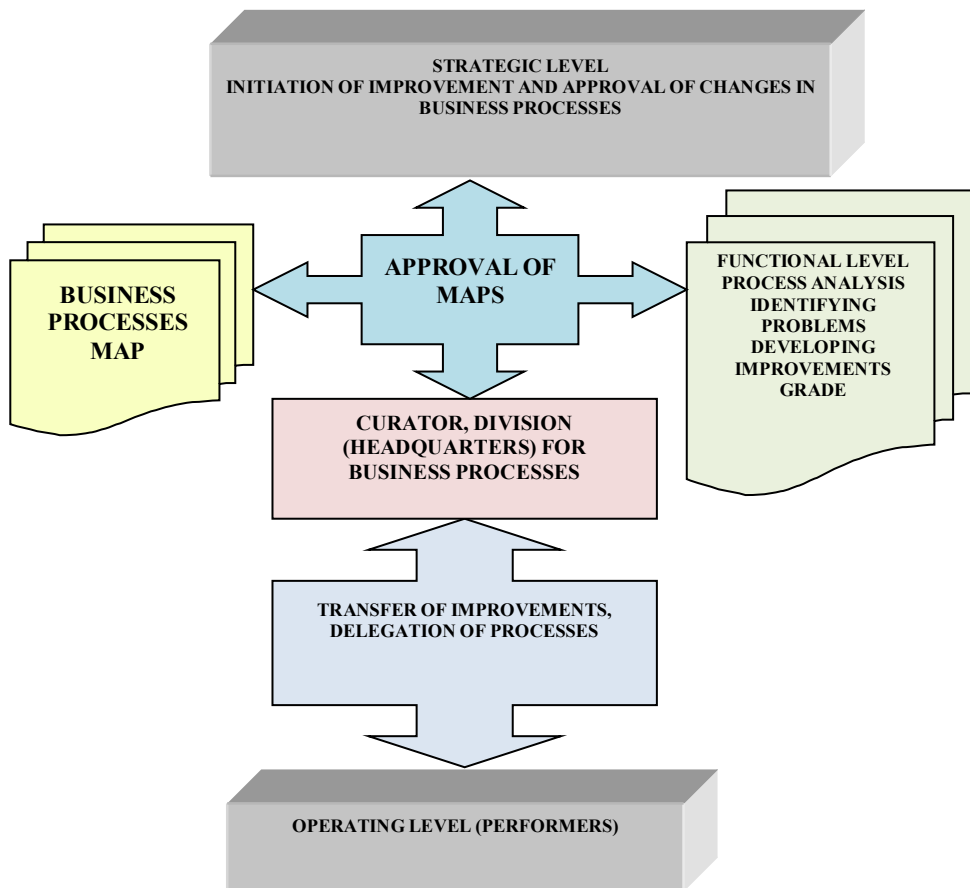


Fig. 2. Development of a simplified scheme for improving business processes at an agro-industrial complex enterprise.

Turning to the adaptation scheme of the above algorithm into activities of agro-industrial enterprises, one can distinguish the following features and sequence:

- the strategic (highest) level determines the regulations, initiation, agreement and approval of new maps (models) of business processes in the enterprise;
- the functional level of specialists implements the main block of work related to the analysis, evaluation and identification of problems, development of improvements, evaluation of their efficiency and simultaneous adjustment of changes;
- the operational level of performers receives improvements, is responsible for feedback, and, if possible, can make own proposals and rationalization ideas for planned improvements.

To implement improvements in the enterprise, a temporary unit can be created in the form of headquarters or a project group, which includes all functional specialists of the enterprise. At the next stage, it is necessary to identify and implement such steps as:

- indicating the functional goal and highlighting all processes regulated by the manager, specialist;
- ranking all the above processes in the appropriate order of their implementation at the agro-industrial complex enterprise (if possible, reflecting them on the diagram or developing a process map);
- identifying redundancy, duplication and overload in the analysis of processes, identifying improvements;
- evaluating the efficiency of the proposed option in comparison with the reporting one, providing opportunities for making adjustments to the described processes [22, 23].

For a small business, a democratic style of management is the most appropriate, since with this style of leadership, the team is more actively involved in making managerial decisions, and functional responsibilities are distributed more rationally. Nevertheless, sooner or later in the process of development, small businesses are faced with the need to create a clear management system. Depending on the type of activity, various types of organizational structures and a different composition of management groups are suitable for enterprises.

Small businesses are characterized by the same management processes as large companies, but they have significant differences due to their small size and limited resources. The leaders of small enterprises in the agro-industrial complex must first of all understand the ways and means of achieving the general goal, as well as the choice and mechanisms for implementing the chosen type of strategy, and the owner can create a suitable environment for them by establishing a certain organizational structure and adhering to the appropriate type of leadership. With the growth and expansion of the enterprise, the owner can retreat from the concentration of all power in his hands and delegate part of the authority, directing his own resources to long-term planning. [24]

4 Discussion and conclusion

The development of business processes in a small agro-industrial complex enterprise is a problematic issue, due to the fact that many managers to a lesser extent resort to schematic techniques and digital methods for presenting a hierarchy of goals, a decision tree, and business process models. Software developers and manufacturers implementing digitalization of management and production most often enter into contracts with large agro-industrial enterprises, without considering the potential of small and medium-sized organizations, automating jobs in separate functional blocks - accounting, processing, in structural divisions of industries, without linking the entire information environment of enterprise indicators into a single complex.

The business processes of agribusiness enterprises can be divided into groups: main, auxiliary and service ones. Some researchers single out a set of business processes associated with management into a separate group. An important issue is also the division of business processes by levels: product, development, culture, resources, security, etc. The most appropriate approach to separating the business processes of an agro-industrial complex can be identified as a structural aspect [25, 26].

For a specialist responsible for the development of a process map, it is important to decide on such a question as the priority in favor of choosing one or another type of process map. Among the main types, one can specify: a value stream map, a cross-functional flowchart, a detailed process map. For small enterprises in the agro-industrial complex, a general industry process map can be recommended that reveals the relationship between the main, auxiliary or additional industries, as well as a process specialization map that considers the details of operations in one industry. In this regard, it is necessary to give practical recommendations for constructing these process maps:

- definition of process boundaries with the necessary information;
- a clear formulation of the process content;
- displaying on the processes map according to the scheme of the management structure to optimize the workload of managers and their more efficient employment.

The direct formation of a process map can be based on the following principles:

- elaboration of the process in the opposite direction from the result to the initial stage;
- ensuring correctness and accuracy in the description of sub-processes of industries, functional blocks of work;
- inclusion of all necessary information on operations and processes in full;
- the use of a unified system of symbols, which is understandable to all participants involved in the improvement and subsequent implementation of the processes under study.

The evaluation of the performance of the process map activity will be driven by the following main points:

- obtaining complete and reliable information from all participants in business processes;
- identification of redundant processes and real problems that generate them;
- drawing up a preliminary map of processes and improving it when working, while adjusting the changes that occur;
- the work with personnel and delegating the development of independent solutions for prompt response to current and regular issues of production.

For maximum efficiency of work on mapping the process, the above recommendations can be used at each stage of the production of products, works, services. Thus, a map of the business processes of agribusiness enterprises should be drawn up taking into account the specialization of the organization and industry, detailed directions for the implementation of the strategy and the detailed hierarchy of the general goal, the management structure with specific parameters of production, marketing and financial activity.

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