“Improving the management technique of logistics planning in the supply chain”

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IMPROVING THE MANAGEMENT TECHNIQUE OF LOGISTICS PLANNING IN THE SUPPLY CHAIN

Abstract

The multidimensionality of transformations that take place, the diversity of destabilizing factors in the environment reduce reliability, sustainability, efficiency of both logistics processes and the entire production and economic activity, and they need their modern economic reflection. The successful activity in the unstable economic environment is impossible without proper strategic analysis and the formation of the effective management system that requires the search for new techniques, the development of logistics-oriented concepts, management approaches to logistics processes that can ensure the goals achievement under the continuous systemic development and disturbance flow. The goal of the research is to improve the technique and develop a management model for logistics processes, considering the effect of the disturbance flow. In accordance with the goal, it is necessary to solve the following scientific problems: to reveal the patterns of logistics processes for the formation of a signal system on management points within the framework of management structures; to develop components of the management technique for logistics processes, taking into account the disturbance flow; to systematize and supplement the principles of logistics processes for the formation of the rational totality of components in the management technique. Thus, the implementation of the proposed management technique for logistics processes will lead to the formation of optimal management impacts within each element, subsystem and the entire structure of the supply chain, ensuring the sustainable development vector at each time period and achieving the goals set under the influence of the disturbance flow, adaptability, flexibility and efficiency of processes.

Keywords logistics processes, management technique, management model, principle design, supply chain

JEL Classification M10, M31

INTRODUCTION

Continuous changes in business conditions, the development of information technologies in all areas of activity, the existence of sanction processes limiting production and economic activities transform the parameters of logistics processes, and lead to reconfiguration of supply chains, placing high demands on the reliability and quality of management systems. Lack of guarantee for stability of quality indicators in management systems as part of logistics processes can lead to a decrease in performance and to an increase in the level of risk, making them more sensitive to destabilizing factors of the environment. Despite a high degree of the study of general theoretical logistics issues and, in particular, management of logistics processes, many aspects on the application of logistics techniques and tools in specific industries and areas of activity have not been analyzed yet.

The developed techniques and models have a contradictory nature due to the limited possibility of their use in the unstable environment.

Most of the models and techniques developed within the framework of the study of management techniques for logistics systems and supply chains are oriented to the application under conditions of deterministic parameters of external and internal environments, which makes it difficult to use them under conditions of growing destabilizing factors of the environment and updates this study.

1. THEORETICAL BASIS

Increasing the performance of the management process is associated with the intention to integrate financial and non-financial performance indicators (each stage of the process design), as evidenced by numerous publications of leading scientists in the field of logistics (Christopher, 2016; Dybskaya et al., 2013; Lukinsky et al., 2011; Sergeyev, 2016). Non-financial indicators assess the success of the logistics concept in the long term (Sergeyev, 2016), and the information component of the management process ensures the development of the transparent structure, the sequence of all activities, timely diagnostics of environmental trends and subsequent adjustments of management activities (Zhuang, 2014). High development rates of digital technologies transform logistics processes and influence the efficiency of supply chains (Giannakis, 2012; Sergeyev & Dutikov, 2017; Singh et al., 2017).

Most researchers agree that strategic management of logistics solutions under current conditions should be carried out considering the influence of the disturbance flow on the performance of logistics processes, which requires the use of appropriate management models (Christopher, 2011; Gavrilova et al., 2014; Sergeyev, 2016; Śliwczyński, 2010; Yadavalli & Balcou, 2017). The decision-making process should be based on monitoring and analysis of environmental factors, identifying cause-effect relationships and the degree of their influence on resulting indicators of logistics processes. As foreign experience shows, the application of the SCOR model in the supply chain will ensure: achievement of the goals in the formation of effective procedures for designing, analyzing and subsequently improving logistics processes; integration of supply chain logistics processes with constant monitoring and diagnostics (Śliwczyński, 2010; Yang, 2012).

The research of a number of authors proves market profiling and strict requirements of clients to increase the degree of inter-organizational interactions under conditions of the growing business environment, expanding the range of partnerships for efficient management of logistics processes in the supply chain, which will ensure intercompany management of complementary resources and competencies, integration of all business processes, implementation of new market opportunities for successful business conduct (Alvarado & Kotzab, 2001; Goeke et al., 2010; Hamel, 2012; Huemer, 2012; Kherbach, 2016; Singh et al., 2017). The focus on a relatively small number of key competencies and the expansion of inter-organizational interaction while implementing development programs illustrate significant results in reducing costs, implementing environmental initiatives, increasing performance and adaptability to changes, and maintaining competitiveness (Abd Razak et al., 2016; Besser & Miller, 2011; Veilleux et al., 2012).

Nowadays, there is a situation in which it is necessary to improve the management effectiveness of logistics processes to neutralize the disturbance flow and achieve the set goals. One of the ways to increase the management effectiveness of logistics processes is the search for methods, the development of techniques, models and algorithms for managing these processes. At the same time, the effectiveness of management decisions is closely connected with the use of specialized software (SPS) in the management process and the degree of logistics technology development for the formation of management impact, which is presented in Table 1.

Obviously, there are a number of problems in the Russian Federation, both at inter-functional and inter-organizational levels in management of logistics processes. The analysis of the data in Table 1 shows that only 11.0% of organizations from the total number surveyed in 2015 use specialized software in their activities to solve managerial tasks in the field of the process design. At the same time, the dynamics of this indicator tends to decrease by 0.9% in comparison with the previous period. The share of organizations using specialized software in 2015 to solve organization-

Table 1. Use of SPS for solving management tasks (goals)

Source: Compiled from the data in Russian Statistical Yearbook (2016).

Use of SPS in organizations of the Russian Federation, in % of total number	Years						
	2005	2010	2011	2012	2013	2014	2015
SPS for organizational, managerial and economic tasks	58.0	59.7	60.3	59.8	59.6	56.2	52.3
SPS for purchasing management (works, services)	–	–	36.1	36.2	38.6	36.3	38.4
СПС sales management (works, services)	–	–	24.3	22.8	22.9	20.3	21.9
SPS for the design process	9.7	11.8	12.1	11.7	11.9	11.9	11.0
CRN, ERP, SCM – systems	–	7.6	10.2	9.5	10.4	13.5	15.4

al, managerial and economic problems amounted to 52.3%, for procurement management – 38.4%, and CRN, ERP, SCM – systems – 15.4%.

Summarizing the above, it should be noted that there is an objective need to develop the management technique for logistics processes, the practical significance of which takes place due to:

- increased dynamics and complexity of business processes reduces the degree of their manageability, efficiency and requires the search for new management techniques;
- timely and qualitative implementation of changes in response to changed requirements of the external environment;
- presence of various changes in the external environment, requiring the adjustment of all business processes to improve their effectiveness;
- providing the linking and matching role of the technique between the management and managed subsystems.

Thus, the management technique for logistics processes is a complex technique for ensuring management functions in design stages, which is a system and/or a set of elements, methods, forms, rules, and procedures for logistics management for making optimal decisions. The technique has the ability to significantly influence logistics processes, coordinating and regulating them to achieve planned resulting parameters.

Figure 1 presents a scheme for managing logistics processes, which includes the following private techniques: the management technique for the diagnostic process, the management technique for the estimation process, the management technique for the draft development, the management technique for the draft implementation process, which is predetermined by the phase-and-step division of the process design.

The main components of the logistics management technique are:

- the subject of management – individuals, links in the supply chain;
- the object of management – logistics processes;
- the target subsystem of the management technique, which includes goals, objectives and management criteria;
- the functional subsystem of the technique allows to form well-organized logistics processes by forecasting the conditions of activity and conditions of the object (system) for timely changes of the goals, stimulating the choice of ways to achieve them and implementing the developed plans with their subsequent management;
- the providing subsystem of the technique consists of selected principles and methods of management, methodological, regulatory, resource and organizational support. This management technique is presented in the unity and interrelation of its functional and providing components.

The goal of the technique is to achieve the maximum efficiency of logistics processes. It is aimed at finding and choosing optimal administrative influences from the set of admissible variants ensuring maximum adaptability to real conditions of the dynamic environment with limited resources.

Source: Compiled by the authors.

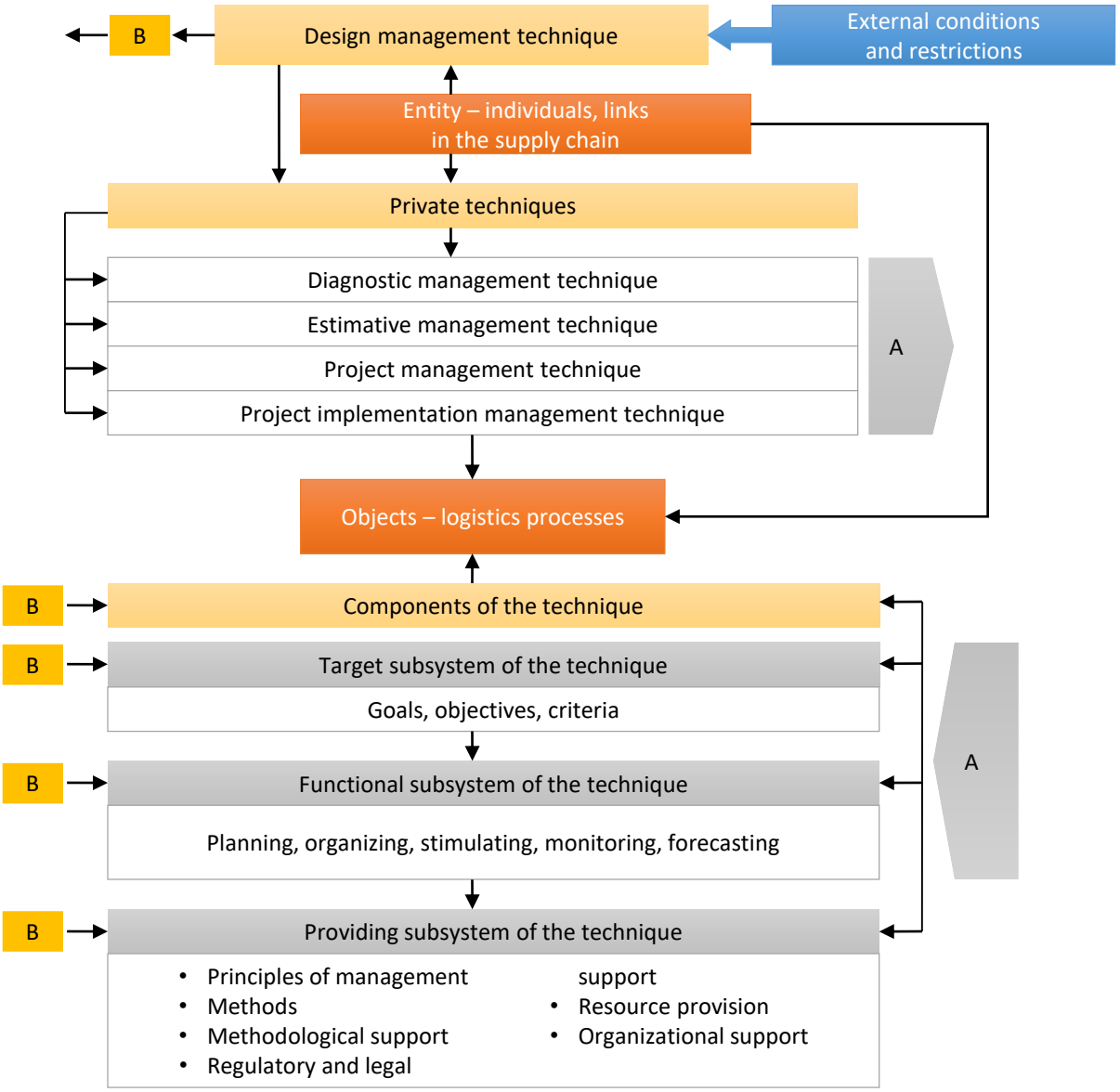


Figure 1. Scheme of the management technique when designing logistics processes

Methodological support includes a set of methodological provisions and developments on forecasting, planning, organization and management of logistics processes in design stages. The purpose of this provision is to establish common terms, estimation principles, calculation techniques and approaches to determine the efficiency of logistics processes, adapting them to disturbance flows in order to ensure their optimal parameters.

Regulatory and legal support includes a set of regulatory and legal acts that are necessary and sufficient to implement effective management of logistics processes. Legal regulation of logistics processes is carried out by the civil and enterprise legislation.

In the course of implementing the stages of logistic processes, various resources (financial, logistics, information, natural, personnel, intangible, managerial, energy) are used, and certain resource groups represent a complex combination of other types of resources and are limited within a specific space-time interval.

Management support of the technique involves the development and creation of management structures with the arrangement and interconnection

of the necessary number of elements in the supply chain that carry out targeted activities in space and time to optimize the parameters of logistics processes, minimize risks and costs. Management structures should correspond to the level of the system development, to the requirements of the external environment and they should be adaptive and optimal.

Because of the limited resources available, there is a desire for their optimal use, which leads to the need to revise the set of techniques for managing logistics processes, and, as a consequence, the revision of the goals in accordance with real capabilities of management structures of the system, providing an impact on the management points to obtain maximum resulting parameters.

Thus, the multidimensional nature of transformations that take place, of course, requires new methods, techniques and models for managing logistics processes, which implies radical transformation, intensification of all internal processes, a complex change in the basic subsystems and principles of work, taking into account the balance of functioning and development.

The modern business environment is characterized by the fact that threats and the number of disturbance flows that have an effect on the stability and efficiency of production and economic activity are growing much faster than the measures and management signals, which are developed to reduce their influence and counteract these threats. This circumstance requires the application of a set of management methods within the framework of the built-in techniques that allow to increase the effectiveness of managerial influences.

Management methods are traditionally understood as a set of methods, means of influence on the managed object, which, according to the content of the impact on the management object, are divided into organizational, administrative, economic, socio-psychological ones, and also their varieties. The complex application of these management methods is to influence a variety of destabilizing factors of different nature, which determines the objective possibility of forming the corrective effect of management structures on logistics processes (Dybskaya et al., 2013; Lukinsky et al., 2011).

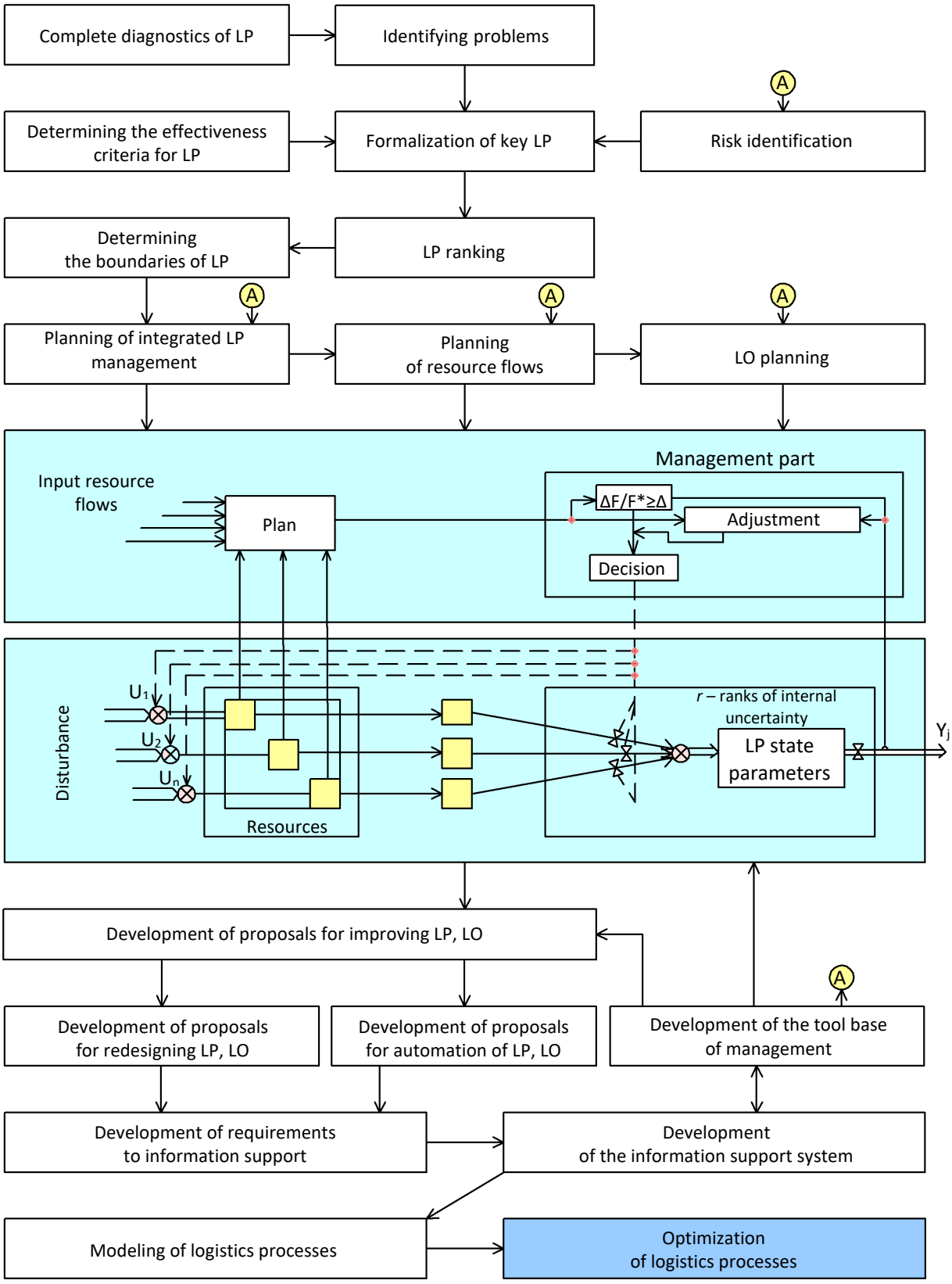
It should be noted that the authors consider it necessary to use also flow-process, program-target, value-oriented methods of management and the method of proactive management in relation to research problems. Let's consider the features of marked methods with reference to management of logistics processes.

The program-target management method has a developed feedback technique that will provide flexibility in managing logistics processes in a dynamically developing market environment. The feedback technique has two loops, providing at the same time correction of the system's behavior during the process design in case of dominant parameters exit from the planned (first loop) range, taking into account the consistency of the plan with the goals, as well as changing the plan in case of inconsistency with the goals in the process of the system functioning (second feedback loop). The development and depth of feedbacks create the prerequisites for synergetic tendencies in the system, that is, the orientation toward self-development and adaptation to the external environment. The complexity of the method is to design flexible organizational structures capable to operate under conditions of congestion in the links of the information chain (Christopher, 2011; Sergeyev, 2014, 2016).

In the value-oriented method, the feedback technique has three loops, which is provided by three-vector directivity, namely, adjusting the behavior of the system in accordance with the plan and goal setting and changing it in accordance with the system of values. The system of values is the basis of goalsetting and the criterion of management (Yang, 2012). The method integrates synergistic and cybernetic approaches, creating conditions for the effective flow of logistics processes in the space of natural states to achieve the agreed goals, which is represented in the use of management on the basis of coordinated interaction.

The flow-process method is connected with the achievement of two conjugate, but not identical, logistics goals: the representation of production-economic, commercial activity in the form of the conglomerates flow of various processes by nature and essence, and, then, on this basis, of the

Source: Compiled by the authors.



Note: LP – logistics processes, LO – logistics operations, F – objective function.

Figure 2. The model of proactive management of logistics processes

system is synthesized within the boundaries of the studied cycle (or its period) of the meaningful goal setting. This will make it possible to approach the adequate modeling of the studied object with a description of the set of management registers, and, therefore, to the possibility of quantitative measurement, analysis and estimation of logistics processes studied in this way with a view to improve them.

The method of proactive management is based on monitoring and forecasting changes in external and internal environments with the goal to identify emerging trends and develop a management activity aimed at changing baseline conditions that arise when designing logistics processes, which will prevent the intensity of the management system. Proactive management is provided by the integrated system of signals in management structures of the system (Lukinsky et al., 2011; Yang, 2012), which, according to the authors:

- increase the effectiveness of the process design;
- eliminate the identified discontinuities in planned and actual process parameters;
- minimize the degree of risk to achieve strategic compliance with the requirements of a certain design phase.

So, it predetermines the need to develop a model for proactive management of logistics processes, which is presented in Figure 2. With the help of process modeling and subsequent monitoring of their parameters, it is possible to describe activities as accurately as possible and react quickly to changes in external and internal environment and develop the information management system to manage logistics processes. As a result of implementing measures to improve logistics processes, logistics operations, the authors obtain processes with optimal parameters.

Therefore, when it is necessary to quickly navigate in difficult market situations and make well-founded management decisions under modern conditions that reduce commercial risk, and, as a result, the goals of analysis, synthesis of structures and modeling to obtain goal resulting parameters of logistics processes become important.

2. RESULTS

Undoubtedly, it was proved that, in modern conditions, it is necessary to search for management methods and techniques when designing logistics processes that can ensure the optimal use of available resources to achieve the set goals, leading the processes to a given setting. That is, we have to get optimal parameters of logistics processes in case the programs for their continuous improvement are implemented. The emerging problem field appears to be quite complex and multifaceted, since it assumes the need to consider simultaneously and sequentially proceeding processes, numerous external factors and constraints, and, therefore, it needs its modern economic reflection.

As a result of the study, the following patterns when designing the logistics process were revealed:

- the need to consider parallel and sequential processes under a variety of destabilizing factors and environmental constraints;
- the complexity of the process design can lead to information instability, which affects the accuracy of forecast values and affects the quality of the goals and objectives set and, as a consequence, it affects the feasibility of the strategy and the adequacy of the mathematical model;
- the static nature of the results of the process design predetermines the limited possibility of their changes at later stages;
- the iteratively cyclical nature of the process design at different stages in accordance with the laws inherent in decision-making processes;
- while solving problems in the course of the phase-stage process design, the process costs increase and the volume of problems that need to be solved increases, which is connected with the need to obtain more detailed and complete results;
- the dominant role of initial stages of the process design is the dependence of the effectiveness and volume of costs on the quality of design estimates and decisions;

- errors in designing or making decisions at early stages have a serious impact on the progress of work and the amount of costs;

- the cost of designing increases as the work progresses.

The complexity of solving design problems of logistics processes is determined by the need to develop the integrated management model that will be the basis for assessing, automating, informing support of basic management procedures and, in general, the design of the logistics process and activities for its implementation (Figure 3). In solving these problems, the time factor and the step-by-step representation of the process play a particular role. The design of logistics processes consists of the following stages: diagnostics; estimates; design; implementation; efficiency. The listed stages, in turn, are divided into sub-stages (Figure 3). The stages of design and the associated scope of work necessary to solve the problems when designing logistics processes systematically are considered on the basis of a systematic approach (Anisimov et al., 2006; Rachmanina, 2015).

It should be noted that at each design stage, the following procedures are performed: 1 – analysis and estimation of models; 2 – choice of model; 3 – choice of the solution technique; 4 – solution; 5 – analysis of the results; 6 – decision making (Figure 3).

Thus, it is necessary to note that the management model for the process design proposed by the authors considers the goals, features and specific features of the process draft, the algorithm for making decisions under the influence of the disturbance flow, and also the static nature of the results obtained. The application of the model:

- will provide a flexible response to new goals and objectives during the design, the effectiveness of decisions taken based on the development and application of the appropriate individualized technique;

- increase the degree of coordination of the strategy while managing logistics processes and the decision-making system at all design phases and stages;

- will minimize risks and ensure maximum production-technological, financial-economic, social-ecological and information-organizational effectiveness.

A management technique when designing logistics processes has been developed, which includes a combination of elements, methods, techniques, rules, procedures for logistics management and the adoption of optimal solutions for the coordination and regulation of logistics processes. This technique is characterized by a set of relevant components and a set of private techniques that are mutually supportive, which allows to manage the design of logistics processes, ensuring the achievement of the resulting process parameters at the optimum cost in each time period.

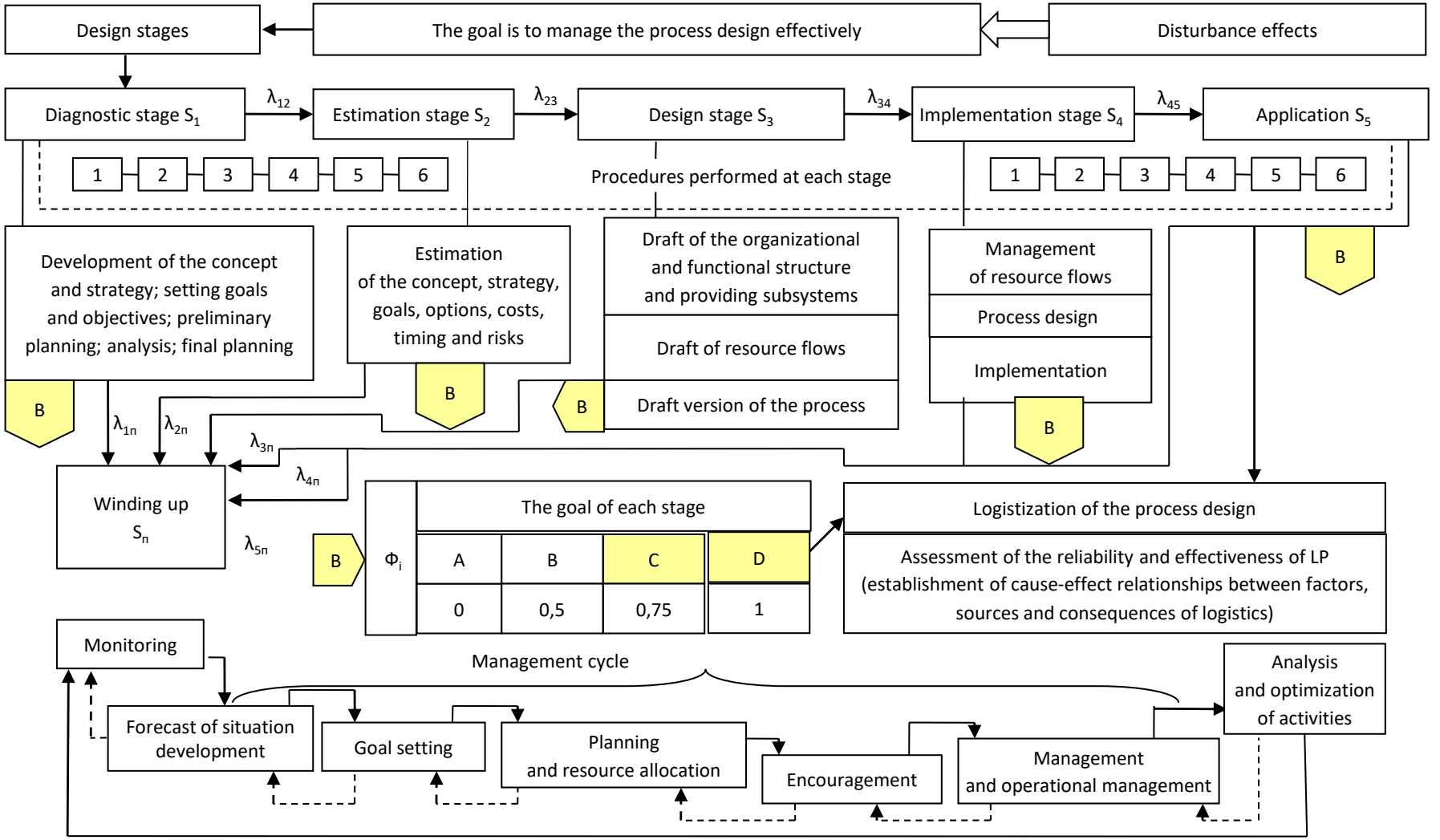
The main goal of the management technique when designing logistics processes is to achieve maximum effectiveness of phases and stages of the process design to obtain a process, which is capable to operate under conditions of the disturbance flow with maximum efficiency, while preserving parameter settings that are set according to the situation.

Separation of private techniques (management of the diagnostic process, management of the estimation process, management of the draft development, management of the draft implementation) is done, according to the authors, by the cyclic nature of the process design, their iteration and phase nature, which imposes strict requirements on the quality of processes and is reflected in the results of achieving the goals.

It should be noted that the achievement of goals, such as minimizing time, costs, risks at all stages of the process design, requires the development of the technique algorithm presented in Figure 4.

The management technique for the diagnostic process design involves the strategy development, the system choice of methods and techniques for conducting research in order to identify the main goals and objectives of the object. The main tasks of the diagnostic management technique in the course of the design are:

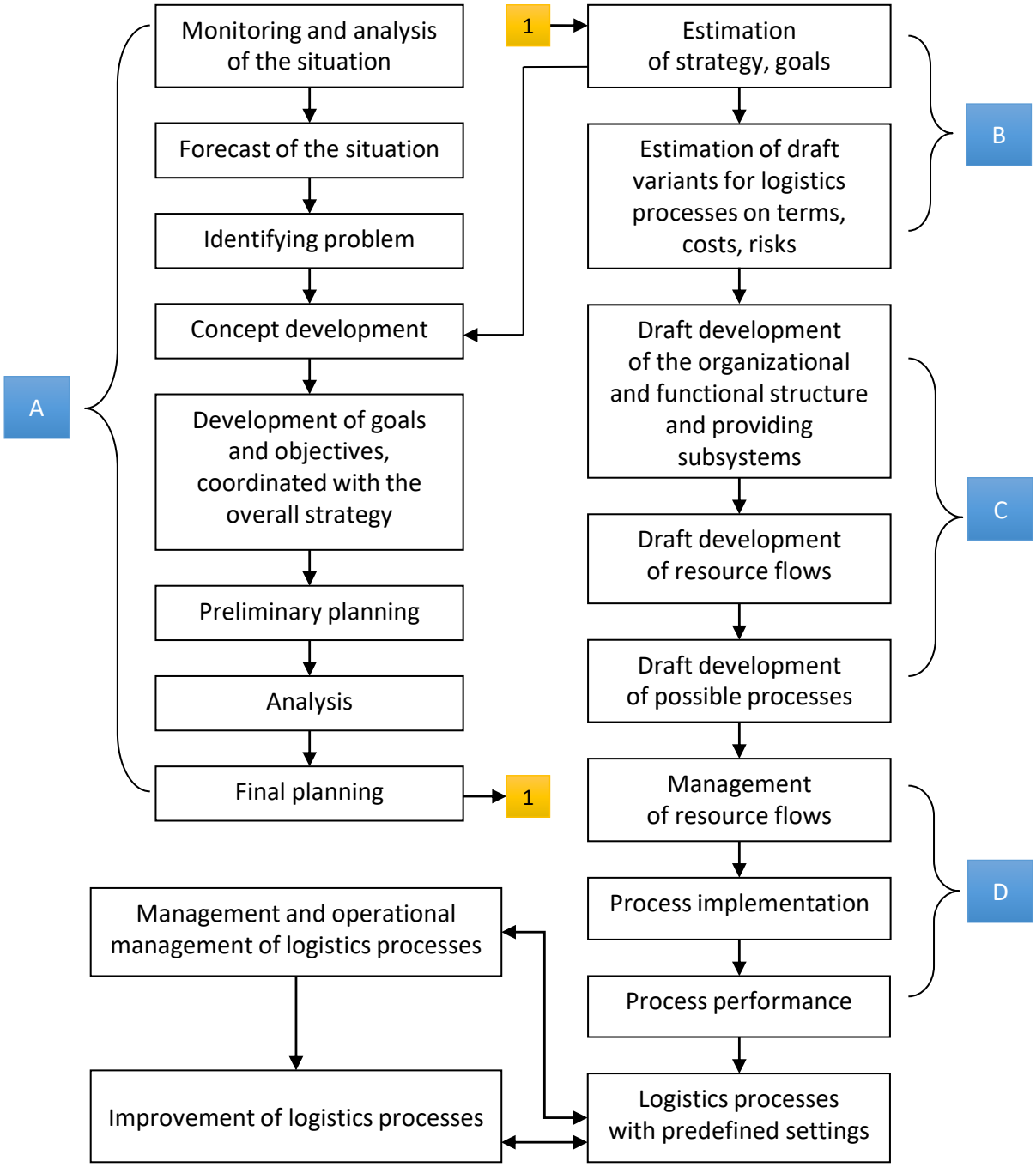
Source: Compiled on the basis of Rachmanina (2015).



Note: A – the goal is not implemented, B – low degree of implementation, C – high degree of implementation, D – fully implemented.

Figure 3. The management model when designing logistics processes

Source: Compiled by the authors.



Note: A – diagnostic stage, B – estimation stage, C – design stage, D – implementation stage.

Figure 4. Algorithm of the management technique when designing the process

- monitoring and analysis of changing trends in industry indicators, the development of technology, etc.;
- identification of the main factors affecting the effectiveness of the process to develop the timely response;
- establishment and definition of estimation criteria, the choice of methods for their measurement and the features of these criteria to form the adjustment of process parameters with a subsequent forecast of possible deviations from the optimal values and correction of violations of the normal process flow;

- cross-cutting planning is the planning of all stages of the process design, including the phases of preliminary planning and final planning.

The technology of carrying out the diagnostic process depends on goals, methodical apparatus, capabilities and the selected technological scheme, which reflect the sequence and combination of research methods. The main classification signs of technological diagnostic schemes for logistics processes are time, resources, qualification, etc. Consequently, the following types of technologies for the diagnostic process can be identified: linear, cyclic, adaptive technologies and random search technology. From the point of view of the set problems and their multidimensionality, the authors suggest using a cyclic technological-diagnostic scheme due to the reciprocating nature of the process design and the need to achieve diagnostic quality in order to minimize errors in subsequent design stages. At the same time, it is necessary to optimize the time factor of the diagnostic process, which is ensured by their parallel implementation.

To solve simple diagnostic problems, it is advisable to use linear technology, and for problems that are difficult to predict, it is necessary to use adaptive technological schemes of the diagnostic process.

Thus, the efficiency, optimality and quality of subsequent design stages for logistics processes depend on the chosen technological scheme of the diagnostic process.

The management technique of the estimation process involves a transition from a descriptive to an aggregated part based on the allocation of dominant features of logistics processes, which will allow the timely development of management actions and correct processes, depending on changes in the external environment.

To ensure the effective solution of problems when designing logistics processes, the following principles must be observed: systemic; complexity; rationality; integrity; effectiveness; a step-parallel sequence; optimality; coordination; draft accuracy; flexibility; systematization and unification; concreteness and constructiveness; formalization.

Table 2. Systematization of the principle design of logistics processes (LP)

Source: Compiled on the basis of Rachmanina (2015).

Principle	Features
Systemic	Includes elemental, functional, integrative, communicative aspects, since the violation of the systemic principle in at least one of the elements of LP leads to a decrease in non-additive, synergy effects, and, possibly, the appearance of their negative values
Rational	Implies rationalism in the analysis of the value development to draw a higher line between the stages of its development with a view to eliminate unproductive operations
Integral	Involves consideration of the process design as a single whole, consisting of interacting, often different-quality and heterogeneous stages, but compatible in orientation to a common goal
Step-parallel sequence	Involves a phased, and in some situations, parallel solution of clearly, logically generated goals in the event of smooth transitions, iterative returns and temporary intersections
Efficiency	Is presented in the relationship between the result achieved and the resources used, and is characterized by the effectiveness of all phases
Optimal	Means a multivariate search for the best solution, taking into account specific conditions and goals
Coordination	Involves coordination and regulation of functions of all design stages in relation to the changed conditions, features of the object design
Accuracy of the draft's compliance	Provides that changes made to the object design at the stages are allowed in case if errors are identified or new conditions that arise during the process design are taken into account
Flexibility	Provides the draft with the ability to transform and change within a limited range, taking into account changes in the environment
Complexity	Means the alignment of design stages as a set of interrelated, interdependent elements
Systematization and unification	Ensures the ability to keep complex design tasks (goals) under management
Specificity and constructiveness	Determines the decision-making on the basis of a well-founded methodological base and the formulated initial information
Formalization	Provides purposeful quantitative and qualitative characteristics of elements in the design of LP

Table 2 presents the principles and their features, which are systematized and supplemented by the authors due to the introduction and combination of principles on formalization, concreteness and constructiveness, a step-by-step sequence and their complex application, which allow to manage logistics processes in inter-functional and inter-organizational interaction on a scientific basis. In the course of the study, the pattern design of logistics processes were revealed, a management technique when designing logistics processes in the unstable environment was developed, and the principle design of logistics processes was systematized and supplemented. The results obtained in the course of this study develop the established methodology for managing logistics processes.

DISCUSSION AND CONCLUSION

The complexity and stochastic nature of logistics processes lead to the natural necessity of applying adequate methods, techniques and models for solving the problems of planning and managing logistics processes.

Recently, much attention has been paid to the study of individual economic, organizational, managerial or economic management techniques. The analysis of existing opinions on the definition of the concept of "management technique", has led to the conclusion that:

- if the development of basic management techniques is considered at the enterprise level, their individual aspects are considered at the regional, sectoral, interstate levels, or in the context of global processes, then, as a rule, this category is defined as a "system ...";

- when considering the management technique as one of the aspects of the enterprise or as a separate management function, most often this category is defined as "a set of interrelated elements ...", which is traditional for all scientific research in this field (including foreign and domestic experience).

Despite the existing achievements and significant contribution of domestic and foreign scientists to the development of basic provisions of logistics and supply chain management, management theory and methodology of logistics processes in the unstable environment are still insufficiently developed.

Nevertheless, despite a significant amount of research and publications, and also growing interest from scientists and specialists in the development of management techniques, models and algorithms of logistics processes, we have to state that in the scientific literature, this problem remains unresolved.

In particular, the problems of managing logistics processes in the unstable environment are considered in a fragmented manner and mostly of a general nature in most scientific works. The lack of the integrated approach to the development of management techniques for logistics processes does not allow to select effective versions of management algorithms, especially in the unstable environment. The dynamic development is largely due to possibilities of the rational use of all available resources and logistics reserves, which presupposes necessary conditions. The current management techniques for logistics processes do not fully provide the conditions for creating programs to improve the disturbance flow with the growth of its activity.

Such studies will make it possible to understand the behavior of the logistics process, the supply chain in the unstable environment, and develop tailored management techniques to prevent and eliminate the effects of the disturbance flow. According to the authors, the main reason for the topicality of the problem on improving the management technique when designing logistics processes is the fact that by identifying bottlenecks in the process, the supply chain and the reasons for their occurrence, it is pos-

sible to prevent the probability of logistics process parameters coming out of the specified area and to predict risks and their possible consequences.

Wide popularity and relative research of management of logistics processes in scientific works of domestic and foreign scientists determine the necessity of their further development under the disturbance flow.

Nowadays, there are many different models to improve logistics processes and each of them has its own advantages and disadvantages, as well as its areas of application in which they are most effective. Some of them propose methods for assessing the already existing logistics process, which consist of selecting criteria/indicators that reflect the effectiveness of the decisions made, the system of meters of consumed resources and optimization methods. Such valuation techniques can also be used to compare different companies objectively in terms of their level of development and productivity when deciding to conclude a contract.

The practical feasibility of the study provides:

- the integrated coverage of planned logistics solutions by all logistics processes, which leads to the organic interconnection of perspective, current and operational planning, the unity of organizational and economic planning and organizational and technological management, identification of the planning process in general and its parts;

- adequate reflection of real changes in the parameters of the external environment on the basis of decomposition and aggregation of planning and management models;

- optimal correlation of the elements in the logistics process, balance, complexity, comparability and correspondence in the calculation of technical and economic, organizational and technological indicators, criteria and apparatus for their use, and the consistency of planned indicators of each design stage.

- According to the authors, the following studies can be important areas for further developments in the field of improving the management of logistics processes:

- creation of a complex methodical technique that provides a systematic solution of problems in the process design for the successful implementation of the proposed management technique when designing logistics processes under the influence of the disturbance flow. The methodical technique will provide a comprehensive and complete analysis of the situation, identify the main factors affecting the processes, assess their impact, establish priority in the management tasks, select special methods of solution, etc.;

- development of the management technique for the functioning of logistics processes, minimizing the impact of the disturbance flow, which will ensure the effective implementation of logistics processes when specified parametric features of each process are achieved with minimum costs, risks and in a timely manner.

It follows from the discussion that the study of the management technique when designing logistics processes in the unstable environment is particularly urgent because of the need to improve logistics processes continuously and it requires further development in the field of creating the integrated methodological tool for managing management tasks and improving the processes of adaptive functioning.

Against the backdrop of the growing needs of society, the need for functioning in the unstable environment, the urgency of further improving management techniques when designing logistics processes, taking into account the disturbance flow, will increase, which will ensure:

- rapid adaptation to various influences of destabilizing environmental factors;
- fairly high event predictability and, as a consequence, finding the maximum permissible range of deviations of parameters of logistics processes;
- development of flexible algorithms and models for optimization, coordination and integration while interacting all elements in the supply chain and achieving maximum production, technological, financial, economic, socio-environmental and information-organizational effectiveness;
- information integration through continuous monitoring and operational forecasting of resulting parameters of logistics processes in the supply chain, as well as the timely identification of deviations and violations in the implementation of logistics processes;
- implementation of well-founded management decisions with minimum costs and deadlines;
- decrease in influence of disturbing impacts on the results of production and economic activities.
- Transformation processes taking place in the economy predetermine the continuous process of improving logistics processes, finding the optimal program to improve their sustainability, reliability and effectiveness. The implementation of the proposed management technique when designing logistics processes, taking into account the effect of the disturbance flow, will ensure optimization, coordination and integration of logistics processes in the unstable environment. This will make it possible to formulate justified management decisions that reduce the influence of disturbing impacts on resulting parameters of logistics processes.

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