



Analysis of cyclic content reserves of control flows re-engineering at agro-industrial enterprises

Análisis de las reservas de contenido cíclico de los flujos de control de reingeniería en empresas agroindustriales

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ABSTRACT:

The study aims to develop an analysis procedure of the cyclic content reserves of control flow re-engineering at agro-industrial enterprises with the use of a re-engineering approach in the intensification of the agro-industrial enterprises management cycles. The study proved the effectiveness of the proposed methodology with the re-engineering approach and confirms the need for intensification of management cycles through time saving, which will ensure high efficiency of the enterprise management system.

Keywords: procedure, re-engineering, control flow, management cycles

RESUMEN:

El objetivo del estudio es desarrollar un procedimiento de análisis de las reservas de contenido cíclico de la reingeniería de flujos de control en empresas agroindustriales con el uso de un enfoque de reingeniería en la intensificación de los ciclos de gestión de empresas agroindustriales. El estudio demostró la efectividad de la metodología propuesta con el enfoque de reingeniería y confirma la necesidad de intensificar los ciclos de gestión a través del ahorro de tiempo, lo que garantizará una alta eficiencia del sistema de gestión empresarial.

Palabras clave: procedimiento, reingeniería, flujo de control, ciclos de gestión.

1. Introduction

The problem of efficiency and intensification of control flows has always been and remains relevant in connection with the determining role of the time resource in management. A modern dynamic development in all spheres of life once again confirms the urgency of identifying the reserves of the time resource in management cycles as the determining components of any control flow, especially in production and economic activities.

The hypothesis of this study was to prove the relevance of the effective use of the time

resource in the implementation of control flows re-engineering as an innovative method in the management system of the agro-industrial enterprises.

The purpose of the study is to develop a procedure that allows providing a qualitative analysis and identification of reserves for the intensification of control flows through the cyclic content of control flows re-engineering at the enterprise.

The authors believe that the development of such a methodology with its peculiarities for research and analysis of modern dynamic enterprise activity is of particular importance.

2. Literature review

Considerable attention to the problems of managing various systems and economic objects in recent years has been paid by such scientists as: Parakhina V.N., Gerasimov B.N., Gerasimov K.B., Minakir P.A., Lukicheva L.I., Anokhin, S.V., Korotkov E.M., I.Yu. Soldatova I.Yu., Korotkov, E.M., Todosheva, S.T.

In modern conditions, in its essence and content, the introduction of the re-engineering approach already provides for the introduction of innovative technologies that foreign and domestic researchers pay attention to, such as: V. V. Bondarenko et al., Romanova A.D., Osipov V. A., Folemyev A.N., M. A. Khan, Panarina E., Kuznetsov B.L., Kuznetsova S.B., Gerasimov B.N., Novikova N.A., Sukharev O.S., Rozhdestvensky A.V., Golov R.S., Andreeva E.S., Nechaev A.S., Akatov N.B., Panarina E. N., Tsymbalov A.A., Degtyareva E.D., OECD, Pertsev S.B., David Allen.

The problems of improving and intensifying the control flows and saving the time resource are taken by such prominent domestic scientists, among whose authors it is possible to name: Istomina S.V. et al., Vereshchagin A., Dan Kennedy, Mrochkovskiy N., Tolkachev A., Vasilyeva A.D., et.al. In their studies, the authors also relied on the materials of researchers on the development of the concept of the control flows re-engineering. The recent papers on the topic include: Abdullaeva T.K. et al., Parakhin V.N., Solomin K.A., Hamidullaev, R.B., Ogolova L.N., Euchmann E.G., and Zinder E.Z.

The practical significance and insufficient study of the intensification problem and control flows re-engineering at the enterprise determined the need to develop an analysis procedure of the cyclic content reserves of the control flows re-engineering at agro-industrial enterprises.

3. Materials and methods

The results of the control flows re-engineering in the agro-industrial enterprises, as well as in other branches of industrial production, can be achieved by solving a complex of process management activities and, primarily, through intensification of control flows. Therefore, in all measures to implement the control flows re-engineering, the most important resource - the time resource - should be given.

Preferably, control flows re-engineering at the agro-industrial enterprises should be organized precisely through the intensification of the management cycles of enterprises (the information cycle, the organizational cycle and the cycle of managerial decisions), and mainly through time saving. Such an approach will ensure a high and efficient loading of the enterprise and all levels managers of the agro-industrial enterprises and, first of all, first level managers. In addition, as noted by several researchers T.K. Abdullaev. et al., Parakhin V.N., Solomin K.A., Hamidullaev R.B., Ogolova L.N., Oikhman E.G., Zinder E.Z., this will release unloaded people, increase the responsibility of workers and thereby ensure high efficiency of the enterprise management system.

To begin the analysis of the cyclic content of the control flows re-engineering at the agro-industrial enterprises, one must at least know the real deviations in the use of working hours and how efficiently the working hours is used, know the reasons for the deviation, the norms for fairly repetitive operations, etc., that is, need a reliable accounting of time in the control flows. It should be noted, that accounting for time in management has its own specific and economic characteristics and complexities, in contrast to accounting for various types of

productive labor.

A preliminary stage of studying the problem of intensifying management cycles and saving time in control flows is to identify the time expenditure by types of work. Analyzing the use of working hours in management cycles as the main components of the control flow re-engineering in the enterprise, it is necessary to identify which main operations, procedures are spent unreasonably large amount of time and then, selecting them, find ways to rationalize. Such an analysis is based on the results of specially conducted studies, literature sources and statistics, etc.

Given that control flows re-engineering and its cyclic maintenance at the enterprise is carried out mainly through various levels managers of the enterprise and, first of all, through the first level manager, the need arose to develop a special tool for the study. The authors have developed a special questionnaire on identifying the content of the manager's work and a questionnaire of moment observations and other tools needed for the study.

The author's methodology for analyzing the cyclic content of the control flows re-engineering at enterprises provides the following main objectives:

- To receive reliable and qualitative information for control flows re-engineering and further study work;
- To ensure the convenience in carrying out the study, for all who participate in this process;
- To pass approbation and refinement of the proposed methodological approach for subsequent studies.

Approbation confirmed the legitimacy of the author's approach using a specially developed questionnaire for identifying the content of labor in control flows and a questionnaire of moment observations used simultaneously in the compartment. This allows you to obtain comprehensive, reliable and high-quality information.

While developing such a method, the authors used well-known techniques as a basis, which, however, had to be changed and significantly supplemented with the contents of the toolkit taking into account the specifics and subject of the study, which has the following features:

- Form of questionnaires for the convenience of use has been simplified;
- A list of work types, compiled on the basis of a sample survey of managers at various levels of the enterprise, was introduced into the form;
- All types of work included in the blocks are made taking into account knowledge of the specific features of the operation of the object under study.

The study using the proposed method covered the following stages:

1. Preparatory stage (conducting conversations with the managers about the purpose and objectives of the study).
2. Selection of the study object.
3. Determination of the time (day, week, month).
4. Development and clarification of questions of the questionnaire and the form of moment observations.
5. Processing and analysis of the received data.
6. Development of proposals and recommendations.

The most difficult and important of the listed stages is the development of questionnaire questions and analysis of the data obtained. When developing the questions of the questionnaire, special attention should be paid to groupings of activities considering the specificity of the investigated object, since the value of the obtained data depends on this.

When forming blocks in the questionnaire, by type of activity, not only the specifics of enterprises should be taken into account, but also the activities of all level managers at the enterprise.

It seems to us that it is best to conduct an anonymous questionnaire. It is not necessary to abuse the amount of preliminary information about a survey participant; however, a certain

4. Results

Below is some interesting data obtained as a result of the proposed method at the survey at the agro-industrial complex enterprises of the Republic of Dagestan. Basically the same answers were received on the questions related to the development of programs, purpose, work plans. Many of them, more than 50% of the surveyed managers, acknowledged that they failed to formulate the program and the purposes of their work in advance and sufficiently.

The main reasons hindering the work of the managers of agro-industrial enterprises, more than 40% of respondents called frequent distraction to various conferences, meetings and other various collective meetings. More than 20% of respondents indicated lack of sufficient skills for more effective management of the team.

The question "What knowledge, skills, abilities do you lack to perform official duties?" was answered by more than 40% of the surveyed managers of enterprises by pointing to poor knowledge of the production economy, 30% - the foundations of management, 15% - scientific organization of labor and 15% - knowledge of technology and innovative production technologies. A significant majority, 50% - pointed to a lack of organizational skills, 25% - pointed to a lack of skills for conducting ideological and educational work in the team, and 25% - pointed to the lack of skills in technical creativity and other skills.

40% of the respondents indicated that they lacked the skills to direct the work of the team to solve their tasks and 10% pointed to the inability to use innovative office equipment. All of the foregoing testifies to the lack of the majority of the agro-industrial enterprises managers of necessary modern business qualities and knowledge of process management of the enterprise. Consequently, the need arises to develop a number of activities to develop these qualities and relevant knowledge among the managers of the agro-industrial enterprises of the Republic of Dagestan.

More than 40% of the agro-industrial enterprises managers noted that they have friendly, chummy and benevolent relations in the team, which contribute to creative work. Most managers, more than 50% consider relations with subordinates and superiors to be very good. Positive psychological climate in the team was named more - 45% of the interviewed managers.

Most of the interviewed managers have no idea about the control flows re-engineering or process management, and if anyone has heard about this, they do not know the essence and content of these concepts. Many managers of agro-industrial enterprises fail to observe the following elementary management rules:

- As delegation of authority with their subordinates, carrying out petty tutelage;
- The principle of "not to skip the immediate superior" is not respected;
- Conferences that address issues that do not require discussion at this level;
- At many conference protocols are not kept and the execution of previous decisions is not checked;
- Managers cannot conduct telephone conversations sufficiently briefly, clearly and in a businesslike way, etc.

Unfortunately, the heads of departments devote extremely little time to activities related to the development of their subordinates' abilities, their skills, etc. The intensity level of the working hours uses by managers desires better. Heads of departments spend more than 40% of their working hours on performing various functions, the execution of which their subordinates could no less effectively do.

Managers consider the following reasons for executing works unusual for them: expenditure of a considerable part of the working hours for the performance of the various functions of their subordinates; the solution of "pressing deadlines business"; large amount of work; distraction from the planned work; participation in conferences; misdistribution of duties between subordinate employees, etc.

Thus, the conducted study allowed us to reveal a number of significant shortcomings in the management of the enterprise, the elimination of which in the future with the use of the re-engineering approach will ensure an increase in the management efficiency of the agro-industrial enterprises. These include the following disadvantages:

1. Absence of clarity in the distribution of responsibilities and delegation of authority between the management of the enterprise, as well as employees of other line services and business departments of enterprise.
2. Irrational and low organization of managers' personal labor and their subordinates.
3. Passive attitude of managers to the study of the work experience of advanced foreign and domestic enterprises with a high innovative component of production and development processes.
4. Poor work organization of subordinate and utilities.
5. Lack of recognition by managers of more advanced forms and methods of work.
6. Loading unevenness of the departments' heads, leading employees of the enterprise, and other services of the enterprise.
7. Inadequate allocation of time for importance and priority of cases, frequent unjustified violation of the work rules, lack of orientation to the ranking of working hours by type of work.
8. Weak attention to the solution of organizational problems and work with personnel, both in departments, and in the management of the enterprise.
9. Low level of dispatching, which required constant intervention of enterprise managers in the current work.
10. Discrimination and inconsistency in the timing of the fulfillment of individual tasks with their labor intensity, which leads to rhythm disturbance, accumulation of cases, deterioration of results.
11. The emergence at the expense of the traditional style of the psychological barrier attempts to implement regulations.
12. Lack of attention to stimulating time saving in production and control flows.
13. Not a high level of knowledge, skills, abilities and other business qualities of the manager and their lack of special desire to retrain and improve their skills.
14. And most importantly, the lack of representation by managers about the principles and rules of process management of the enterprise and, as a consequence, the lack of a clearly constructed system of such management in the enterprise.

These shortcomings are mainly related to the poor organization of control flows and in particular to the low implementation of management cycles of the entire control flow at agro-industrial enterprises.

As some researchers note Vereshchagin A., Dan Kennedy, Mrochkovskiy N., Tolkachev A., Vasilyeva A.D., the intensification of production processes, caused by a sharp increase in the productivity of modern technology, the automation of productive labor, etc., it requires solving the problem of control flows re-engineering through management cycles and intensifying control flows that are time-saving. Many scientists believe that there are reasons to put forward the criterion of time saving as the determining, leading political and economic criterion for the functioning of the management system.

Thus, in the practice of managing of the agro-industrial enterprises, the time resource is not given sufficient attention. Basically, they are engaged in improving management in static parameters, such as structure, distribution of functions for the respective departments, introduction of unified forms of documentation, etc. Of course, all this gives its results if done at a sufficiently high level and based on in-depth analysis. But modern working conditions of agro-industrial enterprises require more dynamism, flexibility of the management apparatus, therefore, it is necessary to improve the work of the management apparatus in terms of dynamics, i.e. on spending time on various control flows, certain types of work, and this is possible when implementing control flow re-engineering at the agro-

industrial enterprises, that is, using process control.

Effective use of working hours at the agro-industrial enterprises is the main reserve for normalizing the level of intensification of management cycles in the control flow. However, these reserves are used in practice in control flows insufficiently. Therefore, in order to identify these reserves at the enterprise and in analyzing the use of working hours, it is recommended to take into account the basic requirements specifying the directions in which it is necessary to improve the enterprise management system. These requirements include:

1. Methodic unity of data characterizing the dynamics of labor expenditure.
2. Identify the relationship of data in time, space and the degree of their concentration in different periods of the survey.
3. The illustration of the time expenditure interdependence by types of work causes of losses and intraproductive reserves of working hours saving.
4. Determination of real time characteristics that realize the social measure of work.
5. Use of averages in the study of homogeneous populations.

In order to analyze the problem of intensifying management cycles in the control flow in an enterprise, one must first at least know the real deviations in the use of working hours, the level of efficiency of using working hours, know the reasons for the deviation, the norms for fairly repetitive operations, etc., that is, reliable accounting of time in management.

Some results of the studies on the analysis of working hours as a dynamic and main component of process management for different levels managers of the agro-industrial enterprises of the Republic of Dagestan (Table 1) are shown below.

As expected, the studies confirmed that managers spend more than 35% of their working hours on various meetings, conferences that last for hours, as well as on all kinds of personal direct contacts. More than 25% of the working hours are spent on finding and collecting quality information for making managerial decisions. Similarly much work hours, managers spend on various unreasonable activities on the forms of its implementation in accordance with the established tradition and passing from one manager to the receiver carrying out long detours, petty custody, etc. In the rules, this is generally not provided and are conducted according to the personal conviction of managers in their need, and these procedures are not all fixed in the form of rules, but are conducted from the position of necessity and personal conviction of the heads of departments, which have little effect on the duration of these procedures, and the complexity of the issues being addressed.

At different levels managers of the enterprise, the structure of the working hours expenditure is the result of the existing composition and priorities of the objectives of their activities. This structure is significantly influenced by the rationality of control flows. Managers use inefficient methods of work and enterprise management system, fixed by the traditions that have developed at the agro-industrial enterprises.

More than 20% of the working hours expenditure by managers is due to activities related to the solving the problem of current provision and preparation of production, in particular, the issues of operational management of economic processes, which is due to the priority of the purpose – “ensuring the implementation of the planned enterprise plan “by all means”.

The specified priority, in turn, can be explained by the following:

1. This purpose is an expression of the main task of the enterprise and, in particular, the department;
2. Its timely execution is a condition for the normal functioning of the production system, in which any department is one of the elements, with a rigidly fixed connection with other elements;
3. Its achievement is occupied practically by the entire management apparatus, including the first level manager of the enterprise, accordingly, and here the department management apparatus as an element is included in the enterprise management system through rigid connection;
4. Among the many evaluation indicators of the enterprise and the stimulation of the

managers' activities is the performance of the production program.

Less than 9% of working hours managers spend on viewing mail correspondence and current documents, and some spend even more. Obviously, this time expenditure is much higher than necessary. This is due to the fact that, as a rule, almost all the information coming to the enterprise passes through the manager, and sometimes it does not have direct relation to it, the authors believe that most of this information should be unified, simplified, etc. Moreover, the manager spends a lot of time on personal drafting of various documents, orders, references, reports that his subordinates could prepare.

Table 1

Structure of working hours expenditure of enterprise and departments heads of the agro-industrial enterprises of the Republic of Dagestan (in %).

Type of works	Representational function	Meetings, conferences and personal contacts	Collection of internal and external information for decision making	For planned and organizational work (current ensuring)	To work with current documents and mail	Reading and reviewing new products of the special literature
Object name						
Enterprise head	10	45	30	25	15	1.5
Heads of departments	8	25	20	15	5	0.5
Average	9	35	25	20	10	1

Note: The averaged values of the working hours' expenditure, including processing

Many managers are practically not engaged in raising the level of their skills, knowledge, abilities, that is, self-improvement and raising their level, spending only up to 1% of the time. As a consequence, this is the main reason for poor management. Managers refer to the lack of time, instead of freeing themselves from minor and irrelevant cases that can be performed by subordinates. And these insignificant expenditures of working hours of the manager on improvement of professional skill are focused mainly on technical knowledge, instead of on organizational and management knowledge.

The organizational and managerial aspect in the activity of managers at the enterprises surveyed desires better, since their working day really increases by 20-25%, which unequivocally affects their physical condition, which affects their health.

Managers spend more than 9% on representational functions, and to search for an acquaintance with novelties of special literature to 1%, which is very small to supplement their knowledge and self-improvement.

All of our studies, multiple surveys of experts, questionnaires, and the structure analysis of time expenditure by managers became the basis for identifying the averaged data on the expenditure of working hours for all levels managers of agro-industrial enterprises on management cycles (Table 2).

As can be seen from the table below, more than 70% of the managers' working hours at different levels is spent on management cycles of control flows. This clearly indicates the need to optimize the working hours of managers as the main resource of the entire enterprise management system.

The authors have also conducted a study of the expenditure structure of working hours at the majority of the agro-industrial enterprises of the Republic of Dagestan, in order to

ensure control flows re-engineering at these enterprises in order to identify the intensification reserves of all business management cycles. And this study, with the participation of managers at all levels of these enterprises, made it possible to obtain results that characterize the structure of the expenditure of working hours in the management cycles of the agro-industrial enterprises.

Table 2
Structure of working hours expenditure of the enterprises and departments heads of agro-industrial enterprises in management cycles.

Managers	Structure of the working hours expenditure for the management cycles, in %			
	Information cycle	The cycle of management decisions	Organizational cycle	Other expenditures
Heads of enterprises	35-40	15-20	15-20	35-20
Heads of departments	50-55	20-25	10-15	15-25
Heads of production departments, managers of the areas	15-20	10-15	45-50	30-15

5. Discussion

The studies by the authors have confirmed the expectations of managers on the process management components, in terms of their working hours expenditure, in particular:

- Defining and setting of tasks, the development and selection of the final version of the made decisions take more than 35% of the working hours;
- Collection, analysis of internal and external information, and its processing - 26%;
- Organization of labor processes - 20%;
- Performance of representation functions - 9%;
- Work with daily and current documents - 9%;
- Study of necessary literature - 1%.

As for the heads of production departments, they spend a lot of time on organizational functions, in our view they should, on the contrary, transfer some of these functions to their subordinates and devote more time to the information cycle and the cycle of managerial decisions, since correct and qualitative decisions will allow the subordinates to conduct proper organizational work.

The study made it possible to reveal a number of shortcomings in the management of the agro-industrial enterprises, the elimination of which in the future will allow rationalizing management cycles and control flows as one of the stages of control flows re-engineering. This will also improve the manager's work, improve the content of his work and, as a result, ensure the improvement of management effectiveness. The main disadvantages were the following:

1. The information cycle:

- Low level of dispatching, which requires constant intervention of enterprise heads and production departments.
- Insufficient organization of information work of utilities.

2. The cycle of managerial decisions:

- Low experience in making managerial decisions.
- Insufficient attention to the solution of organizational problems in the work with personnel, both in departments and at the enterprise.
- Ignorance by the managers of modern forms and methods of work.
- Lack of attention to stimulating time saving.
- Low level of knowledge, skills, business skills of managers, and lack of systematic work to improve them.

3. The organizational cycle:

- Irrational organization of managers' personal labor.
- Insufficient clarity in the distribution of responsibilities between different level managers of the enterprise.
- Unevenness of loading heads of departments, employees of the management apparatus, and other services of the enterprise.
- Discrimination of the distribution of time for importance and priority of cases, frequent rules violation of procedure, lack of orientation to the ranking of working hours by type of work.

10. Inconsistency in the timing of the fulfillment of individual tasks with their labor intensity, which leads to rhythm disturbance, accumulation of cases, deterioration of results.

- Difficulties associated with the implementation of rules due to the traditional psychological barriers.

All of the foregoing testifies to the lack of the majority of managers of sufficient business qualities that meet modern requirements. Consequently, the need arises to develop appropriate measures and activities to develop and fill this gap.

Based on the assessment results of control flows, the authors identified the main shortcomings in the organization of these processes at the agro-industrial enterprises (Table 3). The authors believe that the elimination of these shortcomings will allow intensifying the management cycles in order to ensure control flows re-engineering of the agro-industrial enterprises.

Table 3

The main shortcomings in the management cycles of control flows at the agro-industrial enterprises.

Management cycles	Heads of enterprise	Heads of production departments, managers of the areas	Heads of the departments	All levels of managers
1. Information cycle:	<ul style="list-style-type: none"> -Low level of dispatching -Low level of information use - Insufficient clear communication of information 	<ul style="list-style-type: none"> -Low quality of information - Insufficient information processing - Lack of skills for information analysis 	<ul style="list-style-type: none"> - Insufficient organization of information work of utilities -Low level of information gathering 	<ul style="list-style-type: none"> - Irrational organization of managers' work - Low level of IT skills
2. The cycle of management decisions	<ul style="list-style-type: none"> - Insufficient clarity in the distribution of responsibilities - Problems of qualitative 	<ul style="list-style-type: none"> - Insufficient experience in making managerial decisions 	<ul style="list-style-type: none"> - Insufficient attention to the decision of organizational problems 	<ul style="list-style-type: none"> - Low level of knowledge, skills, abilities and business skills of managers, as well as lack of

	formalization of decisions made -There is no clear statement of tasks for subordinates	- Ignorance by managers of modern forms and methods of work - Insufficiently clear understanding of the task	- There is no clear setting of tasks - Insufficient objective assessment of the situation and the choice of the final decision	systematic work to improve them.
3. Organization cycle	-Mistakes when selecting and arranging staff - Discrimination of the time distribution in importance and priority of cases - Lack of control flows in terms of importance	- Uneven workload of staff - Other rules violation of the procedure - Insufficient control of orders' execution - Lack of skills for controlling.	10. Inconsistency in the timing of the fulfillment of individual tasks with their labor intensity - Low quality of the labor processes organization - Lack of skills for controlling.	- Difficulties, introduction of management rules Opportunistic behavior of performers - Lack of skills for controlling

6. Conclusion

Thus, the studies using the author's methodology of re-engineering approach and the results obtained once again prove the necessity of intensifying management cycles through time saving, which will ensure the normal loading of all subordinate managers, free unloaded people, increase the responsibility of employees and thereby ensure the effectiveness of the enterprise management system. And most importantly, the revealed main shortcomings in the organization of these processes and in the management cycles of the control flows of the agro-industrial enterprises made it possible to develop an algorithm for analyzing the state of these cycles and to identify a set of real measures for introducing control flows re-engineering at these enterprises.

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